

Montreux Residential Subdivision Final Environmental Impact Report

SCH No. 2013032079

Prepared For:
City of Pittsburgh
Planning Department
65 Civic Avenue
Pittsburg, California 94565

Prepared by:



IMPACT SCIENCES, INC.

555 14th Street, Suite 1230
Oakland, California 94612
(510) 267-0494

August 2015

MONTREUX RESIDENTIAL SUBDIVISION

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1.0 INTRODUCTION

1.1 PURPOSE OF THE FINAL ENVIRONMENTAL IMPACT REPORT

Under the California Environmental Quality Act (CEQA), following completion of a Draft Environmental Impact Report (EIR), the City of Pittsburg (City) is required to consult with and obtain comments from public agencies that have jurisdiction by law or discretionary approval power with respect to the proposed project, and to provide the general public with opportunities to comment on the Draft EIR.

On November 27, 2013, the City, as the Lead Agency under CEQA, issued a Draft EIR on the Montreux Residential Subdivision Project. The Draft EIR was circulated for a 45-day public comment period that ended on January 10, 2014. 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 determined that it was necessary to add this new information to the analysis contained in the Draft EIR. On December 23, 2014, a Draft EIR containing an updated biological resources section was recirculated for a 45-day public comment period that ended on February 5, 2015. Having completed the recirculation of the Draft EIR, the City has prepared a Final EIR for consideration by the City Planning Commission and City Council for certification and project approval.

The Final EIR is comprised of (1) the 2013 Draft EIR which was circulated for public and agency review from November 27, 2013 through January 10, 2014; (2) the 2014 Recirculated Draft EIR which was circulated for public and agency review from December 23, 2014 through February 5, 2015; and (3) this response to comments document which provides responses to comments submitted by government agencies, organizations, and individuals on the 2013 Draft and 2014 Recirculated Draft EIRs. As required by CEQA, this document addresses those comments received during the public review periods that raise environmental issues.

The Final EIR (which is composed of the 2013 Draft EIR, 2014 Recirculated Draft EIR, and the Response to Comments document) is intended to be certified as a complete and thorough record of the environmental impacts of the proposed project by the City. Certification of the EIR as adequate and complete must take place prior to any formal action on the proposed project by the City. Certification of the EIR does not equate to approval of the project.

1.2 ORGANIZATION OF THIS RESPONSES TO COMMENTS DOCUMENT

This document is organized into five sections. Following this introduction (**Section 1.0**), **Section 2.0**, **Revisions to the 2013 Draft EIR and 2014 Recirculated Draft EIR**, presents changes to the text of the 2013

Draft EIR and 2014 Recirculated Draft EIR. **Section 3.0, Comments on the Draft EIR and Responses to Comments**, contains a list of persons, agencies, and organizations that submitted written comments on the 2013 Draft EIR and 2014 Recirculated Draft EIR; reproductions of the written comments; and responses to those comments. Each comment is labeled with an identifying number in the margin. **Section 4.0, Report Preparation**, lists persons involved in the preparation of the Final EIR.

2.0 REVISIONS TO THE 2013 DRAFT EIR AND 2014 RECIRCULATED DRAFT EIR

2.1 INTRODUCTION

In response to comments on the 2013 Draft EIR and 2014 Recirculated Draft EIR during the public review periods, the following revisions have been made to the text of the 2013 Draft EIR and 2014 Recirculated Draft EIR. Additions are shown as underlined text, and deletions are shown as ~~striketrough text~~.

2.2 REVISIONS TO THE 2013 DRAFT EIR

Chapter 3.0, Project Description

Chapter 3.0, Project Description, page 3.0-2

As illustrated in **Figure 3.0-3, Project Aerial Photograph**, the project site is presently undeveloped grazing land; the only structures on the site are high-tension lines and towers within several utility line easements. The hilly terrain forms a broad, Y-shaped valley open to the eastern frontage along Kirker Pass Road, where the valley floor is at least 1,000 feet wide. Several natural hills and ridges frame the valley, with two along the northern boundary, one along the southern boundary, and the others a short distance off-site to the west. The ridgeline on the southern portion of the site reaches an elevation of approximately 780 feet above mean sea level (MSL) and the ridgeline formed by the two hills on the northern boundary reaches an elevation of approximately 655 feet above MSL. There are currently no buildings on the site. A 10-inch high-pressure petroleum products pipeline traverses east/west through the southern portion of the main project site (within the proposed greenwall area). The project site is primarily vegetated with annual grassland vegetation and there are only a few trees on the site located on the southern and western portions of the project site.

Chapter 3.0, Project Description, page 3.0-8

The applicants are Altec Homes Inc., and Seecon Financial Inc.

Chapter 3.0, Project Description, page 3.0-9

Three stormwater detention basins are included in the preliminary grading plan, with two large basins located on the east side of the main project site (Parcels C and D) along Kirker Pass Road, and a third small basin with a 12 foot access road located on the off-site parcel to the northwest of the main project site. The two large basins on the east side of the main project site will serve the eastern 90 percent of the

main project site while with the third small basin located on the off-site parcel will serve the western 10 percent of the project site. Construction of these basins would require grading to re-contour the eastern end of the southern ridgeline on the main project site, and the north-facing slope above the proposed off-site basin located on the off-site parcel. While the entire off-site parcel totals approximately 72 acres, only 16.8 acres would be graded in order to accommodate the new off-site basin (which has an actual footprint of 0.83 acre). The preliminary grading plan and the location of the off-site detention basin on the off-site parcel are provided in **Figure 3.0-7, Off-Site Detention Basin Site Plan.**

The two large stormwater detention basins on the east side of the main project site will have the same bottom elevation and would be interconnected by a drainage culvert to allow both basins to work together as a single unit. The outflow structure for the basins would be located within the northern basin and would discharge into an existing 48-inch culvert underneath Kirker Pass Road that flows into Kirker Creek on the opposite side of the road. The outflow structure would slowly meter flow into the 48-inch culvert. Storms larger than the 10 year design storm will exit the overflow outlet structure to the 48-inch culvert. A 20-foot wide maintenance road would serve both basins (Isakson & Associates 2012a).

Discharge from the third small basin located on the off-site parcel to the northwest of the main project site would be carried in a new storm drain line that will discharge into an existing 54-inch storm drain located approximately 1,000 feet to the north near the intersection of Kingwood Drive and Castlewood Drive. The outflow structure would slowly meter flow into the storm drain line. Storms larger than the 10 year design storm will exit the overflow outlet structure to the storm drain line (Isakson & Associates 2012b).

All of the detention basins will be designed and constructed according to criteria adapted from the *Contra Costa Clean Water Program Stormwater C.3 Guidebook, Sixth Edition.*

Chapter 3.0, Project Description, page 3.0-12

Construction of the project is expected to occur in four overlapping phases. Each phase is expected to 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. This timeline presents an aggressive construction schedule, which provides the basis for a conservative impact analysis, especially for air quality and greenhouse gas emissions, as it represents the soonest that the proposed project can be constructed. All construction staging will occur on the project site and all material deliveries to the project site would utilize Kirker Pass Road.

Approximately 106 acres¹ on the main project site would be graded while all 16.8 acres of the off-site parcel would be graded for a total of about 123 acres disturbed. While no soil would be imported or exported from the project site, approximately 1.4 million cubic yards of soil would be balanced throughout the site. Therefore, all spoil sites would be located on the project site.

Approval of a development agreement is being sought to accompany the proposed tentative map. The primary purpose of the development agreement is to vest the entitlements, providing for an extended term for the project approval; however, additional items would also be addressed such as (1) integration of the project entrance with the future James Donlon Boulevard Extension; (2) a \$2,000 per dwelling unit open space fee for the East Bay Regional Park District to be collected by the City before building permits are issued; and (3) provisions for compliance with the City's inclusionary housing ordinance.

Chapter 5.0, Environmental Setting, Impacts, and Mitigation Measures

Section 5.1, Aesthetics, page 5.1-17

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 with native species in order to encourage growth of new vegetation on disturbed hillsides. To ensure that native species dominate re-vegetated areas after initial seeding, the developer shall re-seed all disturbed areas and hillsides with native seeds on an annual basis for 5 years after the initial seeding.

INITIAL STUDY

Section VI, Evaluation of Environmental Impacts

Subsection VI.2, Agricultural and Forestry Resources, page 24

a) **No Impact.** The City of Pittsburg utilizes the important farmland categories established by the California Department of Conservation to analyze impacts on agricultural resources in the City. Consistent with the current grazing uses of the site, the Farmland Mapping and Monitoring Program identifies the entire site as grazing land and no portion of the property is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (FMMP 2010). The project would therefore not result in the conversion of Important Farmland to non-agricultural uses. There would be no impact with regard to this criterion.

¹ This figure includes Parcels A, C, D, and E which would be graded and then set aside as open space.

It should be noted that Government Code Section 56064 provides a definition for the term prime agricultural land for LAFCO purposes. According to Government Code Section 56064, prime agricultural land is defined as “an area of land...that has not been developed for a use other than an agricultural use” and that meets any of a number of qualifications, including “land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Range and Pasture Handbook, Revision 1, December 2003.” As the project site is currently used for grazing, it does meet the definition of prime agricultural land under this definition.

Subsection VI.5, Cultural Resources, page 42

MITIGATION MEASURE, CUL-1: As a condition of approval for the proposed project, further historical archival research shall be undertaken to aid in the location of possible historical archaeological deposits, such as dump sites, wells, privy pits, and any other architectural features associated with the former building complex. Based upon this research, a program of mechanical subsurface presence/absence testing shall be undertaken in those areas which will be affected by project grading and/or trenching activities. In the event that any archaeological deposits are discovered which may be eligible for inclusion on the California Register of Historic Resources (CRHR), a plan for the mitigation of impacts to the resources shall be submitted to the Pittsburg Planning Department for approval before construction-related earthmoving is allowed inside the areas designated as archaeologically-sensitive zones. Mitigation can take the form of additional data retrieval through hand excavation combined with archaeological monitoring of all additional earthmoving inside the zones of archaeological sensitivity.

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 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.

Subsection VI.9, Hydrology and Water Quality, page 59

a & f) ***Less Than Significant.*** The greatest potential sources of surface water pollutants associated with the proposed development would be construction-phase erosion of the project site and urban runoff pollutants generated from impervious surfaces on-site following the completion of construction. As discussed in **Subsection IV.6.b**, NPDES requires that the proposed project develop and implement a SWPPP, including control measures (or Best Management Practices) to control erosion from the site. Post-construction, the project would treat stormwater runoff from the new impervious surfaces created on-site, as required by provision C.3 of the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, NPDES Permit No. CAS612008, adopted October 14, 2009, and revised November 28, 2011, Contra Costa County municipal stormwater NPDES permit by directing all site runoff into three detention basins 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. The detention and slow release would allow pollutants, especially sediment to settle in the detention basins and not be discharged into the receiving waters. Therefore the site runoff would not exceed any water quality standards. This impact is considered less than significant.

Subsection VI.10, Land Use and Planning, page 62-63

b) ***Less Than Significant Impact with Mitigation.*** The proposed project would result in the annexation and residential subdivision of land currently outside of the City of Pittsburg, but within the existing SOI and ULL. The Land Use Element of the General Plan includes the project site in the Woodlands subarea and designates the site for Low Density Residential and Open Space land uses, consistent with the proposed Vesting Tentative Map. In addition, the proposed project does not conflict with the goals and policies listed in the General Plan (see Chapter 4.0, Plans and Policies, of the Draft EIR). The City of Pittsburg Voter Approved Urban Limit Line and Rezoning Act (Measure P) established the ULL along the southern boundary of the site and shortly after the passage of Measure P, the General Plan was amended to be consistent with a MOU that was signed on May 3, 2006 (drafted in response to Measure P). This MOU and the associated General Plan policy 2-P-73, calls for the prevention of the expansion of urban utilities and services south of the ULL and also requires the creation of a “greenwall,” defined as open space with no water or sewer services passing through, on the southern approximate 20 percent of the project site to act as a buffer between proposed development and the southernmost boundary of the ULL. The proposed vesting Tentative Map includes 43.4 acres (parcel ‘B’) of the undeveloped land to provide the required greenwall, which would effectively separate the proposed residential uses from County lands designated for rural uses to south of the project site and ensure that the proposed project is consistent with the voter approved Measure P.

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.

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).

2.3 REVISIONS TO THE 2014 RECIRCULATED DRAFT EIR

Section 5.3, Biological Resources

Section 5.3, Biological Resources, page 5.3-35

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. A recent study (Orloff 2011) found that the majority of salamanders were captured at least 800 meters (approximately 0.5 mile) from the nearest breeding pond while a smaller number of salamanders were captured as far as 2.2 km (1.37 miles) from the nearest breeding 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.

3.0 COMMENTS ON THE DRAFT EIR AND RESPONSES TO COMMENTS

3.1 INDEX TO COMMENTS

As described in **Section 1.0, Introduction**, all comments on the 2013 Draft Environmental Impact Report (EIR) and the 2014 Recirculated Draft EIR received in writing and orally have been numbered, and the numbers assigned to each comment are indicated on the responses that follow. All agencies, organizations, and individuals who commented on the 2013 Draft EIR and 2014 Draft Recirculated EIR are listed in **Table 3.0-1, Index to Comments**, below.

**Table 3.0-1
Index to Comments**

Commenter Number	Agency/Organization/Individual – Date
Written Comments	
1	San Francisco Bay Regional Water Quality Control Board - February 4, 2015
2	Central Valley Regional Water Quality Control Board – January 28, 2015
3	Contra Costa Local Agency Formation Commission - January 2, 2014
4	Contra Costa County Department of Conservation and Planning - February 13, 2015
5	Contra Costa Water District – January 10, 2014
6	Contra Costa Water District – February 2, 2015
7	East Bay Regional Park District – January 8, 2014
8	Pacific Gas & Electric – December 11, 2013
9	Save Mount Diablo - January 9, 2013
10	Shute, Mihaly & Weinberger, LLP - January 10, 2014
11	Shute, Mihaly & Weinberger, LLP – February 6, 2015
12	Franucchi, Joanne - December 19, 2013
13	Franucchi, Joanne – January 22, 2015
14	Nishimura, Yasushi - January 8, 2014
15	Matsuoka, Fumie - January 8, 2014
16	Nishimura, Yasushi & Matsuoka, Fumie - February 6, 2015
Verbal Comments	
17	Juan Pablo Galvan, Save Mount Diablo – January 7, 2014 Bruce Ohlson, Pittsburg Bicycle Community – January 7, 2014

3.2 RESPONSES TO INDIVIDUAL COMMENTS

This section presents all written and oral comments received on the 2013 Draft EIR and 2014 Recirculated Draft EIR and responses to individual comments. The *State CEQA Guidelines* only require that a lead agency give detailed responses to comments that identify an important new matter not discussed in the draft environmental impact report or raise questions about a significant issue (*City of Irvine vs. County of Orange*, No. G049527 [4th Dist. 3rd Div., July 6, 2015]). The written responses that follow were prepared pursuant to *State CEQA Guidelines* Section 15088, providing the City's good faith reasoned responses to significant environmental issues raised in the comments.

Kristin Pollot

From: Hart, Kathryn@Waterboards [Kathryn.Hart@waterboards.ca.gov]
Sent: Wednesday, February 04, 2015 2:12 PM
To: Kristin Pollot
Subject: Montreux Residential Development Recirculated Draft EIR

Ms. Pollot,

This is with regard to the Montreux Residential Development Recirculated Draft EIR and the Draft EIR that are currently under consideration by the City of Pittsburg.

The Draft EIR and the recirculated document have not provided a detailed analysis of project alternatives that would provide for greater avoidance and minimization of fill of wetlands and waters of the State and the U.S. Regarding the exploration of alternatives for development of the site, the Water Board will require a thorough and detailed alternatives analysis developed in accordance with the U.S. EPA's 404(b)(1) Guidelines. The information provided in the Draft EIR documents does not and will not satisfy this requirement. Ephemeral and intermittent creek channels, and wetlands and seeps (State and Federally jurisdictional), should be avoided and minimized to the maximum extent practicable. An adequate demonstration of avoidance and minimization will need to be made when and if an application for 401 water quality certification and/or waste discharge requirements is submitted to the Water Board.

In addition, for the proposed impacts, the document states that impacted wetlands and waters of the U.S. will be mitigated through payment into the ECC HCP. For those impacts to State and Federal waters that are determined to be unavoidable, the Water Board will require implementation of in-kind replacement of lost aquatic features and habitat. Whether this can be provided through the ECC HCP is not clear, and it should be understood that payment in to the ECC HCP will not satisfy Water Board requirements unless there is a specific and detailed plan for creation of water features at an acceptable ratio and location to compensate for the impacted areas.

The proposed impacts to aquatic features in association with the Montreux project are significant, and the City of Pittsburg and the applicant for the project should be aware that the number of residential lots anticipated in the preferred alternative may not be feasible at this site.

If you have questions, please contact me as noted below.

Sincerely,

Katie Hart, P.E.
 Water Resource Control Engineer
 Watershed Protection Division
 San Francisco Bay Regional Water Quality Control Board
 (510) 622-2356

1

2

3

Letter No 1: San Francisco Regional Water Quality Control Board

Response 1-1

The Recirculated Draft EIR's analysis of impacts to state and federally jurisdictional wetlands and alternatives analysis meets the requirements of California Environmental Quality Act (CEQA), and includes an evaluation of alternatives that reduce the proposed project's significant impacts on biological resources, including impacts on the waters of the state. The project applicants would be required to obtain a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB) prior to construction of the proposed project. The Section 404(b)(1) alternatives analysis requested in the comment (i.e., focus on avoidance and minimization of wetlands and waters of the State) is required pursuant to the Clean Water Act and would be provided with the permit application to the RWQCB.

Response 1-2

The Recirculated Draft EIR (page 5.3-66) requires the implementation of Mitigation Measure 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. This measure requires the payment of a Wetland Mitigation Fee to receive coverage under East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). Alternately, the project applicants may, in accordance with the terms of Pittsburg Municipal Code (PMC) Chapter 15.108, offer to dedicate land or create and restore wetlands in lieu of some or all of the mitigation fees (Recirculated Draft EIR page 5.3-50).

As discussed in the East Contra Costa County HCP/NCCP (pages 6-33 to 6-34), the intent of the HCP/NCCP is to "concentrate mitigation for filled aquatic features in areas away from urban development and within large preserves that are linked to existing protected areas. Larger preserves would be more effective for protecting, enhancing, and restoring wetlands. The analysis conducted in this Plan assumes that small, isolated wetlands would not be avoided on projects within the urban development area." The required wetland fees would contribute towards the Plan's goal of restoration of 320 to 354 acres of aquatic habitat, as well as the acquisition of wetland habitats. Given the above, under CEQA, payment of the required wetland mitigation fee would offset the project's impact to wetlands through the restoration, creation, and preservation of wetlands in the project region. The adequacy of this mitigation to satisfy the RWQCB's mitigation requirements for receiving Section 401 Certification, and the possible need for supplemental mitigation, would be evaluated in the Section 401 permit application process.

Response 1-3

The Recirculated Draft EIR (pages 5.3-65 to 5.3-66) identifies the loss of state and federally jurisdictional wetlands and waters as a significant impact. The Recirculated Draft EIR includes an evaluation of three alternatives that reduce the number of residential units that would be constructed on the site. Please also see Responses 1-1 and 1-2 above.



Central Valley Regional Water Quality Control Board

28 January 2015

Kristin Pollot
City of Pittsburg
Development Services – Planning Department
65 Civic Avenue
Pittsburg, CA 94565

CERTIFIED MAIL
7014 2120 0001 3978 4405

**COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF AVAILABILITY,
MONTREUX RESIDENTIAL SUBDIVISION RECIRCULATED SECTIONS PROJECT,
CONTRA COSTA COUNTY**

Pursuant to the City of Pittsburg Development Services – Planning Department's 23 December 2014 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Availability* for the Montreux Residential Subdivision Recirculated Sections Project, located in Contra Costa County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

1

KARL E. LONGLEY-SUD, P.E., THOM I. PAMELA C. GRIFFIN, P.E., BCEE, Executive Officer
11020 San Carlos Drive #200, Rancho Cordova, CA 95670 | www.waterboards.ca.gov/centralvalley

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Phase I and II Municipal Separate Storm Sewer System (MS4) Permits¹

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

2

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 97-03-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

3

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

4

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

¹ Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

5

Waste Discharge Requirements

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project will require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

6

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml

Regulatory Compliance for Commercially Irrigated Agriculture

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program.

There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_approval/index.shtml, or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.
2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100.** Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently \$1,084 + \$6.70/Acre), the cost to prepare annual monitoring reports, and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory

7

Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

7

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

8

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

If you have questions regarding these comments, please contact me at (916) 464-4684 or tcleak@waterboards.ca.gov.



Trevor Cleak
Environmental Scientist

Letter No 2: Central Valley Regional Water Quality Control Board

Response 2-1

As discussed on pages 5.4-10 and 5.4-11 of the Draft EIR, the proposed project would be subject to the Construction General Permit and as such, the project applicants would develop and implement a storm water pollution prevention plan (SWPPP).

Response 2-2

As discussed on page 59 in of the Initial Study (see **Appendix 1.0** of the Draft EIR), post construction, the project would treat stormwater runoff from the new impervious surfaces created on-site, as required by provision C.3 of the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MRP), Order No. R2-2009-0074, NPDES Permit No. CAS612008, adopted October 14, 2009, and revised November 28, 2011. Many of the Low Impact Development (LID) measures required by provision C.3 are not feasible for inclusion in the proposed project. According to provision C.3, a properly engineered and maintained biotreatment system, which the project proposes in the form of detention basins, may be considered acceptable if harvesting and re-use, infiltration, or evapotranspiration at a project site is infeasible. According to the Stormwater Control Plans prepared for the proposed project (see **Appendix 3.0** of this Final EIR), typical roof sizes on the project site would be much less than the 10,000 square feet required to make use of harvested stormwater for toilets and urinals feasible. In addition, capture and reuse of stormwater for onsite landscaping irrigation is also impractical due to dense development and the small amount of common landscaped area requiring irrigation.

Response 2-3

The proposed project consists of residential uses. Compliance with regulations contained in the Industrial Storm Water General Permit Order No. 97-03-DWQ is not required for the proposed project.

Response 2-4

As discussed on pages 5.3-65 and 5.3-66 of the Recirculated Draft EIR, the project would result in fill of wetlands/drainages under the jurisdiction of the United States Army Corp of Engineers (USACE), the RWQCB, and the California Department of Fish and Wildlife (CDFW). In compliance with state and federal laws, the project applicant is required to obtain a Section 404 permit from the USACE, a 401 water quality certification/waiver from the RWQCB, and a Streambed Alteration Agreement from the CDFW prior to filling or altering a jurisdictional feature.

Response 2-5

See Response 2-4 above.

Response 2-6

As shown in Figure 5.3-4 in the Recirculated Draft EIR, the jurisdictional delineation conducted for the proposed project determined that waters of the U.S. are present on the project site. Therefore, permitting with the RWQCB would be through Section 401 of the Clean Water Act.

Response 2-7

The proposed project consists of residential uses, and would not involve a commercial agricultural operation that requires irrigation. As a result, the proposed project is not required to obtain regulatory coverage under the Irrigated Lands Regulatory Program.

Response 2-8

The proposed project would not require dewatering. Therefore, the proposed project is not required to obtain coverage under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order).



CONTRA COSTA LOCAL AGENCY FORMATION COMMISSION
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Lou Ann Teixeira
 Executive Officer

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Public Member
 Tom Butt
City Member
 George H. Schmidt
Special District Member

January 2, 2014

Kristin Pollot, Associate Planner
 City of Pittsburg
 Development Services – Planning Department
 Civic Center – 65 Civic Avenue
 Pittsburg, CA 94565

**SUBJECT: Draft Environmental Impact Report (DEIR)
 Montreux Residential Subdivision**

Dear Kristi:

Thank you for including the Contra Costa Local Agency Formation Commission (LAFCO) on the distribution list for the above referenced project. LAFCO staff has reviewed the DEIR, and we offer general and specific comments and questions below.

General Comments

As a Responsible Agency pursuant to the CEQA, LAFCO will need to rely on the City's environmental document in consideration of the future boundary changes discussed in the DEIR and required for the project (i.e., annexation to the City of Pittsburg, Contra Costa Water District (CCWD) and Delta Diablo Sanitation District (DDSD)).

LAFCO is an independent, regulatory agency with discretion to approve, wholly, partially or conditionally, or disapprove, changes of organization or reorganizations. In accordance with the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH Act), LAFCO is required to consider a variety of factors when evaluating a proposal, including, but not limited to the proposal's potential impacts on agricultural land and open space, provision of municipal services and infrastructure to the project site, timely and available supply of water, fair share of regional housing, etc.

The factors relating to boundary and SOI changes are contained in Government Code (GC) §§56668 and 56425, respectively. As noted in our May 2013 comment letter, including an assessment of these factors in the City's environmental document will facilitate LAFCO's review and the LAFCO process. We urge the City to include an assessment of these factors in final EIR.

1

2

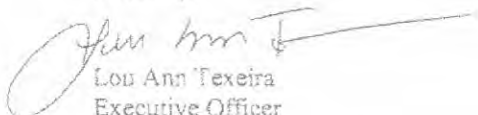
Specific Comments

1. **Agricultural Resources** – Our May 2013 comment letter requested that the EIR provide an assessment of the effect of the project on agricultural resources using the LAFCO definitions of *agricultural lands* (GC §56016) and *prime agricultural land* (GC §56064). We could not find this assessment in the DEIR. *Please be advised that LAFCO will be unable to rely on the City's EIR for the necessary annexations without this assessment.* 3
2. **Population and Housing** – As noted in our May 2013 letter, one of the factors LAFCO must consider in its review of a boundary change proposal is the extent to which the project will affect the city in achieving its respective share of the regional housing needs (GC §56668). As noted in the DEIR, the project will provide additional moderate income housing opportunities, but includes no specific allocations for low, or very low income housing. Please confirm. 4
3. **Public Services – Fire Services** – The DEIR finds that 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 NEPA response time guideline of 6 minutes, 90 seconds percent of the time. The DEIR includes a number of mitigation measures to address the concerns regarding fire service to the project site. However, the DEIR concludes that even with implementation of the mitigation measures, inadequate fire protection services is identified as a significant and unavoidable impact. Fire service to the project site remains a concern for LAFCO, and the Commission may have to make its own determinations regarding this matter. 5
4. **Utilities and Service Systems – Water Service** – As indicated in our May 2013 letter, LAFCO's approval of an annexation to CCWD will be conditioned upon receiving a "will service" letter from CCWD verifying that the District has the capacity to serve the project, and that the project site is included in the Central Valley Project. 6

Thank you for the opportunity to comment. We look forward to receiving a copy of the Final EIR and related documents including the City's CEQA Findings and Statement of Overriding Considerations.

In the meanwhile, feel free to contact the LAFCO office if you have any questions.

Sincerely,


Lou Ann Texeira
Executive Officer

c: LAFCO Planner

Letter No 3: Contra Costa Local Agency Formation Commission

Response 3-1

The Draft EIR lists the Contra Costa Local Agency Formation Commission (LAFCO) as a responsible agency and identifies the discretionary actions, which are the annexations of the property into the City of Pittsburg, Contra Costa Water District (CCWD) Service Area, and Delta Diablo Sanitation District (DDSD) Service Area, that the Commission would need to take with respect to the proposed project. LAFCO would rely on the EIR prepared for the proposed project to consider the future boundary change request for the project. The EIR contains all the analysis required for LAFCO to make its determinations related to agricultural and open space lands (**Appendix 1.0, Subsection VI.2**, of the Draft EIR), municipal services and infrastructure (see **Section 5.6, Public Services**, and **Appendix 1.0, Subsection VI.17** of the Draft EIR), available water supply (see **Appendix 1.0, Subsection VI.17** of the Draft EIR) and regional housing needs (see **Appendix 1.0, Subsection VI.13** of the Draft EIR). In addition, a consistency analysis has been provided on pages 4.0-8 to 4.0-14 in **Section 4.0, Plans and Policies**, of the Draft EIR, reviewing the project's consistency with applicable Contra Costa County LAFCO annexation policies and Cortese-Knox-Hertzberg policies.

Response 3-2

Factors relating to boundary changes are contained in Section 56668 of the Cortese-Knox-Hertzberg Act, and include, but are not limited to, how proposals for boundary changes conform to applicable city and county general plans; maintenance of the physical and economic integrity of the agricultural lands; the need for organized community services; and timely availability of water supplies. An analysis of the project's consistency with the Section 56668 factors related to boundary changes is provided on pages 4.0-8 to 4.0-11 of the Draft EIR.

As the project is located within the City's Sphere of Influence (SOI), no discussion of factors related to SOI changes contained in Section 56425 is necessary.

Response 3-3

Consistent with the guidance in the CEQA Checklist, the City of Pittsburg utilizes the important farmland designations established by the California Department of Conservation under the Farmland Mapping and Monitoring Program (FMMP) to evaluate the significance of a project's impacts on agricultural resources in the City. As discussed on page 24 of the Initial Study (see **Appendix 1.0** of the Draft EIR), the entire project site is mapped and classified as grazing land and no portion of the property is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmland), pursuant to the FMMP. As a result the project would not result in the conversion of Important Farmland to non-agricultural uses.

As the Contra Costa LAFCO is proposing to rely on this EIR for its consideration of the required boundary changes, an evaluation of the project's effects on agricultural land as defined by Government Code Section 51016 and Section 56064 for LAFCO purposes has been added to **Subsection VI.2, Agricultural and Forestry Resources**, for informational purposes (see **Chapter 2.0, Revisions to the 2013 Draft EIR**, of this Final EIR).

Response 3-4

The City of Pittsburg was unable to meet its regional housing needs allocation for 2007–2014; however, a new allocation has been assigned for 2014-2022 which includes a requirement for 2,025 new units, of which 1,374 units are to be moderate or above moderate income units. As a result, the 356 housing units provided by the proposed project would help the City meet its current regional housing obligation.

Concerning housing affordability, the proposed project would be required to comply with the City's inclusionary housing ordinance. As such, the proposed project would either provide restricted units or pay an in lieu fee, in accordance with PMC Chapter 18.86.

Response 3-5

Comment noted.

Response 3-6

Comment noted.

**Department of
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Development**

30 Muir Road
Martinez, CA 94553

Phone: 1-855-323-2626

**Contra
Costa
County**



John Kopchik
Director

Aruna Bhat
Deputy Director

Jason Crapo
Deputy Director

Robert T. Calkins
Deputy Director

February 13, 2015

Kristin Pollot, Senior Planner
City of Pittsburg, Planning Department
65 Civic Avenue
Pittsburg, CA 94565

RE: Montreux Residential Subdivision Recirculated Draft Environmental Impact Report

Dear Ms. Pollot:

This memo serves as Contra Costa County's comment to the Montreux Residential Subdivision Recirculated Draft Environmental Impact Report. Thank you for the opportunity to comment on this project.

1. The City should address the potential for the project's construction traffic to impact the condition of pavement on County roads as Kirker Pass Road was resurfaced in 2012. To address the potential impact, the haul routes should be submitted to the County Public Works Department for review and approval if haul routes include County roadways. Documentation may be required of the pavement condition prior to and after the project is completed.

If you have any questions, please call me at (925) 674-7822 or e-mail me at Robert.Sarmiento@dcd.cccounty.us.

Respectfully,

Robert Sarmiento

Planner I

c: John Cunningham, DCD

Tianjun Cao, PW

Letter No 4: **Contra Costa Department of Conservation and Planning**

Response 4-1

The City of Pittsburg would submit the project's haul routes to the Contra Costa County Public Works Department for review and approval prior to the start of construction. As discussed on page 3.0-12 in **Section 3.0, Project Description**, of the Draft EIR, no soil would be imported or exported from the project site, thus limiting haul trips to the delivery of construction materials only.



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January 10, 2014

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Sent Via Electronic Mail: kpollot@ci.pittsburg.ca.us

Hard copy to follow

Kristin Pollot, Associate Planner
City of Pittsburg, Planning Department
65 Civic Avenue
Pittsburg, CA 94565

Subject: Montreux Residential Subdivision, Draft Environmental Impact Report SCH
2013032079

Dear Ms. Pollot:

The purpose of this correspondence is for the Contra Costa Water District (CCWD) to provide comments to the City of Pittsburg regarding the Montreux residential subdivision Draft EIR (DEIR). The DEIR that was issued on November 27, 2013 with formal comments requested by January 10, 2014. The proposed Montreux residential subdivision consists of 356 new residences with associated roads, infrastructure and detention basins on an approximate 165 acre site consisting of a 148.3 acre main project site and a 16.8 acres portion of an off-site parcel. The main project site is proposed for annexation to the City of Pittsburg, CCWD and the Delta Diablo Sanitation District. To obtain access to water entitlements from CCWD requires that the site be included by the U.S Dept of the Interior, Bureau of Reclamation (Reclamation) into the Central Valley Project (CVP).

CCWD provided comments on the Notice of Preparation on May 17, 2013 and April 29, 2013 (Attached). CCWD also provided initial project comments on April 26, 2010 (Attached). CCWD's comments have been and continue to be directed towards the issue of water supply for the proposed project. At this time the proposed site has no entitlements for water service from CCWD.

The Montreux project has included Draft EIR CEQA conditions that reflect an approach of conditioning commencement of construction via grading and building permits relative to receipt of water entitlements. The Draft EIR is a key support document for future water entitlement reviews. However, as discussed below, the Draft EIR does not include the analysis that is necessary for the Reclamation, who controls access to CVP water, to be able to make decisions towards allowing water service to be available for the Montreux site. CCWD is recommending that the City of Pittsburg conduct the needed

Kristin Pollot
Montreux Subdivision
January 10, 2014

environmental analysis at this time to provide greater certainty that Reclamation will be able to complete its CVP inclusion review on a timely basis.

One of the key issues for establishment of water service is the requirement that Reclamation authorize CCWD to include the proposed site for the use of CVP water. As CCWD has described within its previous correspondence CVP Inclusion will require National Environmental Policy Act (NEPA) review by Reclamation. Before NEPA can be completed, Reclamation will require Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (Section 106) compliance. In addition, given the close proximity and linkages between the James Donlon Blvd Road Extension, the Sky Ranch II and the Tuscany Meadows projects, an assessment of cumulative impacts from all of these projects under NEPA, particularly with respect to water supply, will also be required.

Since water is an essential resource for residential development, and no water entitlements now exist at the subject site, it is recommended that the project applicant commence the Annexation and CVP Inclusion review as soon as possible. This will ensure that when the developer is ready to commence construction of the Montreux site, that water service is available and not subject to costly delays associated with a second round of report preparation and approval. Ideally the CVP Inclusion Review can be completed as close in time as is possible after LAFCO approves the annexation of the Montreux site to CCWD.

To advance the Montreux Residential Subdivision project forward toward greater certainty of CVP water supply, CCWD recommends that the final EIR include the following:

1. A requirement that the applicant (at this time CCWD understands that one developer controls all of these projects) prepare Annexation and CVP Inclusion review applications to CCWD for the following related projects:
 - a. Montreux (Annexation and CVP Inclusion)
 - b. James Donlon Blvd Extension (Annexation and CVP Inclusion)
 - c. Tuscany Meadows (Annexation and CVP Inclusion)
 - d. Sky Ranch II. (Annexation to CCWD is complete but CVP Inclusion review remains outstanding and the project appears to be inactive).

1

This is the information that Reclamation needs in order to prepare NEPA documents for CVP Inclusion Review. Since the same developer controls all of the above projects, preparing the needed documents should be easier.

2. Completion of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) Planning Survey Reports for Montreux, James Donlon Blvd Extension, Tuscany Meadows and Sky Ranch II Projects. The Planning Survey Reports will be provided to Reclamation staff as part of the CCWD CVP Inclusion Review. Reclamation will submit these reports to the US Fish & Wildlife

2

Kristin Pollot
Montreux Subdivision
January 10, 2014

Service (USFWS) for confirmation that they satisfy the HCP/NCCP requirements. The Draft EIR addresses the requirement that each of the above projects satisfy the HCP/NCCP, however none of the Planning Survey Reports have been submitted.

2

3. Submission of Section 106 Historic Property Assessments for Montreux, James Donlon Blvd Extension, Tuscany Meadows and Sky Ranch II Projects. The Section 106 reports will allow Reclamation staff to provide its analysis of impacts to Historic Resources. CCWD's May 17, 2013 letter to the City of Pittsburg advised that CEQA documentation presented to date does not comply with Section 106. CCWD provided this letter at the request of Reclamation. Without Section 106 compliance the CVP Inclusion Review will not be approved by Reclamation. Section 106 compliance can be very time consuming and the Montreux site has known historic resources. The Draft EIR does not address this concern as there is no new section regarding cultural resources within the document concerning compliance with Section 106.

3

4. An analysis of the cumulative impacts associated with the development of the Montreux, James Donlon Blvd Extension, Sky Ranch II and Tuscany Meadows projects. The Draft EIR highlights these major projects to be evaluated under cumulative impacts (page 5.0-4) within the Draft EIR. The Draft EIR discusses potential biological cumulative effects for each of the above projects. However, as discussed above, the analysis assumes that all of the cumulative effects can be mitigated through the HCP/NCCP. To confirm that the cumulative effects from these projects can be mitigated, it is necessary that Planning Survey Reports be provided for each site. The Draft EIR does not address potential cumulative Cultural and Water Supply impacts from the development of all of these projects.

4

In closing, CCWD recommends that the City of Pittsburg require more complete environmental documentation at this time as a mechanism to provide greater certainty of water supply for the Montreux project. A key stakeholder for access to CVP water is Reclamation who requires NEPA level environmental documentation before considering whether to grant access to its water supplies. This requires that the necessary technical review be conducted at this time including in particular completion of HCP/NCCP Planning Survey Reports and Historic Property Reports for compliance with Section 106. The applicant should also request water service from CCWD. With this approach CVP Inclusion review could be completed as close in time as possible to approval by LAFCO for CCWD annexation. Absent this approach there is greater risk the CVP Inclusion review process will not be completed on a timely basis relative to the point in time that the developer desires to commence housing construction.

Should there be any questions on this matter please do not hesitate to contact me. I can be reached at 925 688-8119.

Kristin Pollot
Montreux Subdivision
January 10, 2014

Sincerely,



Mark A. Seedall
Principal Planner

MS/jmt

Attachments

cc: Cathy James (Reclamation)
Chuck Siek (Reclamation)
Laurie Perry (Reclamation)
Lou Ann Texeira (LAFCO)
Stephanie Jentsch (USFWS)
Scott Wilson (CFWS)
Dana Hoggatt Ayers- City of Pittsburg Planning Manager
Keith Halvorson- City of Pittsburg Engineer



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May 17, 2013

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65 Civic Avenue
Pittsburg, CA 94565-3814

VIA FACSIMILE (925)252-4814
Hard Copy to Follow

**Subject: Request for Comments on the Notice of Preparation (NOP) for the
Montreux Residential Development**

Dear Ms. Vahl:

The purpose of this correspondence is to supplement CCWD's April 26, 2013 comment letter (attached) on the NOP for the project. The U.S. Bureau of Reclamation (Reclamation) has the following comments that should also be addressed in the Draft EIR for the project.

Reclamation notes that the cultural resources section of the March 2013 draft Initial Study (IS) and the IS appendices do not address Section 106 of the Historic Preservation Act issues. As stated in our April 26 comment letter on the project, any proposed use of water will require that the area where such water will be used be annexed to the CCWD service area. In addition, any use of water will require review by Reclamation for inclusion to its Central Valley Project (CVP) area. Before water service entitlements are established, Reclamation review will require National Environmental Policy Act (NEPA) review.

The cultural resources section of the IS (pages 41-43) states that surveys were originally conducted in 1995 for this project by Holman and Associates, resulting in the identification of a historic ranch complex in the project Area of Potential Effect (APE). This was, at the time, considered to be a significant historic resource under CEQA criteria, and recordation and archival research was recommended. However, when Holman and Associates returned to the project site in 1999 to gather additional data, they found that the ranch complex had been demolished.

The IS further recommends that archaeological monitoring and mechanical grading and trenching be conducted as mitigation measures at the former ranch

Ms. Kristin Vahl Pollot
Montreux Residential Development
May 17, 2013

site. This cannot be considered as mitigation of adverse effects under the Section 106 regulations at 36 CFR Part 800. The list of issues on page 41 of the IS states that cultural resource impacts would be less than significant with mitigation. Adverse effects to historic properties cannot be mitigated to less than significant under the Section 106 regulations. The actual mitigation measures proposed on pages 42-43 only address the discovery of archaeological resources or human remains during project construction.

The historic ranch complex, or what remains of it, needs to be evaluated for eligibility under the four National Register of Historic Places criteria pursuant to 36 CFR Part 800.4(c)(1). Additionally, the cultural resource survey referenced in the IS as Holman and Associates 2000 was not provided in the appendices, or elsewhere. The date of this document, some 13 years ago, indicates that a new cultural resource survey and report is needed, one that is directed toward 106 compliance and which could be used by Reclamation for a consultation with the California State Historic Preservation Officer (SHPO). The existing IS and likely the 2000 cultural resource report, will not provide sufficient documentation for a SHPO consultation.

Please contact me at (925) 688-8119 should you have further questions.

Sincerely,

Wm. C. Sedell

Mark A. Seedall
Principal Planner

MAS/jmt

Attachment: April 26, 2013 Comment Letter

cc: Ryan Olah, U.S. Fish & Wildlife Service
Scott Wilson, California Dept. of Fish & Wildlife
Shauna McDonald, Reclamation, Fresno
Eileen James, Reclamation, Tracy
Chuck Sick, Reclamation, Fresno



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April 29, 2013

*Sent by Email (PDF): Kvahl@ci.pittsburg.ca.us
Original to Follow*

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Pittsburg, CA 94565-3814

**Subject: Request for Comments on the Notice of Preparation (NOP) for the
Montreux Residential Development**

Dear Ms. Vahl:

The Contra Costa Water District (CCWD) is in receipt of a request for comments on the Notice of Preparation (NOP) for the proposed Montreux residential development in an unincorporated area of Contra Costa County west of the intersection of Kirker Pass Road and Nortonville Road near the southern limits of the City of Pittsburg. The proposed Montreux development includes a request for rezoning, request for approval of a vesting Tentative Map and preliminary grading plan for 356 single family homes, request for approval of a development agreement and annexation of the project into the City of Pittsburg, CCWD and Delta Diablo Sanitation District. The Montreux subdivision will be connected to the four-way intersection aligned with the planned James Donlon expressway (formally known as the Buchanan Road Bypass).

CCWD is also in receipt of a Draft EIR for the James Donlon Boulevard Extension Project. The James Donlon Boulevard Extension Project will connect the Montreux subdivision on the west, the Sky Ranch II residential Project to the east, and potentially new subdivisions along the new road. None of these areas have authorization to receive access to Central Valley Project water from CCWD.

CCWD manages and maintains water facilities that are owned and operated by the United States Bureau of Reclamation (Reclamation). This includes the Contra Costa Canal as well as a number of untreated water laterals. CCWD provides wholesale water service from Reclamation to the City of Pittsburg who in turn provides retail water service. At this time, no water service is provided to the area where the project is proposed.

Ms. Kristin Vahl Pollot
Montreux Residential Development
April 29, 2013
Page 2

CCWD notes that the Initial Study states that annexation of the project area to the CCWD Service Area would be required. Accordingly, CCWD requests that the EIR on the project consider the following, similar to CCWD comments made on the project in CCWD's April 26, 2010 letter (attached):

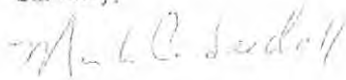
1. The proposed project is outside of the City of Pittsburg and is outside of the CCWD Service Area. This area has no entitlements to allow for the provision of water service on either a temporary or long term basis. See map attached.
2. Under CCWD regulations any proposed use of water will require that the area where such water will be used be annexed to the CCWD service area. In addition, any use of water will require review by Reclamation for inclusion to its Central Valley Project (CVP) area. Before water service entitlements are established, Reclamation will require National Environmental Policy Act (NEPA) review. Of particular importance for the NEPA review is the Endangered Species Act and Cultural Resources (Section 106 of the National Historic Preservation Act). The CEQA document should clearly identify whether the project intends to use the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) to support Endangered Species Act compliance.
3. The City of Pittsburg would need to submit to CCWD an application on behalf of the project developers for an annexation to CCWD and inclusion into the CVP.
4. The environmental review should clearly define the amount of construction water that will be needed as well as the degree of permanent landscaping that will be included. The environmental document should also clearly limit the start of any construction activities until CCWD advises the City of Pittsburg in writing that all water-related entitlements as well as all CCWD regulations have been obtained.
5. The CEQA document should clearly define the relationship between the Montreux, Sky Ranch II and any potentially new residential developments and the proposed James Donlon Boulevard Extension Project in terms of likely traffic flow.
6. The environmental issues associated with Montreux, Sky Ranch II and the James Donlon Boulevard Extension Project are linked. All of these areas require CVP inclusion review in order to provide water service. Pertinent to Section 15335 of the 2012 CEQA Guidelines all three related projects should be addressed in the cumulative impacts section of the Draft EIR. Of particular interest is compliance with the Endangered Species Act (ESA) for each of these projects. The most productive approach to ESA compliance is

Ms. Kristin Vahl Pollot
Montreux Residential Development
April 29, 2013
Page 3

through the HCP/NCCP. Compliance with HCP/NCCP should facilitate timely review by Reclamation for CVP water use.

Please contact me at (925) 688-8119 should you have further questions.

Sincerely,



Mark A. Seedall
Principal Planner

MAS/JMT/rhr

Attachment

cc: Ryan Olah, U.S. Fish & Wildlife Service
Scott Wilson, California Dept. of Fish & Wildlife
Shauna McDonald, Reclamation, Fresno
Eileen James, Reclamation, Tracy
Chuck Siek, Reclamation, Fresno



**CONTRA COSTA
WATER DISTRICT**

1331 Concord Avenue
P.O. Box 1120
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(925) 688-8000 FAX (925) 688-8122
www.ccwater.com

April 26, 2010

Directors

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Karl L. Wandry
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General Manager

Ms. Kristin Vahl
Planning & Building Dept.
City of Pittsburg
65 Civic Avenue
Pittsburg, CA 94565-3814

VIA FACSIMILE (925)252-4814
Hard Copy to Follow

Subject: Request for Comments on the Montreux Residential Development (AP-10-684)

Dear Ms. Vahl:

The Contra Costa Water District (CCWD) is in receipt of a request for comments on the proposed Montreux residential development in an unincorporated area of Contra Costa County west of the intersection of Kirker Pass Road and Nortonville Road near the southern limits of the City of Pittsburg.

CCWD manages and maintains water facilities that are owned and operated by the United States Bureau of Reclamation (Reclamation). This includes the Contra Costa Canal as well as a number of untreated water laterals. CCWD provides wholesale water service from the United States Bureau of Reclamation to the City of Pittsburg who in turn provides retail water service. At this time, no water service is provided to the area where the project is proposed.

CCWD would request that the EIR on the project consider the following:

1. The proposed project is outside of the City of Pittsburg and is outside of the Contra Costa Water District. This area has no entitlements to allow for the provision of water service on either a temporary or long term basis. See Attachment 1.
2. Under CCWD regulations any proposed use of water will require that the area where such water will be used be annexed to the CCWD service area. In addition, any use of water will require review by the United States Bureau of Reclamation for inclusion to its Central Valley Project area. Before water service entitlements are established, United States Bureau of Reclamation review will require National Environmental Policy Act (NEPA) review. Of particular importance for the NEPA review is the Endangered Species Act and Cultural Resources (Section 106 of the National Historic Preservation Act). The CEQA document should clearly identify whether the project intends to use the East Contra Costa County Habitat Conservation Plan to support Endangered Species Act compliance.

Kristin Vahl
City of Pittsburg
April 26, 2010
Page 2

3. The City of Pittsburg would need to submit to CCWD an application on behalf of the project developers for an annexation to CCWD and inclusion into the Central Valley Project (CVP).
4. The environmental review should clearly define the amount of construction water that will be needed as well as the degree of permanent landscaping that will be included. The environmental document should also clearly limit the start of any construction activities until CCWD advises the City of Pittsburg in writing that all water related entitlements as well as all CCWD regulations have been obtained.

Please contact me at (925) 688-8119 should you have further questions.

Sincerely,



Mark A. Seedall
Principal Planner

MAS/jmt/rlr:m/c

Attachment I

Letter No 5: Contra Costa Water District

In addition to comments on the Draft EIR that are contained in the CCWD's comment letter dated January 10, 2014, the District attached three additional letters that were previously submitted by the District in 2010 and in 2013 in response to the NOP. Those letters were reviewed in conjunction with the preparation of the Draft EIR and all issues raised in those letters are addressed in the Draft EIR. No responses to those comments are required, and are therefore not provided below.

Response 5-1

The commenter recommends that the project applicant prepare and submit the annexation and Central Valley Project (CVP) inclusion review applications to the CCWD for the proposed project and a number of other projects under the control of the applicants. Please note that the City of Pittsburg controls the James Donlon Boulevard Extension (JDBE) project and that project does not require annexation to the CCWD or inclusion in the CVP.

The project applicants would prepare and submit the annexation and CVP inclusion review applications to the CCWD for the proposed project after the completion of the CEQA process and approval of the project by the City. Similarly, for the other projects under the control of the applicants, the project applicants would also prepare and submit annexation and CVP inclusion review applications to the CCWD after the completion of each project's CEQA process and their subsequent approval by the City. Whether or not the project applicants decide to group applications together is outside the purview of this environmental analysis.

Response 5-2

As required by PMC Chapter 15.108, the project applicants shall secure the services of an East Contra Costa County HCP/NCCP qualified biologist to prepare a final version of the Planning Survey Report (PSR), along with any related supporting studies, consistent with the requirements of the HCP/NCCP necessary to obtain take coverage for the entire project site. The final version of the PSR for the proposed project would be forwarded by the project applicants to the CCWD as part of the CVP inclusion review application, which would occur after the completion of the CEQA process and approval of the project by the City. Similarly, the final PSR for each of the other project's mentioned under the control of the applicants, would also be forwarded by the project applicants to the CCWD as part of each project's CVP inclusion review application, which would occur after the completion of each project's CEQA process and their approval by the City.

Response 5-3

Information and analysis of the project's potential impacts on cultural resources is presented on pages 41 to 43 of the Initial Study (see **Appendix 1.0** of the Draft EIR). Preparation and submittal of a Section 106

Historic Property Assessment is not required for the CEQA process. The project applicants would prepare and submit a Section 106 Historic Property Assessment for the proposed project to the CCWD as part of the project's CVP inclusion application, which would occur after completion of the CEQA process and approval of the project by the City. The same process would be completed for the other projects in the area under the control of the project applicants.

Response 5-4

As discussed in Response 5-2 above, PSRs for the proposed project and projects under the control of the project applicants would be submitted as part of each project's CVP inclusion review application, following the completion of the CEQA process for each project. PSRs are not required to evaluate a project's cumulative impact under CEQA. Furthermore, the City of Pittsburg and the project site are included in the East Contra Costa County HCP/NCCP as areas that would be developed and the EIR for the HCP/NCCP addressed the impacts to biological resources from development and preservation activities in East Contra Costa County. That EIR also concluded that with the implementation of mitigation requiring surveys for elderberry shrubs, documentation of special-status plant species, and pre-construction surveys for special-status bird species, impacts from the anticipated development to special status plant and wildlife species would be reduced to a less than significant level (ECCCHCPA 2006). Potential cumulative cultural and water supply impacts of the proposed project were addressed on pages 43 and 90 and 91, respectively, of the Initial Study (see **Appendix 1.0** of the Draft EIR).



Letter No. 6

Board of Directors
Joseph L. Campbell
President

Lisa M. Borha
Vice President

Bette Boatman

John A. Burgh

Constance Holdaway

General Manager
Jerry Brown

February 2, 2015

Sent Via Hard Copy & email:
kpollot@ci.pittsburg.ca.us

Kristin Pollot
Planning Department
City of Pittsburg
65 Civic Avenue
Pittsburg, CA 94565

Subject: Comment Letter Regarding Montreux Residential Subdivision Project

Dear Kristin:

The Contra Costa Water District (CCWD) is in receipt of the City's Request for Comments related to the Montreux Project. Our understanding of the Proposed Project is that it includes a December 2014 Draft Environmental Impact Report, for a Project requesting rezoning from HPD to RS-6, a Vesting Tentative Map application, Grading Plan application, annexation into the City of Pittsburg, CCWD, Delta Diablo and inclusion in the Central Valley Project, along with a Development Agreement to construct 356 single-family homes within the Pittsburg area (APN# 089-020-009, 011, 014, 015 and 089-010-010). The CCWD has previously commented on this project, our last letter was dated January 10, 2014.

At this time, no water service is provided to the area where the Proposed Project is located. The CCWD would like to re-emphasize the need for the documentation requested in the last letter dated January 10, 2014 in order to process the necessary will serve request, annexation, and Central Valley Project inclusion. CCWD notes that the December 2014 Draft EIR does not address the recommended approach documented in the January 10, 2014 letter provided by CCWD.

CEQA Guidelines Section 15378 defines a "Project" as including the whole of an action which has the potential for either direct or reasonably foreseeable indirect physical change in the environment, including both construction activities and resource allocation decisions related to water entitlements. When evaluating the potential for environmental impacts from a Project, CEQA Guidelines Section 15126 requires that all phases of planning, acquisition, development and operation be considered, and precludes deferral of analysis until some future time (as appears to have been done for the Proposed Project). The Proposed Project does not currently have water entitlements from either CCWD or the U.S. Bureau of Reclamation (Reclamation). CCWD holds the position that the absence of water entitlements could pose a significant impact related to the delivery

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Kristin Pollot
City of Pittsburg
February 2, 2015
Page 2

of water service which has not been given consideration in the draft environmental document. Therefore, CCWD requests that the description for the Proposed Project be revised to include details of the necessary water entitlements within the environmental analysis and to include consideration of essential studies, in particular, federal review related to inclusion within the Central Valley Project.

2

Contra Costa Water District provides untreated water to the municipality serving treated water to this Project/Property. Each new service requiring a meter will be assessed a Facility Reserve Charge (FRC) fee (**Reg. 5.20.010 and/or 5.14.020**). Further review by CCWD is recommended.

3

Further information and answers to a number of frequently asked questions regarding water service and CCWD regulations can be found on the CCWD's web site at www.ccwater.com.

Should you require any further clarification on CCWD comments, please contact Mark Seedall at 925-688-8119 within the CCWD Engineering Department.

Sincerely,



Mark Seedall
Principal Planner

MAS

Attachment: CCWD Comment Letter to the City of Pittsburg dated January 10, 2014

cc: Cathy James (Reclamation, Tracy)

CCWD
48171 191211

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January 10, 2014

Directors
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Vice President

Bette Boatman
Lisa M. Borba
John A. Burgh

Jerry Brown
General Manager

*Sent Via Electronic Mail: kpollot@ci.pittsburg.ca.us
Hard copy to follow*

Kristin Pollot, Associate Planner
City of Pittsburg, Planning Department
65 Civic Avenue
Pittsburg, CA 94565

Subject: Montreux Residential Subdivision, Draft Environmental Impact Report SCH
2013032079

Dear Ms. Pollot:

The purpose of this correspondence is for the Contra Costa Water District (CCWD) to provide comments to the City of Pittsburg regarding the Montreux residential subdivision Draft EIR (DEIR). The DEIR that was issued on November 27, 2013 with formal comments requested by January 10, 2014. The proposed Montreux residential subdivision consists of 356 new residences with associated roads, infrastructure and detention basins on an approximate 165 acre site consisting of a 148.3 acre main project site and a 16.8 acres portion of an off-site parcel. The main project site is proposed for annexation to the City of Pittsburg, CCWD and the Delta Diablo Sanitation District. To obtain access to water entitlements from CCWD requires that the site be included by the U.S Dept of the Interior, Bureau of Reclamation (Reclamation) into the Central Valley Project (CVP).

CCWD provided comments on the Notice of Preparation on May 17, 2013 and April 29, 2013 (Attached). CCWD also provided initial project comments on April 26, 2010 (Attached). CCWD's comments have been and continue to be directed towards the issue of water supply for the proposed project. At this time the proposed site has no entitlements for water service from CCWD.

The Montreux project has included Draft EIR CEQA conditions that reflect an approach of conditioning commencement of construction via grading and building permits relative to receipt of water entitlements. The Draft EIR is a key support document for future water entitlement reviews. However, as discussed below, the Draft EIR does not include the analysis that is necessary for the Reclamation, who controls access to CVP water, to be able to make decisions towards allowing water service to be available for the Montreux site. CCWD is recommending that the City of Pittsburg conduct the needed

environmental analysis at this time to provide greater certainty that Reclamation will be able to complete its CVP inclusion review on a timely basis.

One of the key issues for establishment of water service is the requirement that Reclamation authorize CCWD to include the proposed site for the use of CVP water. As CCWD has described within its previous correspondence CVP inclusion will require National Environmental Policy Act (NEPA) review by Reclamation. Before NEPA can be completed, Reclamation will require Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (Section 106) compliance. In addition, given the close proximity and linkages between the James Donlon Blvd Road Extension, the Sky Ranch II and the Tuscany Meadows projects, an assessment of cumulative impacts from all of these projects under NEPA, particularly with respect to water supply, will also be required.

Since water is an essential resource for residential development, and no water entitlements now exist at the subject site, it is recommended that the project applicant commence the Annexation and CVP Inclusion review as soon as possible. This will ensure that when the developer is ready to commence construction of the Montreux site, that water service is available and not subject to costly delays associated with a second round of report preparation and approval. Ideally the CVP Inclusion Review can be completed as close in time as is possible after LAFCO approves the annexation of the Montreux site to CCWD.

To advance the Montreux Residential Subdivision project forward toward greater certainty of CVP water supply, CCWD recommends that the final EIR include the following:

1. A requirement that the applicant (at this time CCWD understands that one developer controls all of these projects) prepare Annexation and CVP Inclusion review applications to CCWD for the following related projects:
 - a. Montreux (Annexation and CVP Inclusion)
 - b. James Donlon Blvd Extension (Annexation and CVP Inclusion)
 - c. Tuscany Meadows (Annexation and CVP Inclusion)
 - d. Sky Ranch II. (Annexation to CCWD is complete but CVP Inclusion review remains outstanding and the project appears to be inactive).

This is the information that Reclamation needs in order to prepare NEPA documents for CVP Inclusion Review. Since the same developer controls all of the above projects, preparing the needed documents should be easier.

2. Completion of the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) Planning Survey Reports for Montreux, James Donlon Blvd Extension, Tuscany Meadows and Sky Ranch II Projects. The Planning Survey Reports will be provided to Reclamation staff as part of the CCWD CVP Inclusion Review. Reclamation will submit these reports to the US Fish & Wildlife

Kristin Follet
Montreux Subdivision
January 10, 2014

Service (USFWS) for confirmation that they satisfy the HCP/NCCP requirements. The Draft EIR addresses the requirement that each of the above projects satisfy the HCP/NCCP, however none of the Planning Survey Reports have been submitted.

3. Submission of Section 106 Historic Property Assessments for Montreux, James Donlon Blvd Extension, Tuscany Meadows and Sky Ranch II Projects. The Section 106 reports will allow Reclamation staff to provide its analysis of impacts to Historic Resources. CCWD's May 17, 2013 letter to the City of Pittsburg advised that CEQA documentation presented to date does not comply with Section 106. CCWD provided this letter at the request of Reclamation. Without Section 106 compliance the CVP Inclusion Review will not be approved by Reclamation. Section 106 compliance can be very time consuming and the Montreux site has known historic resources. The Draft EIR does not address this concern as there is no new section regarding cultural resources within the document concerning compliance with Section 106.

4. An analysis of the cumulative impacts associated with the development of the Montreux, James Donlon Blvd Extension, Sky Ranch II and Tuscany Meadows projects. The Draft EIR highlights these major projects to be evaluated under cumulative impacts (page 5.0-4) within the Draft EIR. The Draft EIR discusses potential biological cumulative effects for each of the above projects. However, as discussed above, the analysis assumes that all of the cumulative effects can be mitigated through the HCP/NCCP. To confirm that the cumulative effects from these projects can be mitigated, it is necessary that Planning Survey Reports be provided for each site. The Draft EIR does not address potential cumulative Cultural and Water Supply impacts from the development of all of these projects.

In closing, CCWD recommends that the City of Pittsburg require more complete environmental documentation at this time as a mechanism to provide greater certainty of water supply for the Montreux project. A key stakeholder for access to CVP water is Reclamation who requires NEPA level environmental documentation before considering whether to grant access to its water supplies. This requires that the necessary technical review be conducted at this time including in particular completion of HCP/NCCP Planning Survey Reports and Historic Property Reports for compliance with Section 106. The applicant should also request water service from CCWD. With this approach CVP Inclusion review could be completed as close in time as possible to approval by LAFCO for CCWD annexation. Absent this approach there is greater risk the CVP Inclusion review process will not be completed on a timely basis relative to the point in time that the developer desires to commence housing construction.

Should there be any questions on this matter please do not hesitate to contact me. I can be reached at 925 688-8119.

Kelston F00106
Montreux Subdivision
January 10, 2014

Sincerely,



Mark A. Seedall
Principal Planner

MS/jmt

Attachments

cc: Cathy James (Reclamation)
Chuck Siek (Reclamation)
Laurie Perry (Reclamation)
Lou Ann Teixeira (LAFCO)
Stephanie Jentsch (USFWS)
Scott Wilson (CFWS)
Dana Hoggatt Ayers- City of Pittsburg Planning Manager
Keith Halvorson- City of Pittsburg Engineer

Letter No 6: **Contra Costa Water District**

Response 6-1

See Response 5-1 above.

Response 6-2

As discussed on pages 89 and 90 of the Initial Study (see **Appendix 1.0** of the Draft EIR), Mitigation Measure UTL-1 requires the project applicants to provide all necessary documentation required by the CCWD in its application for inclusion of the project site in the CVP. The mitigation measure further states that no grading or building permits would be issued until the project site has been annexed into the CCWD service area and the project applicants provide the City with a "Will Serve" letter from the CCWD verifying that the project site has been included in the CVP.

Response 6-3

Comment noted. Each of the proposed residential units would require a meter and thus would be assessed Facility Reserve Charge fee.



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January 8, 2014

Kristin Pollot
City of Pittsburg
Planning Division
65 Civic Avenue
Pittsburg, CA 94565

Sent to KPollot@ci.pittsburg.ca.us
Via Email on 01/08/14

RE: Black Diamond Mines Regional Preserve: Montreux Residential Development Draft Environmental Impact Report (Draft EIR)

Dear Ms. Pollot,

Thank you for including East Bay Regional Park District ("District") in the Draft EIR review process for the proposed Montreux residential development project in Pittsburg. We appreciate the City's consideration of our April 29, 2013 Notice of Preparation comments. The District is committed to protecting and maintaining open space in the area and providing public access and recreation opportunities. The project is located north of the District's Black Diamond Mines Regional Preserve and east of the former Concord Naval Weapons Station where we are working with the City of Concord, the U.S. Navy and the National Park Service to establish a regional park. The project also adjoins the habitat preserve properties of the HCP/NCCP owned by the District.

We submit these comments pursuant the California Environmental Quality Act (CEQA) regarding the Draft EIR for the proposed Project.

- I. Open space impacts – As previously stated in our April 29, 2013 Notice of Preparation comments, increased residential population resulting from the project may impact regional park and open space, cultural resources and our capacity to maintain and protect these resources. The Draft EIR does not appear to provide information or analysis on this potential impact (see City of Hayward v. Board of Trustees of the California State University, 2012).

The Memorandum of Understanding between the City of Pittsburg and Altec Homes dated May 3, 2006 (Montreux MOU) requires the developer of Montreux provide an open space dedication (800+ acres formally known as Southport) and pay an open space fee (\$2,000/unit) to mitigate potential project impacts. The Draft EIR does not provide adequate assurances for how or when the mitigation will take place. Brief mention in the

1

Board of Directors

John Sutter President Ward 2	Ayn Wieskamp Vice-President Ward 5	Whitney Dotson Treasurer Ward 1	Ted Radke Secretary Ward 7	Beverly Lane Ward 6	Carol Severin Ward 3	Doug Siden Ward 4	Robert E. Doyle General Manager
------------------------------------	--	---------------------------------------	----------------------------------	------------------------	-------------------------	----------------------	------------------------------------

Draft EIR project description that a development agreement will "address" a \$2,000/unit fee does not satisfy impact disclosure and analysis under CEQA nor does it provide an enforceable commitment to mitigate impacts (see CEQA Guidelines Sections 15370 and Section 15126.4). A development agreement by itself is not an enforceable or feasible mechanism for mitigating impacts because they can be amended and extended over many years thereby increasing the chance that mitigation meant to offset irreversible environmental impacts may be inadvertently diminished or overlooked.

1

We ask that the City provide meaningful discussion of these issues in the Draft EIR and include appropriate mitigation for these potentially significant impacts in the Draft EIR mitigation monitoring and reporting program and vesting tentative map conditions of approval. Collection of the fee and 800 acre Southport dedication should occur prior to start of grading to ensure that mitigation occurs within a reasonable and predictable timeframe to when the impacts occur.

2. 42-Acre Open space parcel (Parcel B) – As stated in the Draft EIR, protecting this parcel from future development is required by General Plan policies and Measure P. Mitigation Measure "LUP- 1" may not constitute an enforceable commitment to mitigate the impact and should be revised. The City should consider the following in the Draft EIR impact analysis, mitigation measures and development agreement:
 - a. Open Space Deed restriction timing and mechanism – Mitigation Measure "LUP- 1" may be inadequate because of the undefined, and foreseeably unpredictable and protracted time from when the initial permanent impacts of grading occur and when (or if) the open space parcel is permanently protected from development. It is the District's understanding that similar subdivisions in the City have taken ten to twenty plus years to record the last Final Map. A delay of this duration is not acceptable to mitigate project impacts under CEQA. Furthermore, delaying protection of open space to future City actions further reduces the enforceability of the proposed mitigation measure. What if the last Final Map is never recorded? What enforceable mechanism will then be used to mitigate permanent impacts from earlier project phases? The feasibility and enforceability of the mitigation measure should be rectified prior to adopting the EIR and approving the project (See CEQA Guidelines Sections 15370 and Section 15126.4).

2

We recommend the City consider adjusting this mitigation measure to require permanent protection of the open space parcel with the first final map. This will help rectify the uncertainty of when the impact will be mitigated. We also recommend the City consider adding language to the development agreement to help reduce the potential for future planning and/or engineering applications or approvals to inadvertently overlook this mitigation measure.

- b. Impact to City/Public Services - The Draft EIR does not analyze or consider the incremental/cumulative impact on City services to operate and maintain the proposed "open space parcel" and stormwater detention facilities. Without adequate City service resources, these features (or other areas of the City needing

3

the same services) can quickly become areas of homeless encampments, wildfire hazard, erosion/soil instability, siltation, flooding, loss of natural scenic values, loss of habitat for special status species, weeds and invasive vegetation, and similar property nuisances. These potential impacts should be addressed in the EIR.

3

We recommend the City consider modifying mitigation measure "LUP-1" to require that the deed restriction (or other mechanism) identify the responsible party and a long term funding source/mechanism.

3. Bike and Pedestrian access – The project does not appear to comply with General plan policies intended to: 1.) ensure residential developments provide multi-use trails or trailheads connecting to regional open spaces (General Plan Policies 4-P-30, 7-P-41); 2.) advance the development and extension of local and regional trails by way of utility rights of ways and Kirker Creek (General Plan Policy 8-P-20); and 3.) require safe access for pedestrian and bicyclists or otherwise provide mitigation (General Plan policies 7P-33, 7-P-34).

The Draft EIR appears to rely on construction of a sidewalk of unspecified width on Kirker Pass road to comply with these policies. A sidewalk at this location may connect pedestrians to existing sidewalks to the north; however, this does not address how the project complies with multi-use trail, bicycle and regional trail connection requirements. We request the City consider providing meaningful information and analysis, and design revisions or mitigation (if necessary), in the Draft EIR that explains how the project complies with the above General Plan policies. In addition, several of these policies were adopted for the purpose of avoiding/minimizing environmental impacts associated with implementation of the City's General Plan. The project should comply with these measures to avoid or mitigate significant impacts to land use, traffic and circulation.

4

Thank you for your consideration of our comments. We request that we be notified of any public meetings or hearings scheduled for this project and that a copy of any CEQA notices or associated documents be forwarded to us for this project. If you have any questions or comments, please contact me at (510) 544-2627 or via email at cbarton@ebparks.org.

Sincerely,



Chris Barton
Senior Planner

Letter No 7: East Bay Regional Park District

Response 7-1

The proposed project is not located directly adjacent to any regional parks or trails owned by the East Bay Regional Park District (EBRPD), and therefore would not result in project residents directly accessing the EBRPD facilities from their neighborhood. While the property located south directly adjacent to the project site is owned by the EBRPD, this land is in “land bank status” and is not open to the public (EBRPD 2013). There is currently no public access or district-maintained trails or trailheads on this site. Nonetheless, as discussed on page 77 of the Initial Study (see **Appendix 1.0** of the Draft EIR), the proposed project would increase the population residing in Pittsburg which could indirectly increase the use of existing regional parks such as Black Diamond Mines Regional Preserve and the Contra Costa Canal Trail, such that substantial physical deterioration of regional park facilities could occur or be accelerated. However, as mentioned by the commenter, the proposed project is subject to the terms of the Memorandum of Understanding (MOU) between the City and the applicants which calls for the payment of an Open Space Fee of \$2,000 per dwelling unit. This fee would be collected by the City before building permits are issued and provided to the EBRPD for additional regional public open space acquisition or for the maintenance of regional open space. The timing for payment of this fee has been added to **Chapter 3.0, Project Description**, of the Draft EIR (see **Chapter 2.0, Revisions to the 2013 Draft EIR**, of this Final EIR). The payment of this fee to the EBRPD is considered adequate to reduce environmental impacts to regional recreational facilities from use by project residents, and the impact to regional parks would be less than significant. Since payment of the fee is included as part of the project, no additional mitigation specifying payment of the fee is necessary.

The dedication of the Southport Property, which is located in the southeast hills immediately south of the Thomas Ranch property, for open space is not part of the proposed project, nor is it required to be included as a component of this project.

Response 7-2

The open space parcel referred to by the commenter is the “greenwall” that is proposed on the southern portion of the project site. Mitigation Measure LUP-1 (see **Appendix 1.0, Subsection VI.10** of the Draft EIR) is not intended to protect the future greenbelt buffer or greenwall from temporary impacts that may be associated with nearby grading activities, rather it is intended to prevent future development and/or the extension of urban utilities/services beyond the City’s Urban Limit Line (ULL), consistent with General Plan policy 2-P-73 and the May 3, 2006 MOU between the City and the applicants. Because of this, the City believes that the timing for permanent preservation, proposed to be finalized prior to acceptance of the last Final Map, is appropriate and adequate to mitigate the impact.

In addition, as currently envisioned, the greenwall proposed on the southern portion of the project site would be maintained by a Pittsburgh GHAD (Geologic Hazard Abatement District) and the district cannot be formed until after all final maps have been accepted and recorded.

Regardless of the intent of Mitigation Measure LUP-1, it is unlikely that the greenbelt buffer or greenwall would be impacted substantially by development as only some minor grading would occur within this parcel and construction of utility infrastructure is not planned for this area. As a result, preservation of the greenbelt buffer or greenwall, as specified by Mitigation Measure LUP-1, is appropriate.

Response 7-3

As discussed above, the greenwall proposed on the southern portion of the project site, as currently envisioned, would be maintained by the GHAD, which would be funded through property tax assessments that occur on an annual basis. In addition, under this anticipated plan, the storm water detention facilities on the western parcel of the project site adjacent to Kirker Pass Road would also be maintained by the GHAD. No City funds would be required.

Issues related to homeless encampments are not environmental issues that require evaluation under CEQA. As discussed on page 56 of the Initial Study (see **Appendix 1.0** of the Draft EIR), Mitigation Measure HAZ-3.2 requires all residential units adjacent to open slopes to maintain a 100-foot defensible-space setback to the residential structure with fire resistant landscaping, and therefore wildfire hazard impacts are not an issue, regardless of who maintains the greenwall proposed on the southern portion of the project site.

As shown on Figure 3.0-6 from the Draft EIR, the proposed project would only result in some minor grading within the greenwall proposed on the southern portion of the project site and thus would leave the vast majority of the open space area undisturbed. All stormwater runoff generated within the disturbed area of the greenwall would be directed toward the project's proposed stormwater basins and would not impact the undisturbed area. As a result, no impacts related to erosion/soil instability, siltation, and flooding would occur within the greenwall. In addition, as the majority of the greenwall would be undisturbed, there would be no impacts due to the loss of natural scenic values or habitat for special-status species. Finally, there would be no impacts related to weeds and invasive species within the greenwall as Mitigation Measure BIO-7c requires the use of non-invasive species for landscaping.

Response 7-4

The analysis of the consistency of the proposed project with General Plan policy 4-P-30 is provided in **Chapter 4.0, Plans and Policies**, of the Draft EIR. As discussed on page 4.0-8 in that chapter, the proposed project does not include any new trail connections as encouraged by General Plan policy 4-P-30.

The nearest regional trails to the project site are the existing Contra Costa Canal trail, located approximately 1.5 miles to the north, and the planned Concord Naval Weapons Station to Black Diamond Mines trail, located about one mile to the southwest. Given the distance of these trails relative to the project site, there are no feasible opportunities to connect to existing or planned regional trails and therefore General Plan policy 7-P-41 does not apply.

A discussion of General Plan policies 7-P-33 and 7-P-34 is provided in **Section 5.7, Transportation/Circulation**, of the Draft EIR. As discussed on pages 5.7-27 to 5.7-28 in that section, Mitigation Measure TRA-3 listed in the Draft EIR requires that the proposed project provide pedestrian access to existing land uses to the north, including parks and schools, through the provision of a sidewalk or pedestrian trail along Kirker Pass Road, and with the implementation of the proposed mitigation, the project would be consistent with General Plan policies 7-P-33 and 7-P-34.

General Plan policy 8-P-20 requires that the City pursue the development and extension of local and regional trails throughout the Planning Area by utilizing available public utility rights-of-way including Kirker Creek and the Pacific Gas & Electric (PG&E) right-of-way to the west of the project site. The development and extension of local and regional trails along these right-of-ways are the responsibility of the City and are not the responsibility of individual projects such as the proposed project. As a result, General Plan policy 8-P-20 does not apply.

While the proposed project would not further General Plan policies related to the provision of trails (see General Plan policies 4-P-30, 7-P-41 and 8-P-20) which were adopted for the purpose of avoiding/minimizing environmental impacts associated with the implementation of the City's General Plan, such as traffic and circulation impacts, the proposed project would not exacerbate these impacts. Traffic impacts associated with the proposed project are analyzed in **Section 5.7, Transportation/Circulation**, of the Draft EIR. As the analysis on pages 5.7-20 to 5.7-33 in that section shows, all study intersections would operate in accordance with level of service standards contained in the City of Pittsburg General Plan with implementation of the project under both Baseline and Cumulative conditions.



Pacific Gas and Electric Co.
Land & Environmental Management
1850 Gateway Blvd.,
Concord, CA 94520

12/11/2013

Kristin Pollot
Planning Department
City of Pittsburg
65 Civic Avenue
Pittsburg, CA 94565

Re: Montreux Residential Subdivision,
Assessor's Parcel Numbers (APN) 089-202-009, -011, -014 and 015, APN 089-010-010.
State Clearinghouse No. 2013032079

Dear Kristin Pollot:

Thank you for the opportunity to review the notice for the proposed Montreux Residential Subdivision project. PG&E has the following comments to offer.

1. PG&E owns and operates gas and electric facilities located within the project area. To promote the safe and reliable maintenance and operation of utility facilities, the California Public Utilities Commission (CPUC) has mandated specific clearance requirements between utility facilities and surrounding objects or construction activities. To ensure compliance with these standards, project proponents should coordinate with PG&E early in the development of their project plans. Any proposed development plans should provide for unrestricted utility access, and prevent easement encroachments that might impair the safe and reliable maintenance and operation of PG&E's facilities.
2. Developers will be responsible for the costs associated with the relocation of existing PG&E facilities to accommodate their proposed development. Because facilities relocations require long lead times and are not always feasible, developers should be encouraged to consult with PG&E as early in their planning stages as possible.
3. Relocations of PG&E's electric transmission and substation facilities (50,000 volts and above) may also require formal approval from the California Public Utilities Commission. If required, this approval process may take up to two years to complete. Proponents with development plans that may affect such electric transmission facilities should be referred to PG&E for additional information and assistance in the development of their project schedules.
4. Please note that continued development consistent with your General Plan will have a cumulative impact on PG&E's gas and electric systems and may require on-site and

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off-site additions to the facilities that supply these services. Because utility facilities are operated as an integrated system, the presence of an existing gas or electric transmission or distribution facility does not necessarily mean the facility has capacity to connect new loads.

5. Expansion of distribution and transmission lines and related facilities is a necessary consequence of growth and development. In addition to adding new distribution feeders, the range of electric system improvements needed to accommodate growth may include upgrading existing substation and transmission line equipment, expanding existing substations to their ultimate buildout capacity, and building new substations and interconnecting transmission lines. Comparable upgrades or additions to accommodate additional load on the gas system may include facilities such as regulator stations, odorizer stations, valve lots, distribution and transmission lines.
6. We recommend that environmental documents for proposed development projects include adequate evaluation of cumulative impacts to utility systems, the utility facilities needed to serve those developments, and any potential environmental issues associated with extending utility service to the proposed project. This will assure the project's compliance with CEQA and reduce potential delays to the project schedule.
7. We have the following specific comments and recommended modifications regarding the notice:
8. PG&E remains committed to working with the City of Pittsburg and provide timely, reliable and cost effective gas and electric service to Montreux Residential Subdivision project. Please contact me at (925) 459-7220 if you have any questions regarding our comments. We would also appreciate being copied on future correspondence regarding this subject as this project develops.
9. The California Constitution vests in the California Public Utilities Commission (CPUC) exclusive power and sole authority with respect to the regulation of privately owned or investor owned public utilities such as PG&E. This exclusive power extends to all aspects of the location, design, construction, maintenance and operation of public utility facilities. Nevertheless, the CPUC has provisions for regulated utilities to work closely with local governments and give due consideration to their concerns. PG&E must balance our commitment to provide due consideration to local concerns with our obligation to provide the public with a safe, reliable, cost-effective energy supply in compliance with the rules and tariffs of the CPUC.

Sincerely,



Ken Filoso
Land Agent
PG&E Land Management

Letter No 8: Pacific Gas & Electric

Response 8-1

The proposed project would comply with clearance requirements between utility facilities and surrounding development or construction activities as mandated by the California Public Utilities Commission (CPUC). In addition, the project applicants would coordinate with PG&E early in the development process, subsequent to entitlement approval, to ensure compliance with CPUC clearance standards. Development plans for the proposed project would provide for unrestricted utility access and would not result in easement encroachments.

Response 8-2

As shown in Figure 3.0-6 of the Draft EIR, there are no electric transmission or substation facilities located on the project site. As a result, the proposed project would not require the relocation of these types of facilities.

Response 8-3

The proposed project would be served by the Clayton substation in Concord and the project would connect to an existing transmission line located along Kirker Pass Road. The proposed project would connect to existing natural gas infrastructure located to the north at Kirker Pass Road and Pheasant Drive. No upgrades to existing electrical and natural gas infrastructure would be necessary (Parsons 2015).

Anticipated future development in Pittsburg could result in the need for new or expanded electrical and natural gas infrastructure in the City, the construction of which could cause significant environmental effects. However, upgrades to the electrical and natural gas infrastructure in the City that may be required as a result of cumulative growth cannot be predicted at this time and it would be speculative for this EIR to attempt to characterize these upgrades or their environmental impacts.

Response 8-4

This comment does not raise any specific issues about the adequacy or accuracy of the Draft EIR's analysis of environmental impacts.



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January 9, 2013

Kristin Pollot
Associate Planner
City of Pittsburg, Planning Department
65 Civic Av.
Pittsburg, CA 94565

**RE: Comments on the Montreux Residential Subdivision Draft
Environmental Impact Report State Clearinghouse #2013032079**

Dear Ms. Pollot,

Thank you for the opportunity to comment on the draft Environmental Impact Report (dEIR) for the Montreux Residential Subdivision (Project) as proposed by Altec Homes, Inc. and Seecon Financial, Inc. (Applicants). We appreciate the chance to provide input on this Project. Save Mount Diablo and several other organizations own protected open space in the vicinity of the Project. As an organization dedicated to the preservation, defense, restoration, and enjoyment of open space, we are very interested in the effects this Project will have on surrounding areas. Our core concerns of open space scenic value, recreational opportunity, and wildlife habitat, are all relevant to the Project. We have strong concerns about the Project's inconsistency with Pittsburg's General Plan policies and the Project's effect on the aesthetic quality of the southern hills, as well as inadequacies in the dEIR.

Summary of Main Concerns

One of our main concerns is that the project is fundamentally inconsistent with policy guidance provided in the General Plan¹, especially with regard to development on hillsides and viewshed aesthetics. No fewer than 16 specific policies contained in the General Plan would be violated if the Project is carried out in its current form.

The project would significantly degrade the aesthetic quality of the hills to the south of Pittsburg that form a scenic backdrop of open space for the entire city. The "leap-frog" development proposed by the Applicants would require mass grading of most of the site and substantial reconfiguration of the northern ridgeline, which

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¹ <http://www.ci.pittsburg.ca.us/index.aspx?page=228>

is visible from SR-4 and many parts of Pittsburg. While the northern ridgeline will not be entirely removed, visual simulation figures 5.1-4 through 5.1-7 in the dEIR clearly show that instead of clustering development so that it fits with the natural landscape, the knolls and hills in the lower portions of the site, and a large part of the northern ridgeline and a portion of the southern ridgeline, will be graded. Additional visual simulations taken from north of the Project should be included in the dEIR. In addition, the Project does not follow a number of General Plan policies meant to safeguard the visual character of Pittsburg's southern hills.

1

The cumulative impacts of the Project and other projects currently being constructed or proposed by the Applicants and affiliated-companies in the vicinity of the Project have not been adequately analyzed. Impacts of the Major Projects listed in dEIR section 5.0 have only been cursorily analyzed. Another project that is being proposed by a company linked to the Applicants (Discovery Builders), the Pointe project in Antioch, was not even included in the list of Major Projects and if approved, will be located at the eastern end of the proposed James Donlon Boulevard Extension. The EIR should include the Pointe as a Major Project and the cumulative impacts analysis should be revised to include the impacts of the Pointe.

2

The public services that the dEIR describes as servicing the Project seem to be overwhelmed by existing development, as the dEIR itself recognizes. Fire and police response times both currently do not meet established guidelines, and the schools identified as the ones that will service the Project already operate at over-capacity. The Project should not be considered until it is proved that public services can adequately service the residential areas that currently exist and can also service additional developments like the Project.

3

Project Location and Description

The approximately 165 acre project site, which includes a 148.3 acre main project site and a 16.8 acre off-site parcel, lies south of Pittsburg on the west side of Kirker Pass Rd. and approximately one mile south of Buchanan Rd. The off-site parcel lies just to the north on the west side of the main project site. The main project site is currently undeveloped grazing land and consists of a broad Y-shaped valley framed by hills and ridges to the north, south, and west (see Figure 1). The northern ridge lies in the Railroad Av./SR-4 viewshed while the southern ridge contains designated Major and Minor Ridgelines and is part of the Kirker Pass Rd. viewshed (see Figure 4-1). The main project site is located outside the City Limits but the off-site parcel is within City Limits. Residential units border the project site to the north, while open space surrounds the project in all other directions. To the west is the protected Keller Canyon open space area, to the south are East Bay Regional Park District protected areas covering the Concord Naval Weapons Station to Black Diamond Mines Regional Park corridor and the Thomas Home Ranch property protected and owned by Save Mount Diablo (across Kirker Pass Rd.), and to the east across Kirker Pass Rd. is unprotected open space (see Figure 2).

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Figure 1. Photo of Montreux main project site looking west toward Kirker Pass Rd. Note the small hills and other terrain features of the valley and the rock outcroppings of the ridgeline on the right. Such natural elements would be destroyed under the current Montreux site plan. Photo courtesy of Scott Hein.

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Figure 2. Map showing the location of the Montreux residential subdivision relative to open space in the area. The Montreux main project site and off-site parcel are colored pink (note that most of the area shaded pink consists of the main project site and off-site parcel, but not all of it. The pink shading denotes the property owned by Seeno companies). Protected open space is colored green, light-green, and green hash marks. East Bay Regional Parks and Save Mount Diablo own the protected open space immediately south of Montreux (the box outlined in red). Black Diamond Mines Regional Park is visible in the lower-right corner of the figure. The Thomas Ranch, which is unprotected open space, is colored yellow and red. The red color is the location of the proposed James Donlon Boulevard Extension passing through the ranch.

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The Project calls for: the construction of 356 single family homes with average lot sizes of 7,668 sq. ft., construction of three stormwater retention basins (one of which would be constructed on the off-site parcel), placement of a partially buried water tank at the top of the hill at the northern boundary of the main project site, rezoning of the main project site from its current pre-zoning designation of Hillside Planned Development (HPD) to Single-Family Residential 6,000 sq. ft. minimum lots sizes (RS-6) pre-zoning (to allow for a greater density of homes), and annexation of the main project site into the City of Pittsburg, Contra Costa Water District (CCWD) Service Area, and the Delta Diablo Sanitation District (DDSD) Service Area.

Most of the existing topography would be graded and re-contoured, except for most of the southern portion of the main project site which might remain in its natural state—if it's not affected by grading, and if the applicant doesn't attempt to develop it later as he has tried in other locations—such as the offsite area on the existing project just to the north. Approximately 77 acres of the main project site would be devoted to residential uses and 71 acres would be set aside for open space, including approximately 42 acres of undeveloped land along the southern portion of the main project site to provide a required “greenwall.” The valley and northern ridgeline would be substantially reconfigured for residential construction and placement of a water tank, respectively. Grading would include cuts to the hillslopes of approximately 75 ft. in some locations and fills of 10-85 ft. of graded soil in the low portions of the site.

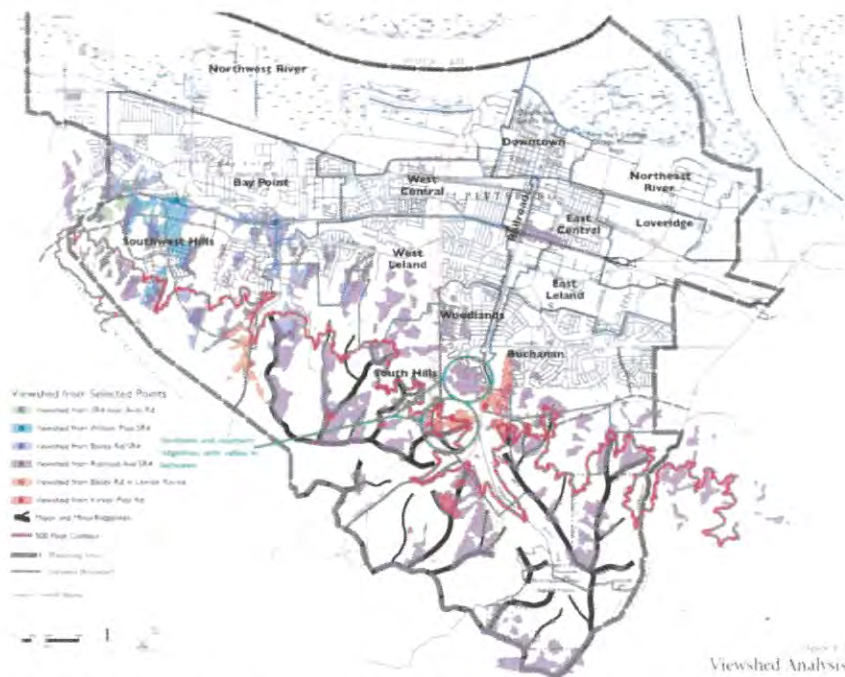


Figure 4-1. Viewshed analysis figure from Urban Design chapter of the Pittsburg General Plan. Modified to highlight the location of the ridgelines the Project would affect.

Comments on Project's Inconsistency with the General Plan

The Project conflicts with 16 specific policies in the Pittsburg General Plan. These policies relate to the Land Use, Urban Design, and Resource Conservation chapters of the General Plan. Here we provide a list of these policies, and after each, a brief discussion of how the Project conflicts with the specific policy (bolding has been added to highlight particular text):

- 2-P-21: Revise the City's Hillside Preservation Ordinance to reflect General Plan policy direction. Revisions may include, but are not limited to:
 - Designating protected ridgelines, creeks, and other significant resource areas, along with daylight plane or setback standards;
 - Defining protected viewsheds;
 - Designating location and density of low-density hillside residential development based on slope stability and visual impact;
 - **Provision of well-designed hillside projects that provide larger, family-oriented lots;** and
 - Protection of significant ridgelines and **incorporation of hill forms into project design.**

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The City of Pittsburg has not yet finalized the Hillside Preservation Ordinance, which was started several years ago and then apparently put on hold. It would be worthwhile to finalize the Ordinance before the Project is considered given that the Project consists of development on a hillside and massive grading of the northern ridgeline and its effects on viewsheds and significant ridgelines. In addition, hill forms have not been incorporated into Project design given the massive amount of grading called for on the northern ridgeline, in clear opposition to potential revisions called for in 2-P-21. By the same token, the Applicants are seeking to rezone the main project site for smaller lots to increase the number of houses they can construct, instead of providing larger, family-oriented lots as called for in the above policy 2-P-21.

- 2-P-23: **Restrict development on minor and major ridgelines** (as identified in Figure 4-2). Encourage residential construction on flatter natural slopes or non-sensitive graded areas that reduce environmental and visual impacts. **Minimize cut-and-fill of natural hillsides.**

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While the Project will not develop the Major and Minor ridgelines on the southern ridgeline on the south end of the main project site, construction of stormwater detention basins would require grading on the eastern end of the southern ridgeline to recontour the ridge. This is inconsistent with the intent of policy 2-P-23. In addition, the Project calls for cuts to hillslopes of approximately 75 ft. in some locations and fills of 10-85 ft. of graded soil in the low portions of the site. This massive cutting and filling clearly contradicts the minimization of such activities called for in this policy.

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- 2-P-24: Prohibit new development on designated ridgelines. **Ensure that residential developers cluster housing units** to reduce both environmental and visual impact of hillside development.

The delay in developing the Hillside Ordinance means there are no designated ridgelines at this time, yet the Project would develop and substantially alter the northern ridgeline and recontour the east side of the southern ridgeline, which consists of Major and Minor ridgelines. However, there is no doubt that housing units will not be clustered under the Project (see Figure 3.0-6 below), it is a standard residential subdivision that will result in denser housing than originally intended under the current pre-zoning designation. Examining the density of housing planned under the Project and their uniform distribution in the lower valley and the southern-facing slopes of the northern ridgeline make it clear that the Project does not even attempt to cluster development.

7

- 2-P-27: Minimize single-access residential neighborhoods in the hills; **maximize access for fire and emergency response personnel.**

The Project is located outside the 1.5 mile response radius of existing or planned fire stations and would not meet the response time guideline of six minutes 90% of the time. According to Figure 3.0-6 (below) in the dEIR, the majority of residential units will use only one street to enter and exit the subdivision. One third of the subdivision would likely use a smaller street entrance/exit, but since this street would lack a traffic signal, it could be even less than that.

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- 2-P-28: During development review, **ensure that the design of new hillside neighborhoods minimizes potential land use incompatibilities with any grazing/agricultural activities in the southern hills.**

Construction of the Project as is currently envisioned would terminate the current use of the property as grazing land. The number and density of houses would eliminate most ranching. In addition, the dEIR assumes that the James Donlon Extension (formerly the Buchanan Road Bypass) would be constructed and be able to service the Project. The James Donlon Extension would bisect the Wayne Thomas Ranch property, likely eliminating grazing activities and a livelihood for the Thomas family as well. So grazing activities would end on not just one, but two properties due to this Project and another associated with it.

9

- 2-P-73: Allow Low Density Residential development in selected areas along Kirker Pass Road and other valley floors as appropriate, under the following criteria:
 - Permanent greenbelt buffers be established to encompass: 1) the southerly 1/5 (approximately) of the Montreux property; and 2) the area south of the existing PG&E transmission corridor and south of the final alignment of the Buchanan Road Bypass, just east of Kirker Pass Road.

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The City will consider, in conjunction with subdivision applications on these properties and related environmental analysis, general plan and/or the transfer of lost development rights as a result of the these greenbelts to other portions of

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these properties, while not increasing the overall number of units permitted on these properties

- **Natural topography be retained to the maximum extent feasible, and large-scale grading discouraged;**
- **No development on minor and major ridgelines** (as identified in Figure 4-2), with residential construction on flatter natural slopes encouraged;
- **Development designed and clustered so as to be minimally visible from Kirker Pass Road;**
- Creeks and adjacent riparian habitat protected;
- An assessment of biological resources completed; and
- Be limited to a maximum density of 3.0 du/ac.

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The Project as it is currently proposed would require a massive amount of grading—1.4 million cubic yards—that would recontour both north and south ridgelines and place development on a substantial portion of the south facing slope of the northern ridgeline. A portion of the southern ridgeline, which contains Major and Minor Ridgelines, would be graded and recontoured to accommodate stormwater detention basins. As the visual simulations in Chapter 5 of the dEIR make clear, the Project would be extremely visible from Kirker Pass Road and require the flattening of a large part of the northern ridge. The Applicants characterize their Project as being “clustered” in Section 4.0 *Plans and Policies* because they say they largely limit their development to the valley floor of the main project site. In fact, a significant portion of the southern slopes of the northern ridgeline would be developed. Far from being placed in a clustered fashion like that shown in Figure 4-4 (below), houses would be uniformly spaced without any accommodation for natural terrain features in the lower portions of the main project site.

- **2-P-75: Cluster new residential development within the hills to maximize preservation of open space resources and viewsheds.**

As already discussed above with respect to policy 2-P-73, the Project is a standard residential subdivision that proposes no clustering and massive grading (see Figure 3.0-6 below). The Project would develop and grade what is currently designated as open space, and severely degrade the northern ridgeline which is visible from a large portion of Pittsburg and lies in the Railroad Av./SR-4 viewshed (see Figure 4-1). The eastern portion of the southern ridgeline, which lies in the Kirker Pass Rd. viewshed and contains designated Major and Minor Ridgelines, would be graded and recontoured.

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- **2-P-105: Preserve all designated hillsides as open space**, according to the General Plan Land Use Diagram (Figure 2-2).

As discussed above, there are no designated ridgelines due to the delay in development of the Pittsburg Hillside Ordinance. However, Fig. 2-2 in the General Plan designates the northern and southern ridgelines of the main project site as open space. The Project proposes to substantially grade and recontour the northern ridgeline and place residential units on its lower south facing

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slopes, while recontouring the eastern end of the southern ridgeline. This is most definitely not preservation of open space as called for in the above policy.

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- **4-P-10: Minimize grading of the hillsides.** Amend the City's Zoning Ordinance to allow density bonuses of 10 percent (maximum) for new hillside development that preserves 40 percent of natural hill contours.

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As discussed above, the Project calls for massive grading of most of the main project site and a smaller portion of the off-site parcel. A large part of the northern ridgeline would be graded and the natural contours of the valley bottom would be completely lost. In addition, a portion of the southern ridgeline would be graded.

- **4-P-15: Minimize the visual prominence of hillside development by taking advantage of existing site features for screening,** such as tree clusters, **depressions in topography,** setback hillside plateau areas, and **other natural features.**

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Instead of taking advantage of site features to screen development and reduce their visual impact as this policy mandates, the Project would flatten the knolls and hills in the lower portion of the site and grade and reshape most of the northern ridgeline. No effort would be made to preserve existing topography except at the southern ridgeline, and even then part of the ridgeline will be graded.

- **4-P-16: Allow flag lots with common driveways** within hillside neighborhoods, in order to **encourage terracing of buildings while minimizing roadway cut-and-fill** (see Figure 4-4 below).

15

The Project proposes a standard residential subdivision without common driveways or flag lots. Such non-uniform spacing and placement of residential units (see Figure 4-4 below) would better preserve the knolls and hills below the ridgelines and reduce the amount of grading that would be required. As far as cut-and-fill, the Project currently calls for cuts to the hill slopes of approximately 75 ft. in some locations and fills of 10-85 ft. of graded soil in the low portions of the site. This is a massive amount of cut-and-fill that will obliterate terrain features in much of the main project site.



Figure 4-4: Flag Lots

Figure 4-4 from the Pittsburg General Plan.



Figure 3.0-6. Conceptual Site Plan for the Project. Portion of original Figure 3.0-6 in dEIR.

- 4-P-17: Encourage clustering of Hillside Low-Density units in the southern hills, with resulting pockets of open space adjacent to major ridgelines and hillside slopes. Allow density bonuses of 10 percent (maximum) for preservation of 60 percent or more of a project's site area as open space.

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As discussed above, the Project does not propose clustering of housing units, but a standard “cookie-cutter” residential subdivision that does not accommodate terrain on the lower levels of the site or the northern ridgeline. Contrast the housing configurations in Figure 4-4 with those in Figure 3.0-6 (above) to get a sense of the difference between clustered development, and the dense “cookie-cutter” residential subdivision proposed by the Project.

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- **4-P-61: Retain views of the southern hills from the State Route 4 corridor, through implementation of ridgeline preservation policies** (as described in Section 4.1).

The eastern edge of the southern ridgeline at the main project site, which consists of designated Major and Minor Ridgelines, would be graded and recontoured if the Project goes forward. The northern ridgeline, which lies in the Railroad Av./SR-4 viewshed, would be substantially altered. Massive grading on the south-side slopes for development would dramatically degrade views of this area from Kirker Pass Rd., while recontouring the ridge itself would alter the natural appearance of the ridgeline from northern viewpoints.

17

- **9-P-6: In order to preserve viewsheds of the southern hills, preserve major ridgelines** (shown in Figure 9-1) **throughout the Planning Area.** Revise the Municipal Code per Policy 4-P-1: building pads and structural elements shall be located at least 150 feet away from (horizontally) the crest of a major ridgeline.

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The southern ridgeline contains Major and Minor Ridgelines, and under the current Project plan its eastern end would be graded and recontoured.

- **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.**

19

As has been previously discussed, the Project calls for massive grading to construct a “cookie-cutter” residential development that does not use clustering as a method to preserve terrain features such as knolls and small hills. The Project would fragment open space since a portion of open space would remain adjacent to existing development to the north, but would be cut off from the proposed “greenwall” at the southern ridgeline by development in the valley and southern slope of the northern ridge at the main project site.

- **9-P-8 As a condition of approval of new development, ensure revegetation of cut-and-fill slopes with native plant species.**

The massive grading that would occur under the Project would require a large amount of revegetation to the valley, slopes of ridges, and even the higher portions of ridges that have been recontoured, as well as the off-site parcel. Mitigation Measure AES-2 as described in Section 5.1 *Aesthetics*, says “the developer shall hydro-seed all disturbed, yet undeveloped, slopes...in order to encourage growth of new vegetation on disturbed hillsides.” However, the dEIR does not specify if the Applicants would revegetate disturbed areas with only native species, a native-

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introduced species, mix, or just introduced species. The EIR should identify a list of native species that would be used to revegetate disturbed areas, and include a management plan to ensure that native species dominate revegetated areas years after initial seeding. For the last several hundred years native grass species have been outcompeted in California by introduced annual grasses, which now dominate the Project site. If the Project is going to cause even greater disturbance, efforts should be made to restore the area so that it supports native species.

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Section 4.0 *Plans and Policies* in the dEIR describes the Project as being consistent with 16 specific policies in the General Plan. We have listed six of the same policies the dEIR calls out, and dispute their assertions that the Project is consistent with these policies in terms of grading, clustered development, and preservation of ridgelines. To carpet the valley floor of the main project site and portions of the northern ridgeline with dense housing is not clustering, and basically demolishing the northern ridgeline and recontouring it to hide massive grading cannot be considered minimization of grading or true preservation of viewsheds.

21

Chapter 1 of the General Plan states that, "A city's general plan has been described as its constitution for development – the framework within which decisions on how to grow, provide public services and facilities, and protect and enhance the environment must be made." It also states that, "*policies* provide more specific direction on how to achieve goals. Policies outline actions, procedures, programs, or techniques to attain the goals." If the Project conflicts with at least 16 policies that are designed to provide specific direction on how to achieve Pittsburg's General Plan goals, and if the General Plan is the framework within which decisions *must* be made, then how can the current proposed Project be in alignment with the goals and best interests of Pittsburg?

Comments on dEIR Section 5.1, Aesthetics

Significant and Unavoidable Impacts to Viewsheds

While the ridgeline in the northern portion of the main project site is not a designated Major or Minor Ridgeline, it is visible over a large swath of Pittsburg and contains a broad rock outcropping, the preservation of which is encouraged in General Plan goal 4-G-4. This ridgeline would be excavated, reduced in elevation by about 75 ft., and be developed on its lower south facing slopes. The visual simulations included in the dEIR from the vantage point of Kirker Pass Rd. give some indication of how much the massive grading proposed on the Project would carve out of the northern ridgeline and how degraded the scenery would be in the process. A water tank would be visible from the north as well. While the Applicants maintain that the majority of Pittsburg would not be able to view the development or a degraded ridgeline since it would be recontoured to look more natural, in truth, the heart of the ridge will be carved out from the southern end and its total height will be substantially reduced. The ridge would, in essence, be a prop screen with only the facade of being natural. In addition, large numbers of residents pass the site daily on Kirker Pass Road, from which the development would be highly visible.

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Perhaps the only positive component of the Project is that it calls for a "greenbelt" along the southern ridgeline, but even this is soured by the fact that the Project calls for grading the eastern portion of this Major Ridgeline. This is discussed further below.

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Existing policy direction makes it clear that preserving the quality and character of the southern hills and ridges is of the utmost importance for Pittsburg. As such, the EIR should include an alternative that preserves all portions of the northern and southern ridgelines at the main project site, without the grading, recontouring, and development on the south-facing lower slopes of the northern ridgeline and without the grading of the southern Major Ridgeline. If necessary, a water tank could still be a component of this alternative. It is likely that a much lower number of houses would be required for such an alternative to be possible. If the number of residential units for the Project were reduced, then clustered development that preserves terrain features as called for in the General Plan could be put in place and the Project would be consistent with Pittsburg's land use and development policy goals. While the dEIR includes a Ridgeline Preservation Alternative, this alternative does not preserve all portions of the ridges in project site.

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Another benefit would be that the significant and unavoidable impacts to at-risk persons living near the proposed Project in the Woodlands neighborhood, such as the young, elderly, and people with respiratory problems, would not be as severely impacted by emission of PM2.5 because the amount of grading would be reduced. As the dEIR recognizes, impacts to sensitive persons by PM2.5 emissions, which is identified as a Toxic Air Contaminant by the State of California, would still be a significant and unavoidable impact even after all mitigation measures are implemented.

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Impacts to Major and Minor Ridgelines in the Southern Ridgeline

As the above discussion of policy 2-P-23 describes, the eastern portion of the Major and Minor Ridgelines of the southern ridgeline on the main project site would be graded to recontour the ridge for stormwater retention basins. This would alter a view visible over a large swath of Pittsburg and surrounding areas from a natural to an artificial-looking terrain, and with the substantial grading and lowering of the northern ridgeline, together constitute a significant and unavoidable impact to the aesthetics of the area. While the Applicants propose hydroseeding and recontouring the northern ridgeline to make it look natural, the ridgeline would indeed be artificial and no mitigation measure can adequately make a 75 foot lowering of a ridge less than significant.

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With regard to the Major Ridgeline that would be recontoured, the EIR should include an alternative scenario that does not involve altering the southern ridgeline (as called for above). If the alteration is necessary for the Project as it is currently proposed, the scenario should be adjusted to exclude the stormwater detention basin that necessitates recontouring the southern ridgeline and any residential units associated with the excluded basin. Avoiding modification to the Major and Minor Ridgelines in the southern portion of the main project site would be consistent with the spirit of many of Pittsburg's specific General Plan policies (see above discussion).

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Inadequacy of Visual Simulations Included in the dEIR

The dEIR does not include visual simulations looking south toward the Project from the north, so the visual impacts of the most severe grading (the lowering and excavation of the northern ridgeline), cannot be adequately evaluated. Most people that see the project area do so from the

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north, from Pittsburg, and the ridgeline that will be most substantially altered under the Project lies in the Railroad Av./SR-4 viewshed. The EIR should include visual simulations of the effects of the Project from vantage points along Railroad Av. and SR-4.

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Comments on Cumulative Impacts Analysis

The list of Major Projects included in the dEIR to be analyzed in the Cumulative Analysis include Sky Ranch II, Black Diamond Ranch, Tuscany Meadows, and the James Donlon Boulevard Extension (JDBE). If approved, the latter project would be the one located closest to the Project. In a few short sentences, the dEIR states that because the JDBE is a roadway and no other improvements would be made in the area of that project, "views of the hillsides to the east would not substantially alter lands to the east of the project." How could a major arterial roadway located in steep, landslide-prone hills where currently no development exists, not substantially alter the aesthetics of the hills? Extreme amounts of grading and cut-and-fill will be necessary to construct the JDBE, which will also affect the views of these hills. In addition, the impact on local agriculture of the Project and the JDBE together is not discussed in the dEIR. If the Project is approved and built, ranching activity will largely end at the Project site, but considered together with the JDBE, ranching would be rendered much more difficult over a wide swath of the Pittsburg southern hills due to the JDBE bisecting a large working cattle ranch. Where is this discussion of cumulative impacts in the dEIR?

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Taken together, the Major Projects and the Project represent more than 2,000 new homes and a major roadway in the vicinity of the southern hills of Pittsburg. This is not even the whole story, as the Pointe project, a project being proposed by Discovery Builders, which along with the Applicants is owned by the Seeno family, is not even listed with the Major Projects. This is puzzling, since it lies only 2.3 miles away from the main project site and is located at the other end of the JDBE. Given that the Pointe would actually demolish an entire hill and require even more grading and excavating than the Project, and would add traffic and other impacts that could affect the Project since it is also a residential subdivision, how is the Pointe not included in the list of Major Projects? How could the construction of more than 2,000 homes and a major roadway in the southern limits of Pittsburg and Antioch not be severely growth inducing and not cumulatively have major impacts on the southern hills?

31

The cumulative impacts analysis in the dEIR should include the Pointe project and be redone to fully account for the significant impacts that taken together all these projects would have in terms of traffic, air quality, greenhouse gas emissions, aesthetics, biological resources, land use and planning, and other impact categories.

32

Comments on dEIR Section 5.6, Public Services

Section 5.6 of the dEIR identifies some of the public services that are expected to serve the Project as well as the adequacy of service provided. It is striking that even before the West Leland Fire Station was closed in July 2013, Pittsburg was unable to meet established fire

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response time guidelines (Leach 2011²). Now that there is one less fire station to serve the area, it is reasonable to say that fire services would be further strained by adding a significant number of residential units, as the Project calls for. In addition, the Project is beyond the current city limits, accessible only by one road, and as discussed above, the subdivision itself seems to have only one main entrance (most of the division will likely use one entrance due to accessibility issues and a traffic signal). So not only would the Project add an additional burden on already inadequate resources, but the accessibility of the Project itself is limited. If fire resources are unable to adequately serve residential neighborhoods as they exist now, what sense does it make to add more housing that will make service increasingly inadequate?

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These same points are also true for police response time. Even if we only consider housing that already exists in Pittsburg, the Pittsburg Police Department is not meeting its goal for emergency calls (LAFCO 2011³). The same question must then be asked, what sense does it make to place additional burdens on an already overburdened system?

34

Regarding the schools that are expected to service the Project, the elementary and junior high schools were operating at or over capacity three years ago, and the high school was just barely under capacity (SCI 2010⁴). The high school (Pittsburg High School) currently has 2,950 students enrolled, which is nearly at their maximum capacity of 3,000 students (Williams pers. comm.⁵). Why is Pittsburg even considering placing additional students in schools that are already at or beyond their maximum capacity to accept more students?

35

Given that fire, police, and school services, cannot adequately serve the Pittsburg communities that already exist, let alone serve an additional community of the size that the Project plans, wouldn't the logical thing to do be to not develop new residential areas when those that already exist cannot be serviced within established guidelines? The Project should not be considered until public services can adequately service the residential areas that currently exist.

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Other Comments on the dEIR

The Applicants are not identified anywhere in the main dEIR document. They should be named in the Executive Summary and/or Project Description sections and clearly identified as the Applicants for this Project.

37

The dEIR's Section 4.0, *Plans and Policies*, regards the Project as consistent with a number of specific General Plan policies that we find the Project to be remarkably inconsistent with. In addition, since the section discussed a topic typically found in an EIR's Land Use and Planning

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² Leach, Ted. 2011. Fire Inspector, Contra Costa County Fire Protection District. Personal communication via electronic mail with Paul Stephenson, Impact Sciences, December 15.

³ Contra Costa County. 2011. Contra Costa Local Agency Formation Commission (LAFCO), East County Sub-Regional Municipal Services Review. December 10.

⁴ SCI Consulting Group. 2010. Comment by Pittsburg Unified School District on the Montreux Annexation and Subdivision Application. October 5.

⁵ Williams, Beverly. 2014. Phone conversation with Pittsburg High School employee Beverly Williams. Enrollment and capacity figures provided by Principal Todd Whitmire.

section, we ask why the Applicants decided to label this section as they did. The change from a standard component in an EIR seems unnecessary and confusing. The section should be retitled and revised, and an honest, realistic discussion of the Project's inconsistency's with the General Plan included.

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Closing Remarks

Save Mount Diablo supports development that is planned and executed in a sustainable, environmentally sensitive manner. Infill of areas already surrounded by development or the revitalization of run-down neighborhoods would be types of development that we could support. However, this Project lies outside of the Pittsburg City Limits, is not connected to other development, calls for massive grading of ridgelines, and would degrade important viewsheds. The Project is nothing more imaginative than another "cookie-cutter" residential subdivision that makes no attempt to preserve terrain features or cluster development to incorporate natural elements into overall project design. To propose this Project next to several lands that have been protected for open space and wildlife values is inconsistent with the overall character of the area and flies in the face of the various goals and policies established by Pittsburg that have already been discussed. The cumulative impacts of this Project and others being proposed or already under construction would also significantly change the appearance and character of the southern hills. The public services that would service the Project are already inadequate for the amount of development that already exists. How can it be a good idea to place more burdens on an already over-burdened system?

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We are opposed to this Project and those like it. However, if the process must move forward, major changes to the Project should be made, including preservation (no grading or excavation) of both the northern and southern ridgelines and clustered development in the valley. Serious inadequacies in the dEIR must also be addressed.

Thank you for the opportunity to provide comments on the Project.

Sincerely,
Juan Pablo Galván
Land Use Planner

Letter No 9: Save Mount Diablo

Response 9-1

An analysis of the consistency of the proposed project with specific General Plan policies related to hillside development and viewshed aesthetics is provided on pages 4.0-1 to 4.0-8 of the Draft EIR. The specific concerns the commenter has regarding the proposed project's consistency with these policies are addressed in Responses 9-5 to 9-21 below. The commenter also requests that additional visual simulations taken from the north of the proposed project be included in the Draft EIR. The visual simulations included in the Draft EIR present an adequate depiction of how the project site would appear after implementation of the proposed project, as viewed from Kirker Pass Road, which is the only public location where the proposed development would be visible. As described on page 5.1-9 in the Draft EIR, because the project would reduce but not eliminate the northern ridgeline, the proposed residential development would not be visible from vantage points to the north in the City of Pittsburg. A visual simulation from a publically available vantage point to the north would not show any of the project elements and would not provide any more information that is not already provided in the Draft EIR. Therefore a new simulation has not been included in this Final EIR.

Response 9-2

The Pointe project is a 60 unit residential project that is part of the larger Black Diamond Ranch project. As discussed on page 5.0-4 of the Draft EIR, the Black Diamond Ranch project was included on a list of major projects that could produce related or cumulative impacts. As a result, development of the Pointe project site was accounted for in the cumulative impact analysis, including the cumulative traffic impact analysis, contained in both the Draft EIR and Recirculated Draft EIR. All of the reasonably foreseeable projects have been included in the cumulative impact analysis and all cumulative impacts are adequately analyzed and disclosed in each topical section of the Draft EIR.

Response 9-3

An analysis of the proposed project's impact on public services is provided in **Section 5.6, Public Services**, of the Draft EIR. The specific concerns the commenter has regarding the analysis of the project's impacts on fire service, police service and schools, are addressed in Responses 9-33 to 9-36 below.

Response 9-4

This comment describes the project site and elements of the proposed project. This comment does not raise any specific issues about the adequacy of the Draft EIR's analysis of environmental impacts. Please note that Mitigation Measure LUP-1 requires the southern portion of the project site to be preserved as a greenwall, in accordance with General Plan policy 2-P-73, through the recordation of a deed restriction or

some other appropriate mechanism. With recordation of a deed restriction or some other appropriate mechanism, the project applicants would be unable to develop the southern portion of the site.

Response 9-5

General Plan policy 2-P-21 provides suggested revisions to the City's Hillside Preservation Ordinance, such as the provision of well-designed hillside projects that provide larger, family-oriented lots and the incorporation of hill forms into project design. Between 2006 and 2008, a hillside preservation ordinance was drafted and did include many of the recommended revisions from General Plan policy 2-P-21. The draft ordinance was brought before the City Council for review; however, it was determined that an EIR would be necessary to evaluate the environmental impacts of the ordinance and since the City did not have the funds required to produce an EIR at the time, the project was placed on hold. The City of Pittsburg has yet to revisit the Hillside Preservation Ordinance, due to the lack of available funding for the environmental review.

Since General Plan policy 2-P-21 pertains to the City's Hillside Preservation Ordinance and not individual project proposals, the policy was not included in the consistency analysis in **Chapter 4.0, Plans and Policies**, of the Draft EIR, as it is not applicable to the proposed project.

Response 9-6

A discussion of the consistency of the proposed project with General Plan policy 2-P-23 is provided on pages 4.0-2 and 4.0-3 of the Draft EIR. Figure 4-2 of the City of Pittsburg General Plan designates the ridgeline on the southern portion of the project site as a "major" ridgeline. Because the ridge tapers down in height the closer it gets to Kirker Pass Road, General Plan Figure 4-2, shows the City-designated portion of the major ridgeline ending approximately 500 feet to the west of Kirker Pass Road. Grading for the southern stormwater detention basin (which would be the only grading to occur south of the proposed houses) would occur within the 500 foot zone between the end of the City-designated portion of the ridgeline and Kirker Pass Road, and thus would not occur on the designated section of the ridgeline. In addition, as stated on page 4.0-4 of the Draft EIR and page 4-10 of the Pittsburg General Plan, the hillside preservation policies are intended to apply to land above the 500-foot elevation. All grading on the southern end of the project site would occur below the 500-foot elevation (see Figure 3.0-6 from the Draft EIR). Lastly, as stated on page 4.0-2 of the Draft EIR, the southern portion of the project site where the major ridgeline exists would be permanently preserved as open space.

Regarding cut and fill of soils on site, the majority of this type of grading would occur along the northern ridgeline. The proposed project attempts to minimize cut-and-fill on the northern ridgeline to the maximum extent feasible. As described on page 3.0-8 of the Draft EIR, a water tank would be placed on top of the northern ridgeline to serve the proposed project. The water tank is required to serve the

development on the project site, and placement of the tank on the northern ridgeline is specified by the City's Water System Master Plan. The elevation of the ridgeline would be lowered only to the point necessary for the placement of the water tank to adequately serve the project site, which requires a service road. If the tank was placed at a higher elevation, the service road would be too steep to safely accommodate service vehicles.

Response 9-7

A discussion of the consistency of the proposed project with General Plan policy 2-P-24 is provided on pages 4.0-2 and 4.0-3 of the Draft EIR. The Pittsburg General Plan does not provide a definition of what it means to 'cluster' development, beyond stating that its purpose is to encourage development in small valleys (General Plan, page 4-4), retain open space (General Plan, page 4-12) and preserve the open, natural character of the hills (General Plan, page 2-17). With that said, and as discussed in the Draft EIR, the City believes that construction of residential uses within the existing valley would place development on flatter natural slopes and work to cluster development, thus reducing environmental impacts on surrounding slopes and preserving views of the ridgelines to the north and south in accordance with General Plan policy 2-P-24.

Response 9-8

As discussed on page 3.0-9 of the Draft EIR, access to the main project site would occur by way of two new roadways connecting to Kirker Pass Road. The main access would be located roughly at the center point of the project frontage, approximately 1,000 feet south of the present City limit while the secondary access would be located approximately 400 feet further south. Project residents, regardless of the location of their residence on the project site, and emergency personnel would have equal access to these access points. If one access point is blocked, residents and emergency personnel would utilize the other access point. As a result, maximum access for fire and emergency response personnel would be provided in accordance with General Plan policy 2-P-27. In addition, as discussed on pages 5.6-9 to 5.6-11 of the Draft EIR, while the issue of fire response time was identified as a significant and unavoidable impact, seven mitigation measures were included to help minimize this impact. Nonetheless, the impact is still identified as significant and unavoidable.

Response 9-9

An analysis of the consistency of the proposed project with General Plan policy 2-P-28 is provided on pages 4.0-2 and 4.0-3 of the Draft EIR. First of all, the entire footprint of the proposed development on the project site (where residential uses would be constructed) is currently designated by the Pittsburg General Plan for Low Density Residential, not Open Space. As discussed in the Draft EIR, preservation of the southernmost portion of the main project site would separate the proposed residential uses from

grazing and agricultural activities on properties within the County, beyond the southern preserved open space area, in accordance with General Plan policy 2-P-28.

As discussed in Response 3-3, the entire project site is mapped and classified as grazing land. No portion of the property is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Important Farmland), pursuant to the FMMP. As a result the project would not result in the conversion of Important Farmland to non-agricultural uses.

A discussion of cumulative impacts to agricultural resources is provided on page 25 of the Initial Study (see **Appendix 1.0** of the Draft EIR). As discussed in the Initial Study, no land in the City of Pittsburg planning area is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. As a result, anticipated future development in Pittsburg, including future development of the proposed project and the JDBE project, would not result in the loss of Important Farmland. Conversion of grazing land to other uses is not considered a significant impact under CEQA. In addition, removal of about 77 acres of the project site from grazing uses would affect only a small proportion of the available grazing land in the region. The proposed project does not include, nor is it dependent upon, the proposed JDBE. However, when comparing the loss of grazing land associated with the JDBE project (70 of 475 acres to be converted) to the proposed project (77 of 148 acres), the total loss between both projects would be less than a quarter of all the land between both properties (23 percent), leaving a majority of the land between both projects available for continued grazing after implementation of both projects.

Response 9-10

An analysis of the consistency of the proposed project with General Plan policy 2-P-73 is provided in **Chapter 4.0, Plans and Policies**, of the Draft EIR. As discussed on pages 4.0-3 and 4.0-4 in that chapter, preservation of the southernmost portion of the main project site would effectively eliminate the potential for development on any designated “minor” or “major” ridgeline (see Response 9-6 above, for further discussion related to development on designated ridgelines). Regarding clustering, construction of residential uses within the existing valley would place development on flatter natural slopes and work to cluster development (see Response 9-7 above for further discussion related to clustering). Finally, as discussed on page 5.1-8 of the Draft EIR, while the proposed project would be visible from Kirker Pass Road, views into the main project site from Kirker Pass Road would be fairly brief given typical travel speeds along this stretch of roadway.

The proposed project would also retain natural topography to the maximum extent feasible. The ridgeline on the southern portion of the project site would remain undisturbed while the ridgeline on the northern portion of the project site would be lowered only to the elevation necessary for the placement of the water tank in order to adequately serve the project site (see Response 9-6).

Response 9-11

An analysis of the consistency of the proposed project with General Plan policy 2-P-75 is provided in **Chapter 4.0, Plans and Policies**, of the Draft EIR. As discussed on page 4.0-4 in that chapter, the layout of the project site has been proposed to generally cluster the new home development within the existing valley area that is surrounded by various peaks and ridges to the north, south, and west (see Response 9-7 above for further discussion on clustering). While the proposed site design would alter the appearance of the northern ridgeline, it would not eliminate this feature. Therefore, due to intervening distance between viewers located on Railroad Avenue and State Route (SR) 4 and the northern ridgeline (approximately two miles), the ridgeline would appear substantially the same as it appears at the present time. In addition, while the proposed project would grade land on the northern ridgeline that is designated as open space, the land would still retain its designation after project implementation. Finally, grading or development would not occur on the designated portions of ridgelines, per the designations in the Pittsburg General Plan, Figure 4-2 (see Response 9-6 above, for further discussion about grading and classification of designated ridgelines).

Response 9-12

Pittsburg General Plan, Figure 4-2, does provide designated ridgelines, contrary to assertion made by the commenter. As discussed in Responses 9-6 and 9-11 above, while the proposed project would grade portions of land that are designated as open space, the land would still retain its designation after project implementation. As a result, the open space would be preserved in accordance with General Plan policy 2-P-105.

Response 9-13

General Plan policy 4-P-10 recommends that the City's Zoning Ordinance be amended to provide density bonuses for new hillside development that preserves natural hill contours. The City of Pittsburg has yet to revise its Zoning Ordinance to provide density bonuses for hillside development. The policy does not pertain to individual projects and thus the suggested revision to the City's Zoning Ordinance is not applicable to the proposed project. See Response 9-6 above, for further discussion about grading and classification of designated ridgelines, and see Response 9-11 above, for further discussion regarding grading of the northern ridgeline.

Response 9-14

Construction of residential uses would occur within the existing valley at a lower elevation than the ultimate configuration of the northern ridge line and the preserved southern ridgeline, thus utilizing existing topography to screen development. In addition, as shown in Figure 3.0-6 of the Draft EIR, final grading of the northern slope would be contoured to blend in with the existing ridgeline and slopes on

the north face, resulting in a minimization of the visual prominence of the proposed project, in accordance with General Plan policy 4-P-15.

Response 9-15

While General Plan policy 4-P-16 allows the use of flag lots with common driveways within hillside neighborhoods in order to encourage terracing of buildings while minimizing roadway cut-and-fill, it does not require the use of these design features. Therefore, the lack of flag lots with common driveways as part of the project's design does not result in a conflict with this policy. Also, see Response 9-6 above, regarding minimization of cut and fill associated with the proposed project.

Response 9-16

The layout of the project site has been proposed to generally cluster the new home development within the existing valley area that is surrounded by various peaks and ridges to the north, south, and west. As shown on Figure 3.0-6 of the Draft EIR, an 18-acre open space area would be located in the northern portion of the project site south of the northern ridgeline and an approximately 42-acre open space area would be located in the southern portion of the project site along the southern ridgeline in accordance with General Plan policy 4-P-17. See Response 9-7 above for further discussion on clustering.

Response 9-17

See Response 9-6 above regarding grading for the installation of the southern stormwater detention basin and why the proposed grading would not impact a City-designated ridgeline. As discussed above in Response 9-11, while the proposed design would alter the appearance of the northern ridgeline, it would not eliminate this feature on the main project site as seen from SR 4. For these reasons, views of the southern hills from SR 4 would be retained in accordance with General Plan policy 4-P-61.

Response 9-18

See Response 9-6 regarding grading for the installation of the southern stormwater detention basin and why the proposed grading would not impact a City-designated ridgeline. In addition, the building pads would be located more than 150 feet from the designated ridgeline. As a result, the City-designated ridgeline on the southern portion of the project site would be retained in accordance with General Plan policy 9-P-6.

Response 9-19

The layout of the project site has been proposed to generally cluster the new home development within the existing valley area that is surrounded by various peaks and ridges to the north, south, and west. See Response 9-7 above for further discussion on clustering.

An analysis of the project's impacts with regard to wildlife movement is provided in **Section 5.3, Biological Resources**, of the Recirculated Draft EIR. As discussed on page 5.3-66 in that section, the southern 20 percent of the main project site would be preserved as a greenwall, thus providing a corridor for wildlife movement. In addition, the open space parcel on the northern portion of the project site would also be contiguous with protected open space to the west. As a result, a wildlife corridor would be provided in accordance with General Plan policy 9-P-7. Also please note that the main project site is included in the East Contra Costa County HCP/NCCP as an area for future development and the HCP/NCCP includes a program to preserve other areas within the inventory area with the best habitat to offset impacts of new development on wildlife movement and nursery sites.

Response 9-20

Mitigation Measure AES-2 has been revised to require that the project applicants hydro-seed all disturbed, yet undeveloped slopes on the project site with native plant species. To ensure that native plant species dominate vegetated area after initial seeding, all disturbed areas and hillsides would be re-seeded with native seeds on an annual basis for 5 years after the initial seeding (see **Chapter 2.0, Revisions to the 2013 Draft EIR**, of this Final EIR).

Response 9-21

As discussed in Responses 9-5 through 9-20 above, the proposed project would not conflict with the 16 General Plan policies identified by the commenter. Please note that the ultimate authority to interpret the General Plan policies and the project's consistency with the General Plan resides with the Pittsburg City Council.

Response 9-22

While General Plan goal 4-G-4 encourages the preservation of unique natural features, such as rock outcroppings, it does not require their preservation. The Draft EIR analyzes the change in views from Kirker Pass Road. As shown in Figures 5.1-4 to 5.1-7 and discussed on page 5.1-8 of the Draft EIR, although the project would be visible to persons traveling along Kirker Pass Road, views of the project from Kirker Pass Road would be brief given typical travel speeds along this roadway, and thus the impact on views would not be substantial.

Response 9-23

As discussed above in Response 9-6, grading along the southern portion of the site would not impact a City-designated "major" ridgeline.

Response 9-24

The proposed project would grade and lower the northern ridgeline by approximately 75 feet in order to place the water tank required to serve the proposed project. Other than the No Project/No Development alternative, an alternative that does not include the grading and lowering of the northern ridgeline is not feasible. As described on page 3.0-8 of the Draft EIR, the water tank is required to serve the development on the project site, and placement of the tank on the northern ridgeline is specified by the City's Water System Master Plan. Any planned development on the project site, including development at a lower density, would require the placement of the water tank along the northern ridgeline, and the ridgeline would need to be lowered to place this tank (see Response 9-6 above).

The southern ridgeline on the project site is classified as a "major" ridgeline by the City. While the proposed project would result in some minor grading at the base of the hills on the southern portion of the project site, the City-designated portion of the ridgeline would not be altered and thus no impact to the ridgeline would occur. As a result, an alternative that does not include grading of the southern ridgeline is not warranted.

Response 9-25

As discussed on pages 5.2-25 to 5.2-27 of the Draft EIR, the proposed project would expose nearby sensitive receptors to substantial concentrations of PM_{2.5} during construction due to large-scale grading, thus resulting in a significant and unavoidable impact. As described above in Response 9-24, an alternative that doesn't include grading of the northern ridgeline, and thus large scale grading, is not feasible due to the requirements for the proposed water tank. Therefore any development on the project site would expose nearby sensitive receptors to substantial concentrations of PM_{2.5} during construction.

Response 9-26

As discussed above in Response 9-6, grading required for the installation of the southern stormwater detention basin would not impact a City-designated "major" ridgeline. While grading in this area would alter the existing character of the easternmost portion of the southern ridgeline, the remainder of the ridgeline, which is visible from certain areas around Pittsburg, would not be altered and would continue to appear as it does at the present time. The southern stormwater detention basin at the base of the southern ridgeline would be briefly visible to vehicles on Kirker Pass Road but would not be visible from any vantage point in Pittsburg due to intervening topography and distance.

The northern ridgeline on the project site is not designated as a "major" or "minor" ridgeline by the City's General Plan, and while the proposed project would alter and lower the northern ridgeline by about 75 feet, the ridge would still remain elevated relative to surrounding land. As shown in Figure 5.1-5 of the Draft EIR, the northern ridgeline would be re-contoured to reflect the natural shape of the hills, and

Mitigation Measure AES-2 listed in the Draft EIR requires that the project applicants hydro-seed all disturbed, yet undeveloped, slopes on the project site, including the northern ridgeline.

For these reasons, and as discussed under Impact AES-1 in the Draft EIR, the proposed project would not result in a significant impact on scenic vistas involving the northern and southern ridgelines on the project site.

Response 9-27

As discussed above in Response 9-6, grading would occur within the 500-foot zone between the end of the City-designated portion of the "major" ridgeline on the southern portion of the project site and Kirker Pass Road. That is, the City-designated portion of the southern ridgeline lies outside that 500-foot grading zone and would not be affected under proposed project conditions. Therefore, an additional alternative that avoids alterations to the southern ridgeline would not be warranted as no significant impact would occur to the designated southern ridgeline.

In addition, the proposed southernmost stormwater basin is needed in order to adequately serve the density of development proposed. The required sizes of the stormwater basins on site are determined by the amount of new impervious areas (total development footprints) that would be created. The Draft EIR describes three different project alternatives that would all result in reduced densities and thus reduced overall development footprints (footprint reductions range from 7 percent to 50 percent of the proposed development area). For each alternative analysis, the Draft EIR states that two stormwater basins would still be required on the eastern edge of the project (pages 6.0-5, 6.0-13 and 6.0-20 of the Draft EIR). As a result, the size of the stormwater basins would be reduced under each alternative due to smaller development footprints and thus the visual impacts of site development associated with all three reduced density alternatives.

Response 9-28

As discussed in Response 9-1 above, a visual simulation of the project site from a vantage point to the north is not necessary as the proposed residential development would not be visible from vantage points to the north in the City of Pittsburgh. The visual simulations included in the Draft EIR present an adequate depiction of how the project site would appear from other viewpoints in Pittsburgh after implementation of the proposed project.

Response 9-29

An analysis of cumulative aesthetic impacts is provided in **Section 5.1, Aesthetics**, of the Draft EIR. As discussed on page 5.1-18 in that section, the proposed project includes mitigation that would reduce the negative effects of the project on the existing natural character of the site and its surroundings. In

addition, as shown in the visual simulations included in the Draft EIR for the JDBE project, the JDBE project would make some alterations to the hillside near the intersection of JDBE and Kirker Pass Road in the vicinity of the project site but the changes in the area would not be substantial and would be mitigated by the mitigation put forth in the JDBE Draft EIR. Therefore, the cumulative impact of both the projects on views from Kirker Pass Road would not be significant.

Response 9-30

See Response 9-9 for a discussion of cumulative impacts to agricultural resources.

Response 9-31

Cumulative impacts of the proposed project on all resources are evaluated throughout the Draft EIR and they provide an assessment of the project's cumulative effects on the southern hills. With respect to cumulative aesthetics effects, please see Response 9-29 above. Please also note that the General Plans of Pittsburg and Antioch allow for the development of the southern hills and include goals and policies to guide development in hillside areas.

See Response 9-2 above concerning the inclusion of the Pointe project in the cumulative analysis presented in the Draft EIR, including the traffic impacts of that project. Even if the Pointe project was not included in the cumulative analysis in the Draft EIR, it would not have combined with the proposed project to result in cumulatively significant aesthetic impacts as the Pointe project is located approximately 2.3 miles to the east of the project site and is not located in the same viewshed as the proposed project.

Response 9-32

As discussed in Response 9-2 above, the Pointe project was included in the cumulative analysis contained in the both Draft EIR and Recirculated Draft EIR as it is a part of the Black Diamond Ranch project. As a result, the Draft and Recirculated EIRs fully accounted for cumulative impacts of that project in terms of traffic, air quality, greenhouse gas emissions, aesthetics, biological resources, land use and planning, and other impact categories.

Response 9-33

An analysis of the project's impacts on fire protection services is provided in **Section 5.6, Public Services**, of the Draft EIR. The Contra Costa County Fire Protection District (CCCFFPD) has indicated that Station 84, which is located 2.2 miles north of the project site, would provide primary response to the proposed project. As discussed on pages 5.6-9 and 5.6-11 in **Section 5.6**, fire stations serving the City of Pittsburg and outlying areas are currently not meeting guidelines that call for career fire departments to respond within 6 minutes, 90 percent of the time and the proposed project would increase demand for fire

protection service in the area. The CCCFPD has indicated that with the addition of equipment capable of supporting wildland firefighting operations, such as a Type 3 engine, Station 84 would be adequately equipped to meet the increased demand, even though the desired response time may not be met due to the project's distance from an existing station. In response to the concern about response time and equipment needed to serve the project, Impact PS-1 in the Draft EIR has been identified as a significant and unavoidable impact; however, seven separate mitigation measures have been proposed to help reduce the overall severity of this impact. Of the seven mitigation measures proposed, Mitigation Measure PS-1a (most importantly) requires the payment of a Fire Facility Impact Fee, which could be used by the Fire District for station improvements and equipment upgrades (including the purchase of new engines).

See Response 9-8 above for further discussion regarding emergency access to the project site.

Response 9-34

An analysis of project impacts to police services is provided in **Section 5.6, Public Services**, of the Draft EIR. As discussed on pages 5.6-7 and 5.6-8 in this section, based on the City's long-term goals of providing 1.8 sworn officers per each 1,000 residents, based on an estimated new 1,146 residents associated with the project, the proposed project would result in the need for two additional officers. However, the proposed project would be annexed into the Community Facilities District (CFD) 2005-1, which collects fees to provide funding for increased police protection services in the city, including the hiring of additional officers. While the project would result in the need for more sworn officers to serve the increased population, the Pittsburgh Police Department (PPD) indicated that no new police facilities would be required to provide police services to the proposed project.

Response 9-35

An analysis of the project's impacts on schools is provided in **Section 5.6, Public Services**, of the Draft EIR. As discussed on pages 5.6-8 and 5.6-9 in that section, the elementary and junior high schools serving the project site are either at or over capacity. While the high school that would serve the project does have some excess capacity at the present time, this capacity would be needed to serve future development within the district's boundaries that has not yet been constructed. As a result, the additional students generated by the proposed project would be considered "unhoused." In order to accommodate the added student population resulting from this project, new facilities would likely be needed via temporary portable classrooms on school grounds (Palacios 2014). Potential impacts associated with these temporary classrooms are expected to be less than significant, as school grounds are typically already disturbed and would be unlikely to contain any sensitive resources. As discussed in **Section 5.6**, the proposed project would be required to pay school development fees, as dictated by law, prior to the issuance of building

permits, and according to Government Code Section 65996, the payment of such fees constitutes full mitigation for any school impacts under CEQA.

Response 9-36

See Responses 9-33 through 9-35 above regarding the proposed project's impacts on public services and proposed mitigation measures to address impacts to fire service and schools. None of the service providers have indicated that they cannot serve the project.

Response 9-37

The applicants are Altec Homes Inc., and Seecon Financial Inc. **Chapter 3.0, Project Description**, of the Draft EIR has been revised to include this information (see **Chapter 2.0, Revisions to the 2013 Draft EIR**, of this Final EIR). The failure of the Draft EIR to identify the project applicants has no bearing on the adequacy or accuracy of the Draft EIR's analysis of environmental impacts.

Response 9-38

As discussed in Responses 9-5 through 9-20 above, the proposed project would not conflict with the 16 General Plan policies identified by the commenter. Please note that the ultimate authority to interpret the General Plan policies and the project's consistency with the General Plan resides with the Pittsburg City Council.

California Environmental Quality Act (CEQA) Guidelines Section 15125(d) requires that the environmental setting of an EIR discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans. A discussion of potential conflicts between the proposed and applicable local, regional, state, and federal plans and policies is provided in **Chapter 4.0, Plans and Policies**, of the Draft EIR. Please note that there is no CEQA requirement that these policies be discussed in a Land Use and Planning Section. For informational purposes, a cross-reference to **Chapter 4.0** has been added to **Subsection IV.10, Land Use and Planning**, of the Initial Study (see **Chapter 2.0, Revisions to the 2013 Draft EIR**, of this Final EIR). As discussed on pages 62 and 63 in the Initial Study, the proposed land uses on the proposed Vesting Tentative Map are consistent with the existing Low Density Residential and Open Space General Plan land use designations of the project site.

Response 9-39

The commenter's objections to the project as proposed are noted. Responses 9-1 through 9-38 above address each of the objections or issues that the commenter raises with respect to the project. Where appropriate (as in Response 9-37), information has been added to the EIR or mitigation measures have been revised in response to the comments received. All environmental impacts of the proposed project

are fully analyzed in the Draft EIR and Recirculated Draft EIR in compliance with CEQA and there are no inadequacies in the Draft EIR and Recirculated Draft EIR analysis.

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January 10, 2014

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Re: Montreux Residential Subdivision and Draft Environmental Impact Report

Dear Ms. Pollot:

This firm represents Save Mount Diablo ("SMD") with regard to the Montreux Residential Subdivision Project ("Project"). SMD is a non-profit organization dedicated to preserving Mount Diablo's peaks, surrounding foothills and watersheds through land acquisition and preservation strategies designed to protect the mountain's natural beauty, biological diversity and historic and agricultural heritage. To advance this goal, SMD regularly participates in land use planning processes for projects that could impact Mount Diablo and its surrounding foothills, such as the Montreux Project. We submit these comments on the Project and associated draft Environmental Impact Report ("DEIR") on SMD's behalf.

As described below, SMD has serious concerns about the impacts of the Project, which proposes to transform 77 acres of largely untouched open space lands in the Woodlands subarea, immediately adjacent to the open spaces of the South Hills subarea, into a residential subdivision with 356 estate homes, onsite access roadways, drainage basins, and a water storage tank. DEIR at 3.0-8 and 9. The urban-scale Project is currently outside the City limits, outside the service areas for the Delta Diablo Sanitation District and the Contra Costa Water District Service Area boundary, and therefore lacks a certain water supply. The Project is patently inconsistent with the City's general plan and requires rezoning to permit development at the proposed density. In short, the Project has all the hallmarks and adverse environmental impacts of leapfrog development. It is

therefore perhaps unsurprising that it directly conflicts with numerous general plan policies that discourage such development.

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In addition, the DEIR for the Project fails to provide the public and decision makers with crucial information about the Project, its impacts, and feasible mitigation measures, in direct violation of the California Environmental Policy Act ("CEQA").¹ For example, the Project description lacks sufficient detail for the public to determine what the impacts of the Project will be. Although the City is apparently contemplating a development agreement as part of the Project, the agreement itself is not included as an attachment to the DEIR or otherwise made available to the public, and the description of the agreement's terms is cursory at best. Similarly, consultant reports on various impact areas are referred to in the DEIR but not provided for public review. At the very least, the DEIR must be revised and recirculated to include these documents and information.

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The DEIR's analysis of specific environmental impacts is similarly lacking. As discussed in this letter and the attached report from consulting hydrologist Bruce Abelli-Amen of Baseline Environmental Consulting ("Baseline Report"), developing the Project on the area's steep terrain will require extensive cut and fill, which, in turn, will drastically affect the hydrology of the area and could even damage downstream properties. Baseline Report attached as Exhibit 1. Yet the DEIR contains *no discussion whatsoever* of these potential impacts, relying solely on the Initial Study's cursory discussion of the issue. Similar flaws are found in other impact analysis, including aesthetics, biological resources, public services, and public safety. More is required of an adequate EIR.

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In sum, after reviewing the DEIR and other Project documents, it is our opinion that the Project conflicts with the City of Pittsburg's General Plan and Municipal Code in violation of State Planning and Zoning Law, Gov't Code § 65000 et seq. For this and other reasons, the City cannot make the findings necessary to approve the Project's requested rezoning and tentative map. *See* Gov't Code §§ 66473.5 & 66474. In addition, the DEIR for the Project violates the minimum standards of adequacy under CEQA. As a result, the City cannot approve the Project as currently proposed and must, at a minimum, recirculate a revised DEIR that addresses the inadequacies identified in this letter.

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¹ Public Resources Code § 21000 et seq. (hereinafter "CEQA"); Cal. Code of Regulations, tit. 14, § 15000 et seq. (hereinafter "Guidelines").

STUDY AREA
MONTREUX RESIDENTIAL SUBDIVISION

I. Approval of the Project Would Violate California Planning and Zoning Law and the Subdivision Map Act.

The State Planning and Zoning Law (Gov't Code § 65000 et seq.) requires that development decisions be consistent with the jurisdiction's general plan. *See* Gov't Code §§ 65860 (requiring consistency of zoning to general plan), 66473.5 & 66474 (requiring consistency of subdivision maps to general plan), and 65359 and 65454 (requiring consistency of specific plan and other development plan and amendments thereto to general plan). Thus, "[u]nder state law, the propriety of virtually any local decision affecting land use and development depends upon consistency with the applicable general plan and its elements." *Resource Defense Fund v. County of Santa Cruz* (1982) 133 Cal.App.3d 800, 806. Accordingly, "[t]he consistency doctrine [is] the linchpin of California's land use and development laws; it is the principle which infuses the concept of planned growth with the force of law." *Families Unafraid to Uphold Rural El Dorado County v. Board of Supervisors* (1998) 62 Cal.App.4th 1332, 1336.

It is an abuse of discretion to approve a project that "frustrate[s] the General Plan's goals and policies." *Napa Citizens for Honest Gov't v. Napa County* (2001) 91 Cal.App.4th 342, 379. The project need not present an "outright conflict" with a general plan provision to be considered inconsistent; the determining question is instead whether the project "is compatible with and will not frustrate the General Plan's goals and policies." *Napa Citizens*, 91 Cal.App.4th at 379.

Here, the proposed Project does more than just frustrate the General Plan's goals. It is directly inconsistent with numerous provisions in the General Plan. Consequently, the Project cannot be approved in its current form.

A. The Project Is Inconsistent with Numerous General Plan and Municipal Code Provisions.

The City's General Plan and Municipal Code contains several provisions intended to ensure that development occur in an environmentally sensitive manner. As discussed below, the Project is inconsistent with many important Plan and Code provisions.

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1. General Plan and Code Provisions Relating to the Preservation of Hillsides

The Project site is designated and pre-zoned for Hillside Plan Development. DEIR at 3.0-8. The General Plan requires that development in the hills be sensitive to the natural terrain, minimize cut-and-fill, and incorporate natural features (*e.g.*, topography and creeks) into the design of residential neighborhoods. General Plan Land Use Element Policies 2-P-21, 2-P-23, 2-P-24, 2-P-25, 4-P-9. General Plan Land Use Element Policy 2-P-21. The General Plan also indicates that the City must “ensure that all General Plan policies apply to hillside land irrespective of zoning –whether Planned Development or any other base district.” General Plan Land Use Element Policy 2-P-22.

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General Plan provisions specific to the Woodlands sub-area where the Project is located are even more protective. For example, the General Plan specifies a goal to support new residential development in locations that do not significantly impact the natural setting.” General Plan Goal: Woodlands 2-G-27 and 2-G-28. As discussed below and throughout this letter, the Project proposes mass grading that fills a natural drainage and denudes the site of natural vegetation. Other Woodlands-area specific provisions require that the “natural topography be retained to the *maximum extent feasible*, and large-scale grading discouraged” and that development be minimally visible from Kirker Pass Road. General Plan Policy: Woodlands 2-P-73.

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The Municipal Code accordingly establishes regulations for development in hillside areas that establish several goals to protect hillsides. For example, the Code establishes the goal “to protect natural topographic features, aesthetic view, vistas, and prominent ridges.” It also calls for the City to “protect adjacent properties from potential adverse impacts of grading and drainage associated with hillside development,” and “encourage the use of development techniques and alternatives that will be compatible to the terrain of the hillside areas.” Municipal Code § 18.56.02.

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The Municipal Code contains provisions requiring topographic maps indicating the steepness of the site’s slopes. Municipal Code § 18.56.070.K. The Code also requires landscape plans indicating the location of existing and proposed trees and other plant materials, and before and after grading details. *Id.* But neither the DEIR nor technical appendix actually include these details.

Despite the lack of information in the DEIR, it is clear that the Project would be inconsistent with these provisions. The DEIR concludes that the Project is consistent with the General Plan because the Project proposes to preserve the southernmost portion of the site. DEIR at 4.0-2. However, the development plan

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STUDY AREA
MONTREUX RESIDENTIAL SUBDIVISION

proposed for the remainder of the site would be anything but sensitive to the natural terrain. Rather than follow the natural topography and minimize grading, the Project site's steep slopes would be cut away to create unnaturally "flat" areas for building pads where steep slopes and drainage areas, including wetlands, previously existed. The Project requires a staggering 1.4 million cubic yards of excavation and fill material. DEIR at 3.0-12. Grading involving an estimated this level of excavation would result in the removal of trees and other natural vegetation throughout the development area and would also change much of the site's natural landform. Moreover, as made clear in the DEIR, the development would be very visible from Kirker Pass Road and would stand in stark contrast to the surrounding hillsides. DEIR at Figures 5.1-5 and 5.1-6.

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2. General Plan Provisions Relating to the Protection of Natural Resources.

The General Plan encourages development that is compatible with the environment and sensitive habitats, "particularly habitats that support special status species" and calls for development that preserves significant ecological resources. Resources Conservation Element Goals 9-G-1 and 9-G-2 and Policies 4-P-14, 4-P-15, 9-P-13. The DEIR again concludes that the Project is consistent with the General Plan because the Project proposes to preserve the southernmost portion of the site and because the site's resources were "considered and documented." DEIR at 4.0-6. However, as discussed below, the DEIR's documentation of natural resources is seriously flawed. See section II.B.3 below. The Project is inconsistent with these provisions because, as discussed below, it will result in significant adverse impacts to sensitive habitats and species on and adjacent to the Project site. The DEIR has failed to provide a complete analysis of these impacts. *Id.* As a result, the Project will result in significant impacts related to direct and indirect impacts to special status species in contravention of the General Plan. *Id.*

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3. General Plan Provisions Relating to the Protection of Drainages

The General Plan includes provisions that protect drainages and prevent erosion. Resources Conservation Element Policies 9-G-4 and 9-G-5. The General Plan also includes provisions to require evaluation and implementation of Best Management Practices to protect against creek bank destabilization and require assessments of downstream drainage impacts. Policies 9-P-15, 9-P-17, and 9-P-21. The DEIR fails to mention these General Plan provisions let alone analyze consistency with them. As discussed further below, and in the attached Baseline Report, the DEIR fails to evaluate these impacts. As a result, the Project is inconsistent with these General Plan provisions.

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ATTORNEY AT LAW

4. General Plan Provisions Relating to the Provision of Public Services.

The DEIR discloses that the Project would add school children to area schools that are already over capacity. DEIR at 5.6-8. The Project is inconsistent with General Plan provisions that specify the City is to “ensure that school facilities maintain adequate capacity to provide for current and projected enrollment.” General Plan Policy 8-G-10. The Project is inconsistent with the General Plan in that it would approximately 277 new students to a school system already over-capacity.

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The General Plan specifies that the City is to provide 1.8 *sworn officers* per each 1,000 residents. The DEIR discloses that the Project would add to the City’s population so that additional police officers would be needed to serve the community. DEIR at 5.6-8. As the DEIR makes clear, there is “no guarantee that the General Fund revenues provided by the new development would fully fund the new positions.” DEIR at 5.6-8. Thus, the Project conflicts with the General Plan requirements for police protection.

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For all of these reasons, the Project is inconsistent with the General Plan and the Municipal Code. Because of the Project’s inconsistencies with these planning documents, approval of this Project would violate State Planning and Zoning Law and the County’s Development Code.

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B. Approval of this Project Would Violate the Subdivision Map Act.

The proposed Project requires approval of a tentative subdivision map. *See* DEIR at 3.0-13. As a result, the City must comply with the Subdivision Map Act. This statute requires that a tentative map approval be consistent with the local general plan. *See* Gov’t Code §§ 66473.5; 66474; *see also Friends of “B” Street v. City of Hayward* (1980) 106 Cal.App.3d 988, 998 (Subdivision Map Act expressly requires consistency with general plan). Approval of a project that is inconsistent with the general plan violates the Subdivision Map Act and may be enjoined on that basis. *See Friends of “B” Street*, 106 Cal.App.3d at 998 (“City approval of a proposed subdivision ... may be enjoined for lack of consistency of the subdivision map with the general plan.”); *see also* City of Pittsburg Municipal Code § 17.20.060 (to approve a tentative map, the following findings must be made, among others: 1) the proposed map is consistent with the general plan and any applicable specific plan, or other applicable provisions of [the municipal] code; 2) the site is physically suitable for the proposed density of development; and 3) the design of the subdivision or the proposed improvements will not cause substantial

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environmental damage or substantially and avoidably injure fish or wildlife or their habitat).

As detailed throughout this letter, the Project is inconsistent with various goals and policies set forth in the City's General Plan. *See e.g.*, Section I(A), *supra*. Because approval of the Project would violate the general plan consistency requirements of the Subdivision Map Act and the City's own municipal code, the Project application must be denied.

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II. The DEIR Is Inadequate Under CEQA.

The environmental impact report is "the heart of CEQA." *Laurel Heights Improvement Ass'n v. Regents of University of California* (1988) 47 Cal.3d 376, 392 (citations omitted) ("*Laurel Heights I*"). It "is an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return. The EIR is also intended 'to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action.' Because the EIR must be certified or rejected by public officials, it is a document of accountability." *Id.* (citations omitted). Where, as here, an EIR fails to fully and accurately inform decision makers, and the public, of the environmental consequences of proposed actions, it does not satisfy the basic goals of the statute. *See* CEQA § 21061 ("The purpose of an environmental impact report is to provide public agencies and the public in general with detailed information about the effect that a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.").

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As discussed in detail below and in the attached technical report, the DEIR is replete with serious flaws. *See* Baseline Report. It lacks a legally defensible description of the Project and contains so little information about the Project's potential environmental impacts that, in many instances, it is difficult to evaluate the accuracy of the environmental analysis. Nor does the DEIR provide the necessary evidence or analysis to support its conclusions that environmental impacts would be less than significant. Many of the so-called mitigation measures proposed in the DEIR are nothing more than general assertions that something will be done in the future about the Project's significant environmental impacts. Such deferral is prohibited by CEQA. Consequently, the City must prepare and recirculate a revised EIR if it chooses to proceed with the proposed Project.

STILL AHEAD
WILSON BERG

A. The DEIR Fails to Adequately Describe the Project.

1. The DEIR's Project Description Omits Critical Information.

Under CEQA, the inclusion in the EIR of a clear and comprehensive description of the proposed project is critical to meaningful public review. *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193. The court in *Inyo* explained why a thorough project description is necessary:

"A curtailed or distorted project description may stultify objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the "no project" alternative) and weigh other alternatives in the balance." d. at 192-93. Thus, "[a]n accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR." *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 830.

Here, the description of the Project is inadequate. The DEIR fails to identify key components of the Project that have the potential to result in significant environmental impacts. For example, the DEIR entirely omits critical information about the improvements that would be needed to resolve the area's hydraulic and flood risks. See Baseline Report at 1 and 2. Additionally, the DEIR fails to adequately describe the Project's stormwater system and fails to include a Stormwater Control Plan. The proposed Project will result in a substantial increase in impermeable surfaces, which will, in turn, increase runoff from the site, yet the document does not include any detail about where drainage features (inlets, piping, culverts, etc.) would be located and how these systems, including the detention basins, would be operated. The DEIR does not appear to include, nor does it reference, any hydrologic or hydraulic engineering that supports the drainage plan. The reader of the DEIR has no idea how the detention basins were sized or how they would be operated. Without detailed information regarding the location and design of the drainage facilities, it is impossible for decision makers and the public to evaluate the accuracy of the DEIR's conclusions.

The DEIR also fails to include the following crucial information about the Project:

- Number and type of trees to be removed;
- Location of the Project staging areas;
- Location of spoils sites and haul routes;
- Construction-related activities (including timeline, location, number of construction employees, types of equipment, etc.);
- Other Project features such as fences, bridges, gates or other proposed improvements.

All of this information must be included in a revised EIR so that the impacts associated with these features and activities can be analyzed.

2. The Project Description Avoids Any Meaningful Discussion of the Proposed Development Agreement.

The DEIR notes that the Project will include a development agreement, and states that the agreement's primary purpose is to vest the applicant's entitlements. DEIR at 3.0-12. The DEIR also states that the development agreement will include provisions regarding integration of the project entrance with the future Donlon Boulevard extension, requirements for payment of fees related to open space and compliance with the City's inclusionary housing ordinance. *Id.* However, no information is provided about the conditions, terms, restrictions and requirements for subsequent actions. The text of this development agreement is not included anywhere in the DEIR. And the development agreement was not included among the publicly available environmental documents for the project. Without any more detailed information about the terms of the agreement, key elements of the project description are omitted and cannot be analyzed in the EIR, in direct violation of CEQA. *See, e.g., Laurel Heights Improvement Ass'n v. Regents of the University of California* (1993) 6 Cal.4th 1112, 1123 ("*Laurel Heights II*") (the purpose of CEQA "is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made").

This omission is particularly disturbing as development agreements typically seek to "lock in" development rights – including existing regulations and the density and intensity of development – over an extended period of time. As such, development agreements have the potential to greatly exacerbate the potential impacts of

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a project by limiting the lead agency's permitting authority and ability to impose additional mitigation measures or reduce the intensity of development at later discretionary phases of the project. This problem is only compounded where, as here, the development of critical mitigation measures is deferred to the indefinite future.

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The DEIR's failure to provide any specifics regarding the development agreement constitutes a fatal shortcoming in the Project Description and the subsequent analysis of Project impacts. To comply with CEQA, the DEIR must be recirculated with a more detailed description of the development agreement or with the draft agreement attached.

3. The DEIR Minimizes the Extent of the Project By Failing to Describe and Analyze Full Build-Out Conditions.

Courts have held that, when analyzing the environmental impacts of a general plan or other planning document, the lead agency must analyze "the future development *permitted* by the [plan]. . . . Only then can the ultimate effect of the [plan] upon the physical environment be addressed." *Christward Ministry v. Superior Court of San Diego County* (1986) 184 Cal.App.3d 180, 194 (emphasis added); *see also City of Redlands v. County of San Bernardino* (2002) 96 Cal.App.4th 398, 409 (quoting same).

Here, the Project proposes rezoning not only for the 77-acre portion of the site designated for residential development but for entire site. DEIR at 3.0-8. Nowhere does the DEIR analyze the impacts of a potential increase in density on the entire site. The DEIR proposes that the 71-acre area proposed for open space will be subject to "recording 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)." DEIR at 2.0-21. This approach is not adequately protective of the open space. First, recording the deed restriction prior to the last Final Map (rather than prior to the *first* Final Map) leaves the open space area vulnerable to damaging uses during construction. Second, deferring recording of the deed restriction to such a late date leaves the open space vulnerable to future proposals for alteration of the open space area to other uses.

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Alternatively, the DEIR could have specified use of a conservation easement on the open space area, conveyed to a land trust capable of managing and enforcing it, to preserve and protect the area in perpetuity. Such an easement should be recorded prior to acceptance of the first Final Map. As proposed, the open space area is vulnerable to future proposals for alteration of the open space area to other uses, and therefore, the DEIR must analyze the potential impacts at full build-out should the City approve the change in zoning.

SEATTLE COUNTY
WILSONVILLE

B. The DEIR Fails to Analyze and Mitigate the Project's Significant Environmental Impacts.

CEQA requires that an EIR be detailed, complete, and reflect a good faith effort at full disclosure. Guidelines § 15151. The document should provide a sufficient degree of analysis to inform the public about the proposed project's adverse environmental impacts and to allow decision-makers to make intelligent judgments. *Id.* Consistent with this requirement, information regarding the project's impacts must be "painstakingly ferreted out." *Environmental Planning & Info. Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 357 (finding an EIR for a general plan amendment inadequate where the document did not make clear the effect on the physical environment).

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Meaningful analysis of impacts effectuates one of CEQA's fundamental purposes: to "inform the public and responsible officials of the environmental consequences of their decisions before they are made." *Laurel Heights II*, 6 Cal.4th at 1123. To accomplish this purpose, an EIR must contain facts and analysis, not just an agency's bare conclusions. *Citizens of Goleta Valley*, 52 Cal.3d at 568. Nor may an agency defer its assessment of important environmental impacts until after the project is approved. *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 306-07. An EIR's conclusions must be supported by substantial evidence. *Laurel Heights I*, 47 Cal.3d at 409.

As documented below, the DEIR fails to identify, analyze, or support with substantial evidence its conclusions regarding the Project's significant environmental impacts. These deficiencies render the DEIR inadequate under CEQA.

1. The DEIR Fails to Analyze and Disclose Significant Aesthetic Impacts of the Project.

The proposed Project will alter and adversely impact the visual landscape of the site and the surrounding area by completely transforming this scenic, hilly area into a dense, residential one. As discussed above, the Project will cut and fill large swaths of hillside and excavate an enormous amount of soil: 1.4 million cubic yards. DEIR at 3.0-12. (Assuming a dump truck holds 10 cubic yards, the proposed excavation equates to 140,000 truckloads of soil.) The DEIR acknowledges that the Project would result in significant and unavoidable impacts relating to a the degradation of the existing visual character of the area. DEIR 2.0-6. Despite this assessment, the DEIR concludes that the Project's other aesthetic impacts will be less than significant because of certain landscaping and design features. However, landscaping and design features cannot reduce

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the significant topographic impacts of the Project to a level of insignificance. Furthermore, the DEIR's conclusion that aesthetic impacts will be insignificant flies in the face of established CEQA precedent.

Under CEQA, it is the state's policy to "[t]ake all action necessary to provide the people of this state with . . . enjoyment of *aesthetic*, natural, scenic, and historic environmental qualities." CEQA § 21001(b) (emphasis added). "A substantial negative effect of a project on view and other features of beauty could constitute a significant environmental impact under CEQA." *Ocean View Estates Homeowners Assn., Inc. v. Montecito Water District* (2004) 116 Cal.App.4th 396, 401. No special expertise is required to demonstrate that the Project will result in significant aesthetic impacts. *Ocean View Estates*, 116 Cal.App.4th at 402 ("Opinions that the [project] will not be aesthetically pleasing is not the special purview of experts."); *The Pocket Protectors v. City of Sacramento* (2005) 124 Cal.App.4th 903, 937 ("[N]o special expertise is required on this topic.").

As explained by the court in *Quail Botanical Gardens Foundation, Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1606, it is "self-evident" that replacing open space with a subdivision will have an adverse effect upon "views and the beauty of the setting." Instead of addressing and analyzing the Project's visual effects, the DEIR employs contorted logic to mask its clear impacts. For example, the DEIR acknowledges that the General Plan identifies views of the "rolling, grassy hills to the south," which characterize the site, as important visual resources for the City and that the development will be visible from area parks. DEIR at 5.1-8. The DEIR also acknowledges that the Project site "could be considered an element of broad scenic vistas of hills and open space visible from Kirker Pass Road, a designated scenic route in the General Plan. *Id.* The DEIR even states that the Project could have a substantial adverse effect on a scenic vista. *Id.* Surprisingly, the DEIR then concludes that impacts to scenic vistas would be less than significant because design guidelines included in Mitigation Measure AES-1 would mitigate these significant impacts. DEIR at 5.1-9.

Such a conclusion is misguided and unsupported by evidence. The guidelines and standards that the DEIR relies on address the colors and materials to be used in the development but in reality they do nothing to reduce the height, mass, or location of structures or to ensure that the development is less visible from public viewpoints. The DEIR fails to provide any specific information or analysis, as to how the proposed measure would mitigate significant impacts to existing views from parks and other public viewpoints. A neutral color palette will not camouflage this large subdivision.

Moreover, the DEIR fails to provide evidence to support its conclusion that the Project's impacts to area scenic vistas would be less than significant. Specifically, the EIR fails to evaluate the Project's impacts to views from East Bay Regional Park District ("EBRPD") trails and from open space areas in Stoneman Park to the north. *See* DEIR Figure 5.1-3 indicating visual simulations performed only for views from Kirker Pass Road. The DEIR also fails to evaluate impacts to planned parklands to the south and southwest of the project site. As pointed out by during the scoping process, the EBRPD has acquired the "Thomas North" parcel to the south of the Project site and the "Land Waste Management" and "Affinito" parcels to the southwest. A revised EIR must be prepared to evaluate the Project's impacts to views from these parcels.

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The Project will transform an undeveloped, rural area framed by rolling hills into a large residential subdivision. This change substantially degrades not only the existing visual character and quality of the site and its surroundings but the quality of scenic vistas enjoyed from area roadways, parks, and trails. These impacts are considered significant impact under CEQA. Guidelines, Appendix G(I)(c). Thus, the DEIR's conclusion that the Project's impact on scenic vistas would be less than significant cannot be sustained.

2. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Hydrology and Water Quantity.

The DEIR includes absolutely no discussion of the potential impacts to hydrology and water quality, having concluded in the Initial Study ("IS") that the Project's impacts in these areas would be less than significant. As explained in the attached Baseline Report, this conclusion is not supported by substantial evidence and, in fact, the Project would substantially alter site drainage and the stream channel that runs through the property. While the IS provides a general discussion of these potential impacts, it contains no supporting studies or data and relies entirely on future preparation of a Storm Water Pollution Prevention Plan ("SWPPP") and compliance with existing regulations to reduce the Projects impacts to a level of insignificance. As discussed in detail below, this approach does not comport with CEQA. In very steep terrain like this, it is virtually impossible for projects to comply with National Pollutant Discharge Elimination System ("NPDES") requirements, which is evidenced by the Project's proposed detention basins. Thus, relying on compliance with existing requirements is particularly unacceptable in this situation. In addition, steep terrain such as this makes remediation of unstable soils very challenging.

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(a) The DEIR Fails to Adequately Describe the Existing Hydrological Setting.

The DEIR/IS provides no information on the hydrology and water quality setting. Without describing the hydrology of the on-site drainage and that of Kirker Creek downstream, the reader of the DEIR/IS has no context within which to evaluate potential project impacts. Perhaps most important, the DEIR/IS does not provide any discussion of the hydrology of Kirker Creek and its susceptibility to flooding. The DEIR must be revised to include a Hydrology and Water Quality section that adequately describes the hydrologic setting.

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(b) The Project Does Not Comply with Applicable Requirements Under the NPDES

The IS states that the project would treat stormwater runoff "as required by provision C.3 of the Contra Costa County municipal stormwater NPDES permit by directing all site runoff into three detention basins." IS at 59. However, this statement appears to refer to an old (and superseded) NPDES permit. The current NPDES permit that the project would be required to comply with is the Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, NPDES Permit No. CAS612008, adopted October 14, 2009 and revised November 28, 2011 ("MRP"). Not only does the Initial Study refer to the wrong NPDES permit, it wrongly interprets what C.3 provisions would be required. Baseline Report at 3. The C.3 portion of the MRP, which refers to post-construction stormwater management for new development and redevelopment projects, requires Low Impact Development ("LID"). The Project as proposed includes centralized detention basins, which are not LID features.

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The goal of LID is to reduce runoff and mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source. Practices used to adhere to these LID principles include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes. LID also limits disturbance of natural water bodies and drainage systems; minimizes compaction of highly permeable soils; protects slopes and channels; and minimizes impacts from stormwater and urban runoff on the biological integrity of natural drainage systems and water bodies. Baseline Report at 3 and 4.

Here, the Project would result in massive grading, moving approximately 1.4 million cubic yards of soil. DEIR at 3.0-12. No LID designs or features appear to be

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incorporated or required. Instead, several large detention basins are proposed to collect the site's stormwater before discharging it into Kirker Creek. Incorporation of LID designs and features into the project would require extensive modifications to the grading plan and overall site plan. These design changes to the project should be made by the applicant and the revised project evaluated in a recirculated DEIR.

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(c) The Project Would Result in Flooding and Erosion Impacts Downstream

Based on a review of available mapping and aerial photographs, the Baseline Report concludes that Kirker Creek appears to have reaches that are highly incised with oversteepened creek banks. Baseline Report at 4. This indicates that portions of the creek may be unstable. *Id.* There are areas in the City of Pittsburg (e.g., Brush Creek Drive, Canyon Way), where homes are located within 20 to 30 feet of the top of the creek bank. Any change to the hydrology of flows in Kirker Creek could result in hydromodification and cause increased erosion and creek bank failure, which may jeopardize existing structures. *Id.*

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The DEIR/IS fails to provide any explanation as to how the detention basins would be operated to prevent "erosion of existing stream banks and flooding downstream along Kirker Creek," and it is not clear that they can be so operated. IS at 60. Simply delaying flows in detention basins is not an effective approach to preventing downstream hydromodification of Kirker Creek. Baseline Report at 4. The Project would result in a substantial amount of new impervious surfaces conveying increased flows to centralized basins. This would in turn increase total discharge volume to Kirker Creek. *Id.* Even moderate flows to the creek, if sustained for longer periods of time than would occur without the project, could cause significant downstream erosion. *Id.* This is a potentially significant impact that must be fully analyzed under CEQA.

In sum, the DEIR lacks sufficient evidentiary support for its conclusion that the Project's impacts on hydrology and water quality would be less than significant. A revised DEIR that comprehensively evaluates and mitigates the proposed Project's hydrology and water quality impacts must be prepared and recirculated.

3. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Biological Resources

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The DEIR presents an incomplete—and hence inadequate—discussion of the Project's potential impacts to biological resources. As detailed below, the DEIR underestimates Project-related impacts to biological resources as a result of a series of

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errors, including: (1) faulty methodology; (2) the failure to describe accurately the environmental setting; (3) the failure to analyze the extent and severity of impacts to sensitive species and habitats; and (4) the failure to analyze the Project's cumulative effects. The DEIR's treatment of biological impacts does not meet CEQA's well established legal standard for impacts analysis. Given that analysis and mitigation of such impacts are at the heart of CEQA, the DEIR will not comply with the Act until these serious deficiencies are remedied.

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(a) The DEIR Appears to Employ Faulty Methodology.

The DEIR employs faulty methodology and incorrect assumptions in its analysis of Project impacts to biological resources. It appears that the DEIR's analysis is not based on focused surveys tailored to determine the likelihood that particular species would be present. In fact, the DEIR never describes the methodology employed for site surveys. Aside from one sentence that indicates the surveys consisted of "driving and walking around the site" (DEIR Appendix 5.3 at pdf page 4), the DEIR provides no description of the survey methods at all. The DEIR should have included focused surveys for all special status with the potential to occur on site. These surveys should have included surveys for grassland birds, rare plant surveys, and, as discussed below, appropriately timed protocol level surveys for species likely to occur on-site.

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The survey information as it stands does not provide an adequate basis for determinations about the individual and cumulative impacts of this Project on either special-status species or rare habitats. The DEIR's inadequate analysis of the species and habitats on the site results in an understatement of the Project's biological impacts.

(b) The DEIR Fails to Adequately Describe the Project's Biological Setting.

An EIR also "must include a description of the environment in the vicinity of the project, as it exists before the commencement of the project, from both a local and a regional perspective." Guidelines § 15125; *see also Environmental Planning and Info. Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 354. CEQA requires that special emphasis be placed on environmental resources that are rare or unique to that region and that would be affected by the Project. Guidelines § 15125(c). Here, the DEIR's discussion of environmental setting is sorely deficient.

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The DEIR fails to provide a complete description of the Project's biological setting and, in some cases, presents conflicting information. For example, the DEIR states that the Project site does not include alkali soils; an important distinction because some

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special status plants occur solely in alkali soils. DEIR at 5.3-7. However, the DEIR also indicates that saltgrass (*Distichlis spicata*), a plant that is dependent on alkali soils, was observed on site. DEIR at Table 5.3-1.

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In other cases, the DEIR simply presents erroneous information. For instance, the DEIR dismisses the potential occurrence of big tarplant stating that “the highly disturbed on-site grasslands do not provide suitable habitat . . .” DEIR at Table 5.3-2. However, this species is found in annual grasslands, usually on slopes like the ones that characterize the Project site. Personal Communication, Malcolm Sproul, Senior Biologist, Bay Area consulting firm, January 8, 2014.

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In other instances, the DEIR omits crucial information altogether. The DEIR fails to evaluate grassland birds likely to occur on site and entirely ignores the grasshopper sparrow, a California species of special concern. *Id.* and DEIR Table 5.3-2 (excludes grasshopper sparrow).

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The DEIR also fails to analyze the presence and number of other special status species that it acknowledges may be present on the site and in the Project area. For example, although the DEIR acknowledges that California tiger salamander (“CTS”), a species protected by the federal Endangered Species Act, has been documented in the Project vicinity (DEIR at 5.3-18), the DEIR is dismissive of the potential for this species to occur on site. DEIR at 5.3-3 (lists species for which suitable habitat is found on the Project site but excludes CTS). The DEIR states that because there is no suitable breeding habitat for CTS within or near the project site and that the nearest occurrence is 0.5 miles away, the species is not likely to occur on the site. DEIR Table 5.3-2 at page 5.3-13.

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However, the DEIR fails to evaluate potential upland habitat on site that may be used by CTS. As explained in the attached report, “Movement Patterns and Migration Distances in An Upland Population of California Tiger Salamander” (Orloff, 2011), CTS disperse over distances far greater than 0.50 miles. Orloff Report, attached as Exhibit 2. Thus, the Project site, which is within a half mile of a known breeding site, is very likely to provide aestivation habitat for CTS. Personal Communication, Malcolm Sproul, Senior Biologist, Bay Area consulting firm, January 8, 2014; biography attached as Exhibit 3. Moreover, it appears that other ponds providing potentially suitable habitat may be present in close proximity to the Project site. *See* map attached as Exhibit 4 and Personal Communication, Malcolm Sproul, Senior Biologist, Bay Area consulting firm, January 8, 2014. Accordingly, the DEIR’s description of the biological setting (and the document’s impact analysis) must be revised to include consideration of this species. *Id.*

STUDY
WATERBURY

Similarly, the DEIR acknowledges that burrowing owls are known to occur in the area, but dismisses their potential to occur onsite based on the fact that no owls were observed onsite and that the nearest occurrence of nesting burrowing owls is 2.5 miles west of the site. DEIR at Table 5.3-11. The DEIR's conclusion is not based on any evidence. In fact, burrowing owl have been observed nesting on the Thomas Home Ranch property located to the southwest of the Project site (between Nortonville Road and Kirker Pass Road) within the past year. Personal Communication, Malcolm Sproul, Senior Biologist, Bay Area consulting firm, January 8, 2014. Moreover, burrowing owl do not depend exclusively on ground squirrel burrows for nesting sites, as implied in the DEIR. DEIR at 5.3-11. Burrowing owls have been known to nest in shallow indentations such as those present in the rock outcroppings on site. DEIR at 5.3-1.

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Moreover, the DEIR mischaracterizes the role of the Habitat Conservation Plan ("HCP") and its role in relation to environmental documentation for the project. First, the HCP is a conservation mechanism that includes a broad, programmatic review of resources throughout eastern Contra Costa County; it is not a project-specific, impact-analysis document. DEIR at 5.3-24. Thus, the information in the HCP cannot replace properly designed and implemented surveys of the project site to determine the biological resources there. Second, the DEIR states that the HCP's primary goal is to streamline review of development projects. DEIR at 5.3-24. This is incorrect. The HCP is intended to serve as a coordinated process for permitting and mitigating the incidental take of endangered species. It does not excuse the City from requiring site-specific analysis. Finally, the HCP is administered by the East Contra Costa County Habitat Conservancy ("Conservancy"). DEIR at 5.3-25. The Conservancy is not a land use agency and therefore is not tasked with making decisions about the appropriate location for siting land development. That responsibility falls to the City, which has the responsibility of completing site-specific analysis of the Project's significant impacts to special status species and habitat as part of the CEQA process. Therefore, the DEIR must be revised to include a thorough investigation of the site's existing biological setting and the Project's impacts on those resources.

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The DEIR's perfunctory description of the sensitive species and habitats present in the Project area results in an incomplete description of the sensitive environmental setting of the Project. This failure to describe the Project setting violates CEQA. *See San Joaquin Raptor*, 27 Cal.App.4th at 724-25 (environmental document violates CEQA where it fails to completely describe wetlands on site and nearby wildlife preserve). The DEIR should have included surveys for these species as part of its assessment of biological resources. Accordingly, the DEIR's description of the biological setting must be revised to include consideration of these and other overlooked species.

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STATE OF CALIFORNIA
COUNTY OF CONTRA COSTA

(c) **The DEIR Fails to Adequately Analyze the Project's Direct Impacts to Sensitive Species.**

The DEIR's failure to describe the existing setting severely undermines its analysis of Project impacts. Despite the DEIR's acknowledgement that the Project would adversely affect potential habitat for several special status, the DEIR fails to adequately analyze adverse impacts to these species. For example, the DEIR acknowledges that the Project site includes potential habitat for burrowing owl, a California Species of Special Concern ("CSC"); San Joaquin kit fox, a federally endangered species and a California Threatened species; and vernal pool fairy shrimp, a federally Threatened species. DEIR at 5.3-26 and 27. Yet, rather than conduct appropriate surveys to evaluate the presence/absence of these species and analyze the extent and severity of the Project's impacts, the DEIR simply applies a laundry list of measures required by the Habitat Conservation Plan for the Project area and concludes that all impacts will be mitigated to less than significant levels. *See, e.g.*, DEIR at 5.3-31 and 32. By failing to analyze the extent and severity of impacts to biological resources, the DEIR downplays the effects of the loss of open space on special status species. The end result is a document which is so crippled by its approach that decision makers and the public are left with no real idea as to the severity and extent of environmental impacts. *See, e.g., Berkeley Keep Jets Over the Bay Com. v. Bd. of Port Comrs.* (2001) 91 Cal.App.4th 1344, 1370-71; *Galante Vineyards v. Monterey Peninsula Water management Dist.* (1997) 60 Cal.App.4th 1109, 1123; *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 831 (a lead agency may not simply jump to the conclusion that impacts would be significant without disclosing to the public and decision makers information about how adverse the impacts would be).

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Similarly the DEIR's analysis of impacts to raptors such as Swainson's hawk simply asserts that they would be affected by a reduction in nesting resources, ignoring altogether the impacts caused by loss of habitat. DEIR at 5.3-28. Urbanization has a profound effect on raptors because they require large areas to hunt and are disturbed by human activity near their nests. Moreover, the DEIR's sole mitigation proposal for raptors focuses exclusively on avoiding active nests. It ignores perch resources and the role that loss of habitat and urbanization have on raptors. In any event, the DEIR must quantify the Project's effects on raptors, and the efficacy of the proposed mitigation, so that the public and decision makers may reach their own conclusions. *Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 130.

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STATE OF CALIFORNIA
COUNTY OF MONTEREY
CITY OF MONTEREY
MONTREUX RESIDENTIAL SUBDIVISION

(d) Indirect Impacts on Wildlife

The DEIR ignores altogether the Project's indirect impacts on wildlife. Indirect impacts from low density residential development can be as devastating to wildlife as the direct loss of habitat. (*See generally* Exhibit 5 [Hansen, et al., Land Use Change in Rural America: Effects Of Exurban Development On Biodiversity: Patterns, Mechanisms, And Research Needs]). For example, toxic compounds from the residential activities could adversely impact wildlife that rely on Kirker Creek. The use of common fertilizers and pesticides associated with routine yard maintenance and landscaping can generate concentrations of pollutants that degrade water quality and harm wildlife.

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It is also well established that noise—and even low ambient noise levels—from typical residential activities adversely impacts wildlife species, causing them to flee their habitats and even abandon nests. Wildlife can also be quite sensitive to glare from ambient night lighting. Also, cats, unless they are kept indoors, are skilled predators on wildlife. Cats can radically decrease the potential for bird species and small reptiles to survive in sensitive habitats adjacent to project sites. *See* “Domestic Cat Predation on Birds and Other Wildlife” attached as Exhibit 6. These indirect impacts would be significant and therefore must be analyzed in an EIR.

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In short, the DEIR's analysis of impacts to biological resources dramatically understates the Project's potential to significantly affect sensitive species and sensitive habitats. To comply with CEQA, the City must prepare a revised DEIR fully analyzing the Project's potential impacts to these resources and identifying effective mitigation measures. Given the substantial revisions that are necessary, the City must recirculate the revised DEIR. Guidelines 15088.5(a)(4).

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4. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Cultural and Historic Resources.

The Project is located on the site of a former historic ranch complex considered a significant historic resource under CEQA (*i.e.*, Thomas Ranch complex). *See* DEIR Appendix 1.0; IS at 41. According to a historic resources survey performed in 1995, the complex consisted of a house and a number of small barns in a style typical of the period from the late 1800's through the turn of the century. *Id.* The IS indicates that the historic buildings were demolished and the area leveled, but that the ranch complex was never inventoried as recommended in the 1995 study. IS at 42. It also indicates that historic and/or prehistoric archaeological deposits may be present on the site. *Id.*

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STUDY AREA
WILDERNESS

Nonetheless, while the DEIR acknowledges the likelihood of significant archaeological resources on the site, it fails to identify the extent of potential cultural resources, adequately analyze potential impacts to those resources, or adequately mitigate the project's potentially significant impacts to cultural resources. Instead, the DEIR relies on the IS analysis and incorporates the mitigation measures proposed in that document. DEIR at 2.0-19. These measures provide for monitoring during construction and data collection and recording should resources be discovered. Based on implementation of these measures, the DEIR concludes that resulting impacts would be less than significant.

However, the assertion that post-approval data collection will mitigate the project's impacts to known resources on the site to a less-than-significant level is not supported by substantial evidence, constitutes an inappropriate deferral of mitigation measures under *Sundstrom v. County of Mendocino*, 202 Cal.App.3d at 296, and is erroneous as a matter of law. In fact, "where a historic resource is to be demolished, documentation of the resources usually falls short of full mitigation."). See Discussion following Guidelines § 15126.4. Moreover, courts have explained that the mitigation of the effects of demolition of an historic resource (as defined by CEQA) through documentation of the resource and placement of commemorative markers is not adequate to reduce impacts to a level of insignificance. *League of Protection of Oakland's Architectural and Historic Resources v. City of Oakland* (1997) 52 Cal.App.4th 595.

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Moreover, under CEQA, the preferred method of reducing impacts to cultural resources is avoidance. See *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal.App.4th 48, 86-87. The only feasible way to avoid cultural resources with a development project like this is to conduct surveys before final project design is approved; identify all known historic properties that will be affected by the project; and consider redesigning the project to avoid them.

Here, given that the site includes known significant historical resources, and especially given the fact that known historical resources were destroyed without proper evaluation or documentation, the City should require a third party consultant to perform trenching tests now, as part of the CEQA process, to assess whether the Project would impact significant resources and what Project modifications could be incorporated to avoid the resources. Until such additional investigation and analysis of potential impacts to cultural resources is prepared, the DEIR cannot be certified under CEQA and the Project must not be approved.

Finally, the cultural resources evaluations prepared by Holman and Associates (1995, 1999, and 2000) were not included as appendices to the DEIR. Although it is customary to exclude location maps and specific language related to the

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location of resources to protect potential resources on site, the DEIR omitted the studies altogether. Without these studies, it is impossible for the public and decision makers to evaluate the impacts the proposed project would have on cultural resources. Accordingly, for this and the other reasons discussed above, the DEIR's analysis of impacts to cultural resources is inadequate under CEQA.

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5. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Public Services.

As the DEIR acknowledges, several schools within the Pittsburgh Unified School District are currently operating at or near capacity. DEIR at 5.6-3. The Project will generate up to 277 Kindergarten through Twelfth grade students. DEIR at 5.6-8. The DEIR discloses that the Project would generate the need for new school facilities to be constructed. The DEIR concludes that school impacts will be mitigated to a less-than-significant level, however, by payment of fees established by the school districts. DEIR at 5.6-9 (citing Gov't Code § 65996).

While it may be true that the payment of such fees is deemed mitigation under Government Code section 65996, this provision does not excuse the City from analyzing the impacts to the environment of sending 277 new students to schools that are already at or near capacity. Indeed, the DEIR's threshold of significance states that the Project could have a significant effect on the environment if it would: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios . . . for schools. DEIR at 5.6-7. With several schools already at capacity, the Project will necessarily require the construction of "new or physically altered" school facilities. Construction of these school facilities may have land use and planning impacts and, if sited on undeveloped open space lands, potential biological, agricultural, recreational, and other impacts as well. The DEIR must be revised to analyze these potential environmental impacts.

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Moreover, the DEIR failed to consider cumulative impacts of school construction. The DEIR lists five Major Projects (DEIR at 5.0-4), most of which are residential projects, in its cumulative impacts analysis. In addition, the City of Pittsburgh's Project Pipeline List includes at least a dozen residential projects. Considering that the Pittsburgh Unified School District is already at or near capacity, the DEIR must analyze how this project, along with the related projects, will cumulatively affect school services in the District.

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6. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Public Safety.

The Project site has an existing high-pressure petroleum pipeline within the area proposed as a buffer. DEIR at 3.0-9. The Project proposes to site residences within 1,000 feet of the pipeline, yet the DEIR provides no analysis of related safety impacts. *Id.* Although leaks, ruptures, and explosions may not be common for underground pipelines, the impacts from pipeline failures when they do occur can be catastrophic. *See* "Pipelines Explained: How Safe are America's 2.5 Million Miles of Pipelines?" attached as Exhibit 7. As explained in that article, pipelines are prone to failure as they age and corrode. Given the Project's proposal to locate housing in close proximity to the pipeline, the DEIR should have provided an analysis of the condition of the pipeline and the likelihood of failure or accidents.

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Instead, the DEIR includes a mitigation measure (carried over from the IS) that only requires the developer to disclose the location of the pipeline to prospective homebuyers. DEIR at 2.0-2.0. However, this measure does nothing to minimize risks to homeowners. Indeed, the DEIR fails to provide any evidence to support its conclusion that risks associated with potential rupture of the pipeline would be reduced to a less-than-significant level with implementation of the measure.

7. The DEIR's Analysis of Growth Inducing Impacts Is Incomplete and Flawed.

CEQA requires that an EIR include a "detailed statement" setting forth the growth-inducing impacts of a proposed project. CEQA § 21100(b)(5); *City of Antioch v. City Council of Pittsburg* (1986) 187 Cal. App. 3d 1325, 1337. The statement must "[d]iscuss the ways in which the proposed project could foster economic growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Guidelines §15126.2(d). It must also discuss how the project "may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively" or "remove obstacles to population growth." *Id.*

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Here, the DEIR's analysis of growth-inducing impacts is legally inadequate. As with other issues, the document relies on speculation instead of evidence to support its conclusions. The DEIR's conclusion that the Project will have no growth-inducing impacts is not supported by substantial evidence.

The DEIR relies on the promise that the required facility upgrades necessary to serve the Project would only serve development on the main Project site to

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— WILSON BERGER —

conclude that there is little chance that the Project will cause adjacent, undeveloped land to be developed, and thus that the Project will not induce significant growth. DEIR at 7.0-5. With a growing population in the Bay Area, extending infrastructure to an area currently outside the City Limit will remove one barrier that currently keeps pressure for development in the area in check.

The City's General Plan specifies a goal of efficient land use patterns which reduce environmental impacts and minimize the potential for residential and commercial sprawl. Approval and development of the Montreux Project would expand development and extend utility infrastructure beyond the City's existing service area, effectively removing an obstacle to future development approvals in the area. That new development has yet to be approved does not excuse the requirement to analyze a project's environmental or growth inducing impacts. Guidelines § 15126.2(d); *City of Davis v. Coleman* (9th Circuit 1975) 521 F.2d 661,675-76.

The DEIR fails to conduct such an analysis. As the *City of Davis* court directed "the purpose of an EIS/EIR is to evaluate the possibilities in light of current and contemplated plans and to produce an informed estimate of the environmental consequences." *Id.* at 676. Accordingly, the DEIR must be revised to identify the extent and location of new development facilitated by removing the obstacle of limited existing infrastructure and to analyze the environmental impacts of the growth.

If the City has contrary data demonstrating that the Project will not induce growth – and there is no indication in the DEIR that it does – it must reference it in the document. However, it may not lawfully rely on unsupported assumptions to summarily conclude that no induced growth will occur. CEQA § 21080(e)(2) ("Substantial evidence is not argument, speculation, unsubstantiated opinion or narrative").

8. The DEIR Fails to Provide an Adequate Analysis of the Project's Potentially Significant Cumulative Impacts.

CEQA requires lead agencies to disclose and analyze a project's "cumulative impacts," defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Guidelines § 15355. Cumulative impacts may result from a number of separate projects, and occur when "results from the incremental impact of the project [are] added to other closely related past, present, and reasonably foreseeable probable future projects," even if each project contributes only "individually minor" environmental effects. Guidelines §§ 15355(a)-(b). A lead agency must prepare an EIR if

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a project's possible impacts, though "individually limited," prove "cumulatively considerable." CEQA § 21083(b); Guidelines § 15064(i).

Extensive case authority highlights the importance of a thorough cumulative impacts analysis. In *San Bernardino Valley Audubon Society v. Metropolitan Water Dist. of Southern Cal.* (1999) 71 Cal.App.4th 382, 386, 399, for example, the court invalidated a negative declaration and required an EIR for the adoption of a habitat conservation plan and natural community conservation plan. The court specifically held that the negative declaration's "summary discussion of cumulative impacts is inadequate," and that "it is at least potentially possible that there will be incremental impacts. . . that will have a cumulative effect." See also *Kings County Farm Bureau*, 221 Cal.App.3d at 728-729 (EIR's treatment of cumulative impacts on water resources was inadequate where the document contained "no list of the projects considered, no information regarding their expected impacts on groundwater resources and no analysis of the cumulative impacts").

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In contravention of the above authorities, the DEIR provides no analysis of the Project's cumulative impacts on biological resources, but simply concludes that, because the applicant will pay permit fees under the Habitat Conservation Plan for the area, cumulative impacts are less than significant. DEIR at 5.3-37. The DEIR thus completely ignores the cumulative effects of recent development approvals and potential future approvals in the City. For example, as discussed earlier in this letter, the City's Project Pipeline List indicates that the City has approved, or is in the process of approving, at least a dozen residential development projects constructing thousands of residential units. See Exhibit 7. The DEIR lists only five projects considered in the cumulative analysis. DEIR at 5.0-4. Other projects that should have been considered in a cumulative analysis include projects that have been approved but not yet constructed (Alves Ranch (364 units); Bancroft Gardens II (28 units); the San Marco Development (1,588 units); and Vista del Mar (518 units). See generally Exhibit 8. These development projects, together with the present subdivision, would have a cumulatively significant impact on open space and natural resources in the Project area. Notwithstanding such evidence, the DEIR fails to provide any analysis of this potentially significant impact.

In another particularly glaring omission, the DEIR also neglects to analyze cumulative impacts on hydrological resources. Specifically, the DEIR contains no analysis of the Project's impacts together with the effects of other development projects proposed within the Project area that may contribute to changes in hydrology in Kirker Creek. Another major project, the James Donlon Boulevard Extension, which is currently under review by the City and would include massive grading and alteration of local drainage patterns and hydrology within the Kirker Creek watershed, is not considered in

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the DEIR's hydrology analysis. The effects on water quality, flooding, and hydromofication from these two major projects, and others, on Kirker Creek must be analyzed in a revised DEIR.

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9. The DEIR Fails to Adequately Analyze and Mitigate Alternatives to the Project.

The alternatives section, along with the mitigation section, is the core of an EIR. *Citizens of Goleta Valley*, 52 Cal.3d at 564. Every EIR must describe a range of alternatives to a proposed project, and to its location, that would feasibly attain the project's basic objectives while avoiding or substantially lessening the project's significant impacts. CEQA § 21100(b)(4); Guidelines § 15126(d). In preparing an EIR, the lead agency must ensure "that all reasonable alternatives to proposed projects are thoroughly assessed." *San Joaquin Raptor*, 27 Cal.App.4th at 717. An EIR's alternatives discussion must focus on alternatives that avoid or substantially lessen significant effects of the project. Guidelines § 15126.6(b); *Citizens of Goleta Valley*, 52 Cal.3d at 556 (EIR must consider alternatives that offer "substantial environmental advantages."). The range must be sufficient "to permit a reasonable choice of alternatives so far as environmental aspects are concerned." *San Bernardino Valley Audubon Soc'y v. County of San Bernardino* (1984) 155 Cal.App.3d 738, 750. The DEIR's discussion of alternatives fails to meet these standards.

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Sound planning principles dictate that the City carefully consider alternatives in the present case because the proposed Project would require annexation of the Project site into the City limits and into service areas for water and sanitation districts and would result in admittedly significant impacts to air quality, visual resources, and public services. DEIR at 2.0-6, 2.0-8, 2.0-10, and 2.0-16. This DEIR's analysis of alternatives is insufficient under CEQA because the document fails to consider feasible alternatives that would reduce Project impacts. Guidelines § 15126.6(c); *Citizens of Goleta Valley*, 52 Cal.3d at 566.

As a preliminary matter, the DEIR's failure to disclose the extent and severity of the Project's broad-ranging impacts necessarily distorts the document's analysis of Project alternatives. As a result, the alternatives are evaluated against an inaccurate representation of the Project's impacts. Proper identification and analysis of alternatives is impossible until Project impacts are fully disclosed. Moreover, as discussed above, the document's analysis is incomplete and/or inaccurate so that it is simply not possible to conduct a comparative evaluation of the Project's and the alternatives' impacts.

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The DEIR also fails to describe an alternative location for the Project, stating that because 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, the ability of the developer to find and purchase an alternative site to develop the project is considered speculative. DEIR at 6.0-3. The DEIR goes on to state that "... 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." *Id.*

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This approach fails to meet CEQA's requirements for the analysis of alternatives. It provides no information on the alternative sites that might be available or event the criteria for such a site search. Without this information and, if possible, a further identification of alternative sites, the DEIR is inadequate and cannot be certified under CEQA. Moreover, even if it is true that no alternative sites exist that could accommodate all of the Project in one location, a feasible alternative could break the Project up into two or more locations. Such an alternative could involve in-fill sites and would likely disperse some of the significant project impacts associated with the proposed Project. An alternative that examines dividing the Project among two or more locations should be included in a revised DEIR.

Contrary to CEQA, the DEIR also fails to explain why the proposed Project was selected over alternatives that are identified as environmentally superior. CEQA requires that the EIR explain why environmentally superior alternatives were rejected. Guidelines § 15126.6(d). As the California Supreme Court held in *Laurel Heights I*, 47 Cal.3d at 405, "[i]f the [lead agency] considered various alternatives and found them to be infeasible . . . those alternatives and the reasons they were rejected . . . must be discussed in the EIR with sufficient detail to enable meaningful participation and criticism by the public." The DEIR fails to include this analysis.

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III. CONCLUSION

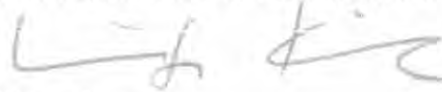
To cure the many defects identified in this letter, the DEIR must be revised and recirculated. These steps are necessary to provide the public and decision makers with an opportunity to gauge the true impacts of this significant, proposed development. Moreover, the Project itself must be revised to comply with the City's general plan. Only then could the City make the findings necessary to approve this subdivision.

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STUART ADAMS
— WILBERGER

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP



Winter King



Carmen J. Borg, AICP
Urban Planner

List of Exhibits

- Exhibit 1: Bruce Abelli-Amen, Comments on Draft Environmental Impact Report and Initial Study, Baseline Environmental Consulting, Jan. 8, 2014.
- Exhibit 2: Susan Orloff, Movement Patterns and Migration Distances in an Upland Population of California Tiger Salamander (*Ambystoma Californiense*), Ibis Environmental Inc., Apr. 1, 2011.
- Exhibit 3: Malcolm Sproul Biography, Retrieved Jan. 8, 2014.
- Exhibit 4: Potential Pond Site Image and Location, Retrieved on Jan. 8, 2014 from <http://earth.google.com>
- Exhibit 5: Andrew J. Hansen, et al, Effects of Exurban Development on Biodiversity: Patterns, Mechanisms, and Research Needs, Ecological Society of America, Dec. 1, 2005.
- Exhibit 6: Domestic Cat Predation on Birds and Other Wildlife, Cats Indoors and American Bird Conservancy.
- Exhibit 7: Lena Groeger, Pipelines Explained: How Safe are America's 2.5 Million Miles of Pipelines?, ProPublica, Nov. 15, 2012.
- Exhibit 8: City of Pittsburg, Project Pipeline List- Updated September 2013, Retrieved Jan. 8, 2014.

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SHUTE, MIHALY &
WEINBERGER LLP

EXHIBIT 1



8 January 2014
13316-00

Ms. Carmen Borg
Shute, Mihaly, and Weinberger
396 Hayes Street
San Francisco, CA 94102

Subject: Montreux Residential Subdivision Draft Environmental Impact Report

Dear Ms. Borg:

At your request, BASELINE Environmental Consulting ("BASELINE") has reviewed the CEQA analysis of the hydrology and water quality issues included in the November 2013 Montreux Residential Subdivision Draft Environmental Impact Report ("DEIR") and appended March 2013 Montreux Residential Subdivision Project Initial Study ("Initial Study"). Specifically, we reviewed the Hydrology and Water Quality section of the Initial Study only, because the DEIR does not include any analysis of hydrology or water quality (this topic was scoped out of the DEIR). In order to provide a meaningful context, we also reviewed the Project Descriptions included in the Initial Study and DEIR. Our comments are presented below.

COMMENTS ON DEIR AND INITIAL STUDY

Project Description

The Project Description does not include adequate details of the design and function of the stormwater drainage system to allow the reader of the DEIR to understand this important project element. The description of the stormwater drainage features is limited to the location of the detention basins and a mention that the stormwater system would use inlets and piping. As stated in the Project Description (DEIR page 3.0-9), the project would include grading to construct stormwater detention basins:

Three stormwater detention basins are included in the preliminary grading plan, with two large basins located on the east side of the main project site (Parcels C and D) along Kirker Pass Road, and a third small basin with a 12 foot access road located on the off-site parcel to the northwest of the main project site. Construction of these basins would require grading to re-contour the eastern end of the southern ridgeline on the main project site, and the north-facing slope above the proposed off-site basin located on the off-site parcel. While the entire off-site parcel totals approximately 72 acres, only 16.8 acres would be graded in order to accommodate the new off-site basin (which has an actual footprint of 0.83 acre).

Based on information included on Figure 3.0-6 (DEIR page 3.0-10) the parcels containing the large detention basins would be 5.91 and 3.75 acres. The off-site detention basin would have a

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bottom area of 0.83 acres and approximately 16.8 acres of grading would be required to construct the off-site basin. In total, more than 26 acres of land would be graded to construct these three basins.

The project would convey runoff to the detention basins using drainage inlets and piping (DEIR page 3.0-9):

New storm drainage infrastructure, including drainage inlets and piping, would be installed in the proposed roadways on the main project site to connect developed areas to the stormwater detention basins.

The Project Description fails completely to describe where drainage features (inlets, piping, culverts, etc.) would be located and how these systems, including the detention basins, would be operated. The DEIR does not appear to include, nor does it reference, any hydrologic or hydraulic engineering that supports the drainage plan. The reader of the DEIR has no idea how the detention basins were sized or how they would be operated. The DEIR Project Description should be revised to include this information and appropriate hydrologic/hydraulic studies should be appended to the DEIR.

Hydrology and Water Quality Analysis

Hydrologic Setting. The DEIR/Initial Study provides no information on the hydrology and water quality setting. Without describing the hydrology of the on-site drainage and that of Kirker Creek downstream, the reader of the DEIR has no context within which to evaluate potential project impacts. The DEIR should be revised to include a Hydrology and Water Quality section that includes a detailed hydrologic setting.

Stormwater Quality and NPDES Compliance. The Hydrology and Water Quality section of the Initial Study indicates that (Initial Study page 59):

Postconstruction, the project would treat stormwater runoff from the new impervious surfaces created onsite, as required by provision C.3 of the Contra Costa County municipal stormwater NPDES permit by directing all site runoff into three detention basins 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. The detention and slow release would allow pollutants, especially sediment to settle in the detention basins and not be discharged into the receiving waters. Therefore the site runoff would not exceed any water quality standards. This impact is considered less than significant.

The paragraph above represents the sum total of the Initial Study/DEIR analysis and discussion of post-construction stormwater management issues. This paragraph not only fails to convey the scope of post-construction stormwater management issues and potential impacts related to the proposed project, it misrepresents NPDES requirements.

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The Initial Study states that the project would treat stormwater runoff “as required by provision C.3 of the Contra Costa County municipal stormwater NPDES permit by directing all site runoff into three detention basins.” The actual NPDES permit that the project would be required to comply with is the Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, NPDES Permit No. CA5612008, adopted October 14, 2009 and revised November 28, 2011 (“MRP”). Not only does the Initial Study refer to the wrong NPDES permit, it wrongly interprets what C.3 provisions would be required. The C.3 portion of the MRP, which refers to post-construction stormwater management for new development and redevelopment projects, requires Low Impact Development (“LID”).¹

The goal of LID is to reduce runoff and mimic a site’s predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source. Practices used to adhere to these LID principles include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes. LID also limits disturbance of natural water bodies and drainage systems; minimizes compaction of highly permeable soils; protects slopes and channels; and minimizes impacts from stormwater and urban runoff on the biological integrity of natural drainage systems and water bodies. The project would include the following (Initial Study page 60):

The project includes alteration of site drainage and the alteration of the unnamed intermittent and ephemeral stream channel that runs through the project site.

Under the project, the existing “unnamed intermittent and ephemeral stream channel” would be eliminated and placed in an underground pipe (contrary to LID principles and MRP requirements).

The basic design of the project, which includes mass grading, destruction of natural drainages, extensive new impervious surfaces, no small-scale distributed stormwater treatment features, conventional gutter and pipe collections systems, and centralized detentions basins is completely contrary to LID principles and therefore would be in violation of the MRP. The Initial Study/DEIR fails completely to identify and mitigate the flaws in project design related to post-construction stormwater management.

Incorporation of LID designs and features into the project would require extensive modifications to the grading plan and overall site plan. These design changes to the project

¹ A stormwater management strategy aimed at maintaining or restoring the natural hydrologic functions of a site. LID design detains, treats, and infiltrates runoff by minimizing impervious area, using pervious pavements and green roofs, dispersing runoff to landscaped areas, and routing runoff to rain gardens, cisterns, swales, and other small-scale facilities distributed throughout a site (source: Contra Costa County C.3 Guidebook).

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should be made by the applicant and the revised project should be subject to CEQA review (which should include an EIR-level analysis of Hydrology and Water Quality).

Centralized detention basins are not LID features and should be eliminated from the stormwater quality management plan for the project. However, it is possible that some sort of detention may be required to mitigate the potential for downstream flooding of Kirker Creek.

Downstream Flooding and Erosion. The following paragraph is the only Initial Study/DEIR discussion provided related to potential downstream flooding (Initial Study page 60):

A majority of stormwater runoff on the site would be channeled to two detentions basins located along Kirker Pass Road, which would delay the flow of water downstream in the event of a storm, thus preventing erosion of existing stream banks and flooding downstream along Kirker Creek.

The Initial Study/DEIR does not provide any discussion of the hydrology of Kirker Creek and its susceptibility to flooding, and therefore it is impossible for the reader to know if downstream flooding is an important issue. Based on review of available mapping and aerial photographs, Kirker Creek appears to have reaches that are highly incised with oversteepened creek banks. This indicates that portions of the creek may be unstable. There are areas in the City of Pittsburg (e.g., Brush Creek Drive, Canyon Way), where homes are located within 20 to 30 feet of the top of the creek bank. Any change to the hydrology of flows in Kirker Creek could cause increased erosion and creek bank failure, which may jeopardize existing structures. This is a potentially significant impact which must be fully analyzed under CEQA.

The Initial Study fails to provide any explanation as to how the detention basins would be operated so that "erosion of existing stream banks and flooding downstream along Kirker Creek" would be prevented. The concept of "hydromodification"² is not even mentioned in the Initial Study/DEIR. Simply delaying flows in detention basins is not an effective approach to preventing downstream hydromodification of Kirker Creek. By introducing widespread new impervious surfaces and conveying the increased flows to centralized basins (which tend to become sealed and do not infiltrate much water), the project would increase total discharge volume to Kirker Creek (i.e., with an increased volume of runoff, the detention basins may be able to limit increases in peak discharges, but the duration of flows would almost certainly increase). Even moderate flows to the creek, if sustained for longer periods of time than would occur without the project, could cause significant downstream erosion. The Initial Study/DEIR fails completely to analyze and mitigate this potential impact.

In summary, the project proposes mass grading, elimination of existing natural drainage channels, and drastic changes to site hydrology and flow discharge characteristics. The Initial

² Hydromodification is generally defined as changes in channel form associated with alterations in flow and sediment due to past or proposed future land use alteration.

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Study/DEIR includes no description of the hydrologic setting, provides no substantive analysis of the hydrology or water quality effects of the project, and provides no substantial evidence for the findings of less than significant for all hydrology and water quality impacts. For a project of this magnitude, located just upstream from a potentially unstable creek system, a full EIR-level analysis of hydrology and water quality issues must be completed.

Cumulative Impacts. The Initial Study/DEIR completely fails to evaluate (or even mention) cumulative impacts related to hydrology and water quality. For example, another major project, the James Donlon Boulevard Extension, which would include massive grading and alteration of local drainage patterns and hydrology within the Kirker Creek watershed is not mentioned in the DEIR analysis. The effects and water quality, flooding, and hydromofication of these two major projects on Kirker Creek should be analyzed in the DEIR.

Should you have any questions or comments, please contact us at your convenience.

Sincerely,



Bruce Abelli-Amen
Senior Hydrogeologist
Cert. Hydrogeologist No. 96

BAA:km

556803.1

EXHIBIT 2

MOVEMENT PATTERNS AND MIGRATION DISTANCES IN AN UPLAND POPULATION OF CALIFORNIA TIGER SALAMANDER (*AMBYSTOMA CALIFORNIENSE*)

SUSAN G. ORLOFF

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email: Sue@ibisenvironmental.com*

Abstract.—During five winter breeding seasons (October–April, 2000–2005), I investigated the migratory movements of an upland population of California Tiger Salamander (*Ambystoma californiense*) in Contra Costa County, California. I used a drift fence and pitfall trap array to partially enclose a proposed 27 ha housing project and capture migrating adult and juvenile salamanders. The study objective was to assess movement patterns and migration distances for upland life stages during an effort to translocate all captured salamanders and reduce their mortality from future development at the study site. I recorded substantial numbers of adult and juvenile *A. californiense* (90–417 annually) farther from breeding ponds than previously reported. The majority of salamanders were captured at least 800 m from the nearest breeding pond while a smaller number of salamanders were captured as far as 2.2 km from the nearest breeding pond. The study indicates that recent recommendations to protect 630 m of upland habitat adjacent to breeding ponds may leave large portions of upland life stages at risk. Adults appeared to exhibit fidelity to upland habitat, returning close to the initial point of capture. In situations where translocation is used to remove salamanders from upland habitats subject to development, results suggest it may take several years to successfully relocate a high proportion of individuals in the population.

Key Words.—*Ambystoma californiense*; buffer zones; California Tiger Salamander; conservation; pitfall trap; migration distance; terrestrial movements; upland ecology.

INTRODUCTION

Conserving terrestrial habitat surrounding wetlands is essential for maintaining populations of many pond-breeding amphibians (Semlitsch and Jensen 2001; Semlitsch 2002; Semlitsch and Bodie 2003). Upland habitat is critical for feeding, refuge, and migratory movements of juvenile and adult life stages (Semlitsch 1998; Semlitsch and Jensen 2001). Recent studies emphasize that amphibian population viability can be extremely sensitive to survivorship of upland life stages (Biek et al. 2002; Trenham and Shaffer 2005). Further, the importance of specific areas of upland habitat and preferences for a particular migratory route have been reported for several species of ambystomatid salamanders (Shoop 1968; Stenhouse 1985; Trenham and Cook 2008).

Despite research documenting the biological importance of terrestrial habitat for amphibians, the extent and location of appropriate areas required to sustain viable populations are poorly understood. Several recent studies estimated the area of terrestrial habitat needed to adequately protect amphibian populations, based on migration distances from multiple studies and species. Semlitsch (1998) estimated that a 164 m “buffer zone” would encompass 95% of most ambystomatid salamander populations (based on six species). Semlitsch and Bodie (2003) estimated that “core terrestrial habitat” for 13 species of salamanders

ranged from 117 to 218 m from the wetland. Rittenhouse and Semlitsch (2007) found that 95% of the adult breeding population for six species of salamanders occurs within 245 m of the wetland boundaries. However, because these studies were primarily of eastern species that typically inhabit forest or woodlands, the resulting recommendations may not be well suited to western *Ambystoma* species associated with grasslands. Although much remains to be learned regarding the appropriate size of buffer zones, it is clear that identifying and protecting upland habitat should be a management priority, especially for rare and endangered species (Marsh and Trenham 2001; Semlitsch 2007; Harper et al. 2008).

The California Tiger Salamander, *Ambystoma californiense*, is listed as a threatened species by the U.S. Fish and Wildlife Service (2004) and the state of California (California Fish and Game Commission 2010). The range of this species is restricted to grasslands and foothills of central California (Storer 1925). Adults spend the majority of their life cycle in small-mammal burrows in upland habitat (Loredo et al. 1996). With the onset of winter rains, adults emerge from underground terrestrial retreats and migrate to ponds for reproduction (Loredo and Van Vuren 1996). The importance of maintaining upland habitat adjacent to breeding ponds for *A. californiense* has only recently been emphasized (Trenham 2001; Trenham and Shaffer 2005). A more detailed under-

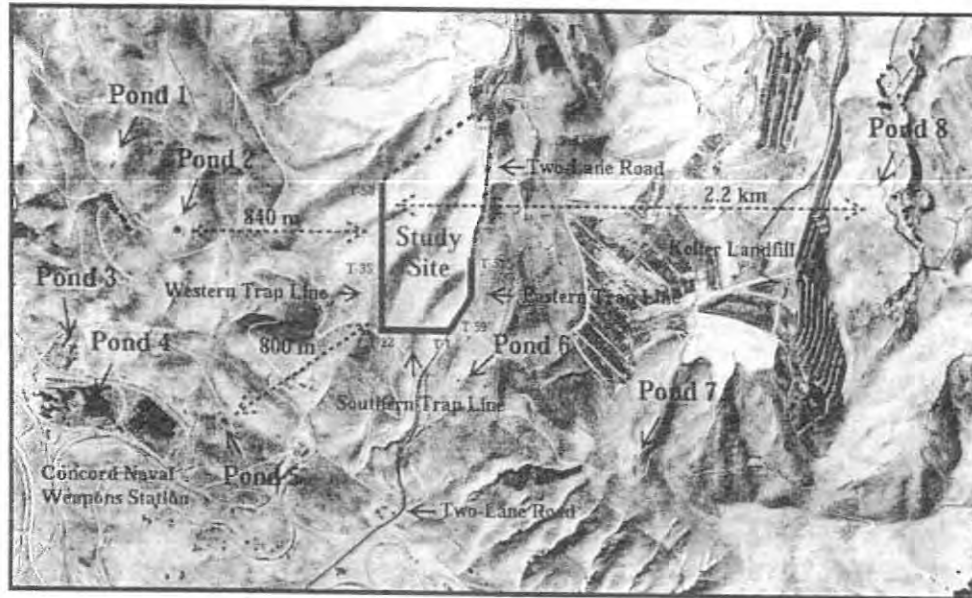


FIGURE 1. Aerial photograph showing the closest breeding ponds to the study site in Contra Costa County, California, USA (from <http://www.terraserver.com>; [Accessed 1 August 2002]). Bold red solid lines indicate trap line segments (western, southern, and eastern) along boundaries of the study site. T represents trap number, and dashed lines with arrows at both ends indicate distances from the western trap line to nearest breeding ponds. Ponds 1–5 are located on Concord Naval Weapons Station (CNWS) and Ponds 6–8 are located on a landfill adjacent to the study site.

standing of migratory movements and activity patterns in upland habitats is fundamental to managing this species (Trenham and Shaffer 2005).

This paper presents findings of a five-year study investigating the migratory movements of upland life stages of a population of *A. californiense* at a proposed housing development. The primary objectives of the study were (1) to characterize movement patterns and timing of movements during the breeding season, (2) to measure distances from capture locations to closest known breeding ponds, and (3) to test for relationships between the timing of migratory movements and environmental parameters. An additional objective of the study was to reduce direct mortality from future development at the study site by translocating all captured salamanders outside the study site and restricting recentry. Conservation strategies involving translocations are a common wildlife management tool (Griffith et al. 1989; Fischer and Lindenmayer 2000; Dodd 2005). Although the effectiveness of translocation strategies has been subject to controversy (e.g., Dodd and Seigel 1991; Seigel and Dodd 2002; Trenham and Marsh 2002), a recent review has shown improved success rates for some species of amphibians when a critical minimum number of individuals are translocated (Germano and

Bishop 2008). Relatively few translocation studies have been conducted on amphibians (Germano and Bishop 2008) or addressed human and wildlife conflicts (e.g., Cooke and Oldham 1995; Rathbun and Schneider 2001), and none have assessed the efficacy of translocating adult amphibians within upland habitat.

MATERIALS AND METHODS

Study site.—The proposed housing development is located on the northern edge of the San Joaquin Valley in northeastern Contra Costa County, California. The 27-ha area consists of grazed annual grasslands on rolling to steep hills (elevation range = 213–274 m; Fig. 1). Two primary drainages traverse the site but amphibian breeding ponds are not present. Lands surrounding the site are primarily grazed grasslands. The Concord Naval Weapons Station (CNWS) is located to the west and south of the site and a privately owned, active landfill is located to the east and southeast.

Eight breeding ponds are known to occur near the study site (Fig. 1). To the west and southwest, the closest ponds are on CNWS (Ponds 1–5) and are the primary breeding ponds on CNWS lands (Stitt and Downard 2000; Shawn Smallwood, pers. comm.). To

the east and southeast, the closest ponds are located on the adjacent landfill (Ponds 6–8). To the north, no known breeding ponds occur within 2.5 km. I examined aerial photographs from several years (1999, 2000, 2004, and 2005) and USGS topographic maps, and found no other potential breeding ponds closer to the study site. Before the trapping study began, I conducted four night surveys during winter rain events to determine if *A. californiense* was present at the study site. During these initial surveys, I observed four adults at burrow entrances of California Ground Squirrels (*Spermophilus beecheyi*) and thus commenced an intensive translocation effort.

Trapping techniques.—My field team and I (hereafter we) installed a drift fence and pitfall trap array along a partial perimeter (1.3 km) of the study site. The drift fence bordered the boundaries most likely to be used as movement corridors, and included the western, southern, and a portion of the eastern border of the study site (Fig. 1). We installed 118 pitfall traps (59 pairs of 7.5 L plastic buckets) located every 15 to 30 m along the inside and outside of the drift fence. We used a 0.9 m tall commercial quality silt fence buried 0.3 m underground, stretched taut, and secured by both wooden and steel fence posts. We placed elevated covers over the traps to provide shading and minimize predation, and placed a damp non-cellulose sponge in each trap to maintain moisture for captured salamanders. We replaced the drift fence and pitfall traps (i.e., trap line) each year of the study and repaired the fence line as needed to maintain its integrity as a barrier to movement.

Our surveys encompassed five winter breeding seasons, from October 2000 to April 2005 (hereafter, years 2000 to 2004). In 2001 and 2002, we increased the length of the trap line by installing nine pairs of pitfall traps along the eastern border of the study site. While the trap line encompassed over half the total perimeter of the proposed development, the entire area was not completely enclosed due to the large area of the site. We opened all traps at dusk on nights when the chance of rain was predicted to be 40% or greater and checked at dawn the following morning. Because amphibians are often active on the night after a heavy rain (Gibbons and Bennett 1974), we left the traps open on nights after a rain event that exceeded 0.6 cm, even when no rain was predicted for that night. At all other times the traps were closed. We immediately translocated individuals captured inside the trap line to small mammal burrows 15 to 100 m outside the development. We kept individuals captured outside the trap line outside and translocated them in the same manner.

For each capture, we recorded date, trap number, trap line side (inside or outside), sex (adults only), reproductive condition (reproductive or non-reproductive), snout-vent length (SVL), total length, and age class (adult or juvenile). We identified individuals

as adults if they had at least one of the following characteristics: keeled tail, swollen vent (reproductive males), gravid condition (reproductive females), or large body length (≥ 75 mm SVL; Trenham et al. 2000). We identified juveniles based on small body length (usually < 75 mm SVL; Lored and Van Vuren 1996) and the absence of adult characteristics. Males were distinguished from females by the presence of a keeled tail, swollen vent, or proportionally longer tail (Petranka 1998; Searcy and Shaffer 2008). We recorded adult-sized salamanders without other distinguishing characteristics as adults; these salamanders may have been subadults (≥ 1 year of age but not sexually mature) or salamanders returning from the ponds post breeding (i.e., non-reproductive). Because juvenile body lengths vary considerably (46–114 mm; Lored and Van Vuren 1996) and can overlap adult sizes, we may have mistakenly classified some larger juveniles as adults in non-reproductive condition. In addition, we acquired two photographs of the dorsal surfaces of each captured salamander for individual identification.

Environmental variables.—In 2000 and 2001, I measured precipitation using a manual rain gauge located on site; the gauge was read and emptied when traps were opened at dusk and checked again at dawn the next morning. For the remainder of the study years, I used an automatic rain gauge (Hobo event logger, Onset Inc., Pocasset, MA., USA) to record hourly rain events (2.5 mm intervals). Air temperature was manually recorded on each morning traps were checked. I used additional data on hourly and yearly rainfall near the study site from California Department of Water Resources, California Data Exchange Center (available from <http://www.cddec.water.ca.gov> [last accessed 21 September 2006]).

Analyses.—I pooled daily capture data by week, year, sex, age class, and location (inside/outside trap line and trap line segment) as measures of salamander activity. I used the location of captures to infer likely movement patterns (i.e., attempting to leave or enter the study site, and directionality). To evaluate movement patterns within a breeding season, I divided capture data into early season (presumably migrating to breed) and late season (presumably returning from breeding) based on the temporal distribution of captures for all five study years combined.

To standardize for the variability in trapping effort (i.e., different number of traps per line segment and nights of trapping each year), I calculated capture rates (number of captures per 100 trap nights) for analyses. Distance calculations were measured as presumed straight line travel. Within each study year, I compared dorsal patterns in photographs to determine the number of intra-annual recaptures. Individual identification

Herpetological Conservation and Biology

using photography has been employed successfully with amphibians that have unique patterns of coloration; unlike invasive marking techniques, this causes no harm to the animal (e.g., Donnelly et al. 1994; Doody 1995; Bailey 2004).

I used parametric statistics when data were normally distributed and non-parametric tests when data were not. To determine if recaptured individuals returned to a similar point from which they were initially trapped, the observed mean number of traps between initial and returning trap locations was compared with the expected mean number of traps under a uniformly random scenario (Shoop and Doty 1972). For this analysis, I pooled data from all five study years to obtain an adequate sample size and used only those individuals that were initially trapped early in the breeding season on the inside of the western trap line and then recaptured later in the season outside that same trap line segment (i.e., presumably returning to the study site after breeding). I used the western trap line data because it had the majority of returns and traps along this segment were evenly spaced providing the most accurate distance measurements between initial and returning trap locations.

I tested for annual and seasonal variation in capture numbers among all five study years. I used chi-square tests to determine if annual sex ratios differed significantly from an expected 1:1 ratio. I evaluated the association between seasonal rainfall (both early and late season) and the proportion of males and females captured both inside and outside the trap line using Pearson's correlation coefficient. I used the sign test to compare annual adult capture rates early in the season on the inside of the western trap line and capture rates later in the season outside that same trap line segment, and to compare annual rainfall between early and late seasons. I used Pearson's correlation coefficient to assess whether there was a negative association between translocation efforts and annual capture rates over time based on the proportions of inside versus outside captures, and to test for a relationship between annual on-site rainfall and annual capture rates.

I also analyzed within-year associations between environmental parameters and the number of *A. californiense* captured. To assess the influence of precipitation and temperature prior to capture, I used Spearman's rank correlation. This analysis used rainfall amounts 12 h prior to opening traps (i.e., day prior to capture), 12 h prior to checking traps (i.e., night of capture), and within 24 h prior to checking traps (total of day and night). In addition, I used Wilcoxon two-sample rank sum test to assess if rain at dusk on the night of capture or the night prior to opening the traps was associated with the number of captures. Precise measurements of rain using the automatic rain recorder (which allowed for analysis of rain amounts in intervals less than a 24-h period) were available only in 2002, 2003 and 2004. Of these three

TABLE 1. Adult and juvenile *Ambystoma californiense* captured inside and outside the trap line during five winter breeding seasons at the study site in Contra Costa County, California. Totals include recaptured individuals. Unique captures exclude recaptured individuals and are shown in parentheses.

Year	Adult Total No. (Unique No.)	Juvenile Total No. (Unique No.)	Adult & Juvenile Total No. (Unique No.)
2000-2001			
Inside trap line	59 (58)	3 (3)	62 (61)
Outside trap line	76 (37)	62 (47)	138 (84)
Totals	135 (95)	65 (50)	200 (145)
2001-2002			
Inside trap line	184 (182)	4 (3)	188 (185)
Outside trap line	215 (158)	14 (13)	229 (171)
Totals	399 (340)	18 (16)	417 (356)
2002-2003			
Inside trap line	63 (61)	3 (3)	66 (64)
Outside trap line	120 (96)	34 (33)	154 (129)
Totals	183 (157)	37 (36)	220 (193)
2003-2004			
Inside trap line	37 (36)	0 (0)	37 (36)
Outside trap line	52 (37)	1 (1)	53 (38)
Totals	89 (73)	1 (1)	90 (74)
2004-2005			
Inside trap line	23 (22)	0 (0)	23 (22)
Outside trap line	72 (61)	86 (81)	158 (142)
Totals	95 (83)	86 (81)	181 (164)

years, I chose 2002 for analysis because it was least affected by translocation efforts and barrier fencing.

I excluded recaptures from the analysis of some data sets (i.e., capture distribution, movement patterns, sex ratios, and annual reductions). However, except for sex ratios, these analyses did include those individuals first captured during the early season inside the trap line and then later recaptured outside the same trap line during the late season. For annual comparisons of capture numbers, I deleted data on additional traps installed in 2001 and 2002 from the analyses. For all statistical tests, results were considered significant at $\alpha = 0.05$.

RESULTS

Capture numbers and movement patterns.—The annual number of *A. californiense* captured varied from 90 to 417 salamanders over the five year study period (Table 1). Recaptured individuals represented between 9–28% of annual totals, with 96% of these individuals captured on the outside of the trap line. Eight recaptured individuals were captured on or translocated to the outside of the trap line and then later captured on the inside, but these eight represented less than 1% of the total captures. Adult recaptures returning to the study site (presumably after breeding) were found

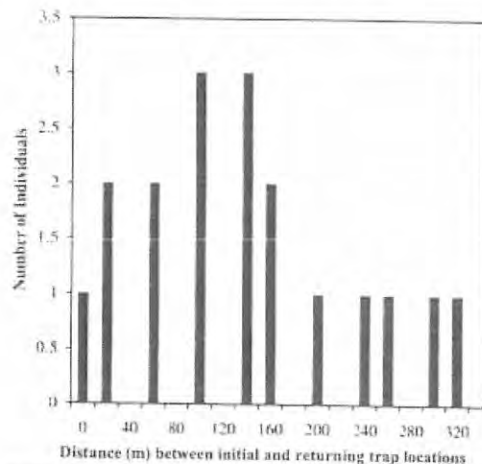


FIGURE 2. Frequency distribution of the distance between initial and returning trap locations for individual *Ambystoma californiense* for all five study years combined (2000–2005). Results include only those salamanders first trapped early during the breeding season inside the trap line and then recaptured outside the same trap line later in the season. Early season = late October to December 31; Late season = January 1 to end of March. Zero on the x-axis represents individuals that returned to the same trap location where they were initially captured.

significantly closer to where they were initially captured inside the trap line than would be expected by random ($Z = -2.92$, $P = 0.003$). Forty-four percent of adult recapture locations were within five traps (≤ 100 m) of the initial inside trap location (Fig. 2). Several individuals were recaptured more than once outside the western trap line, presumably attempting to reenter the site. One male returned to the site five times.

Capture rates from all five study years combined indicate that males and females migrated to the breeding ponds from late October to the end of December (early season) and returned to their upland habitat from the beginning of January to the end of March (late season) (Fig. 3). Annual sex ratios differed significantly from 1:1 in 2002, with females outnumbering males by 2:1 ($\chi^2 = 20.46$, $df = 1$, $P < 0.001$). By contrast males outnumbered females by 1.5:1 in 2000 ($\chi^2 = 3.80$, $df = 1$, $P = 0.051$). Sex ratios were near 1:1 in the other three study years (2001: $\chi^2 = 0.02$; 2003: $\chi^2 = 0.00$; and 2004: $\chi^2 = 0.11$; all $df = 1$, all $P > 0.70$). Among all study years, the proportion of each sex in the population captured early in the season on the inside of the trap line (Table 2) was associated with early season rainfall (negatively associated for males: $r = -0.808$; positively associated for females: $r = 0.808$; $P = 0.049$ for both). However, there was no significant association between the proportion of each sex captured early in the season outside the trap line and early rainfall (males: $r = -0.340$;

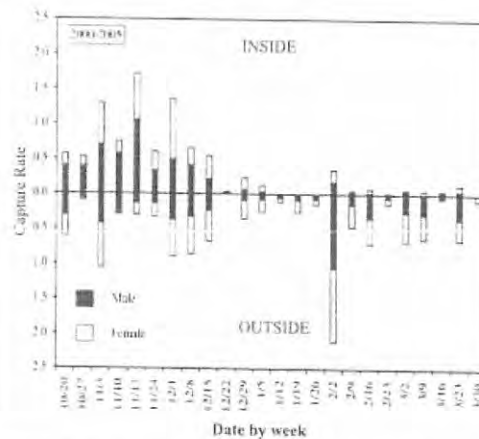


FIGURE 3. Weekly capture rates (no. per 100 trap nights) of male and female *Ambystoma californiense* inside and outside the trap line for all five study years combined (2000–2005). Early season = late October to December 31; Late season = January 1 to end of March. Dates on x-axis represent the beginning of each week. Recaptured individuals were excluded except for salamanders first captured during the early season inside the trap line and then recaptured outside the same trap line later in the season.

females: $r = 0.340$; $P = 0.288$ for both) or captured late in the season outside the trap line and late rainfall (males: $r = -0.494$; females: $r = 0.494$; $P = 0.198$ for both).

Within each survey year, the capture rates of adults and juveniles were generally highest along the western trap line (Fig. 4). Analysis of early season capture data, when most salamanders presumably migrated to the ponds, indicated highest adult capture rates on the inside of the western trap line (Table 3). By contrast, analysis of late season data, presumably when most salamanders returned from the ponds, indicated highest adult capture rates outside the western trap line (Table 3). Capture rates for juveniles were highest outside the western trap line primarily in the early season (Table 4). Among all study years, more adults were captured early in the season inside the western trap line than were captured later in the season outside that same trap line segment (sign test, $P = 0.031$). Early and late rainfall was not significantly different among years (sign test, $P = 0.50$).

Migration distances.—The shortest distances from inside the western trap line, where the majority of adults were captured in the early season, to the closest breeding ponds to the west were 800 to 840 m (Ponds 5 and 2 on CNWS, respectively; Fig. 1). A smaller number of adults captured early in the season on the outside of the western trap line may be migrating east (Table 3). The closest breeding pond from the western trap line to the east is Pond 8 at 2.2 km. A few adults captured early in

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TABLE 2. Proportions of male and female *Ambystoma californiense* captured during the early and late winter breeding seasons on the inside and outside of the trap line. Parentheses indicate the number of each sex captured and N = the total number of adults captured. Early season = late October to December 31; Late season = January 1 to end of March. Results exclude all recaptured individuals.

Season/ Trap Line Side	2000– 2001	2001– 2002	2002– 2003	2003– 2004	2004– 2005
Early/Inside					
Male	0.76 (41)	0.50 (86)	0.39 (23)	0.68 (23)	0.52 (11)
Female	0.24 (13)	0.50 (87)	0.61 (36)	0.32 (11)	0.48 (10)
N =	54	173	59	34	21
Early/Outside					
Male	0.42 (8)	0.55 (46)	0.28 (23)	0.43 (13)	0.41 (15)
Female	0.58 (11)	0.45 (38)	0.72 (58)	0.57 (17)	0.59 (22)
N =	19	84	81	30	37
Late/Outside					
Male	0.33 (6)	0.45 (52)	0.33 (11)	0.36 (5)	0.43 (12)
Female	0.66 (12)	0.55 (64)	0.66 (22)	0.64 (9)	0.57 (16)
N =	18	116	33	14	28

the season along the inside of the eastern trap line may have been traveling east as well. The closest known breeding pond is only 225 m from the southeast corner the study site (Pond 6). I captured relatively few adults along the inside of either the southern or eastern segments of the trap line in the early season.

Migratory movements and environmental parameters.—Based on trapping data adults began moving with the first night of substantial rain of the season (≥ 1 cm). Smaller amounts of nightly rain (≤ 0.5 cm) at the beginning of the breeding season did not appear to initiate movement. In all survey years, the earliest dates adults were captured ranged from 20 October (2004) to 11 November (2001). Most adult captures occurred between early November and mid-December with fewer more temporally dispersed captures later in the season. Juveniles began arriving at the boundaries of the study site each year within six nights of measurable rain. The earliest dates juveniles were captured ranged from 29 October (2000) to 22 November (2001).

Both the amount of rain within 12 h (night of capture) and 24 h prior to checking traps were positively correlated with number of *A. californiense* captured ($r = 0.626$ for night rain; $r = 0.603$ for 24 h; $P < 0.001$ for both). Rain 12 h prior to opening traps was also correlated with captures ($r = 0.375$, $P = 0.012$). In addition, rain at dusk (Wilcoxon $Z = 2.66$, $P < 0.005$) and temperature ($r = 0.363$, $P < 0.015$) were positively associated with number of captures. Rain the night prior to opening traps was not associated with number of captures (Wilcoxon $Z = 0.31$, $P = 0.378$).

TABLE 3. Capture rates of adult *Ambystoma californiense* (no. per 100 trap nights) along the western, southern, and eastern trap lines during the early and late winter breeding seasons of the five study years. Early season = late October to December 31; Late season = January 1 to end of March. Data represent captures inside/outside each trap line. Recaptured individuals were excluded except for salamanders first captured during the early season inside the trap line and then later recaptured outside the same trap line during the late season. Total number of adults captured is indicated by N.

Season/Trap Line	2000– 2001	2001– 2002	2002– 2003	2003– 2004	2004– 2005
Early Season, N =					
Western	8.6/2.5	28.4/6.7	9.8/12.3	4.4/2.1	3.5/4.5
Southern	1.0/1.0	4.8/5.9	1.9/3.4	1.0/3.1	0.5/2.7
Eastern	—	4.2/2.7	1.4/6.3	2.9/3.5	1.3/2.6
Late Season, N =					
Western	0.8/4.8	1.9/19.7	0.5/4.6	1.5/3.3	0.4/3.2
Southern	0.0/1.9	0.7/2.6	0.7/2.2	0.4/1.7	0.0/0.6
Eastern	—	5.3/1.5	0.0/2.9	0.0/0.0	0.0/0.0

Annual reduction in captures.—Over the five study years, the proportion of adults captured inside the trap line decreased ($r = -0.845$, $P = 0.036$) and adult capture rates were not associated with on-site rainfall for those five years (Fig. 5, $r = -0.753$, $P = 0.071$). In 2000 and 2001, the capture rate of adults was higher inside than outside the trap line (Fig. 5). However, during 2002–2004 the capture rate was higher outside than inside. By 2004 the ratio of adult captures inside the trap line (versus outside) was much lower (0.35) than in previous years (0.62–1.2).

DISCUSSION

Successful conservation for *Ambystoma californiense* requires protection of both breeding sites and adequate surrounding uplands (Petranka 1998; Semlitsch 1998). Knowledge of terrestrial movement patterns and migration distances is essential to establishing appropriate upland protection zones adjacent to breeding ponds. My study expands the current understanding of upland habitat use for *A. californiense* and should better inform management for this species. The most important findings of my study are that *A. californiense* appeared to exhibit fidelity to upland habitat locations and occurred in relatively large numbers farther from breeding ponds than previously reported.

Study limitations.—The present study has certain limitations that should be taken into account when interpreting my findings. The partial drift fence may have affected my results in the following ways: 1) capture rates may have over- or under-estimated the actual number of salamanders entering or leaving the study site, 2) distribution of captures was limited to

Orloff.—Movement patterns and migration distances of California Tiger Salamander.

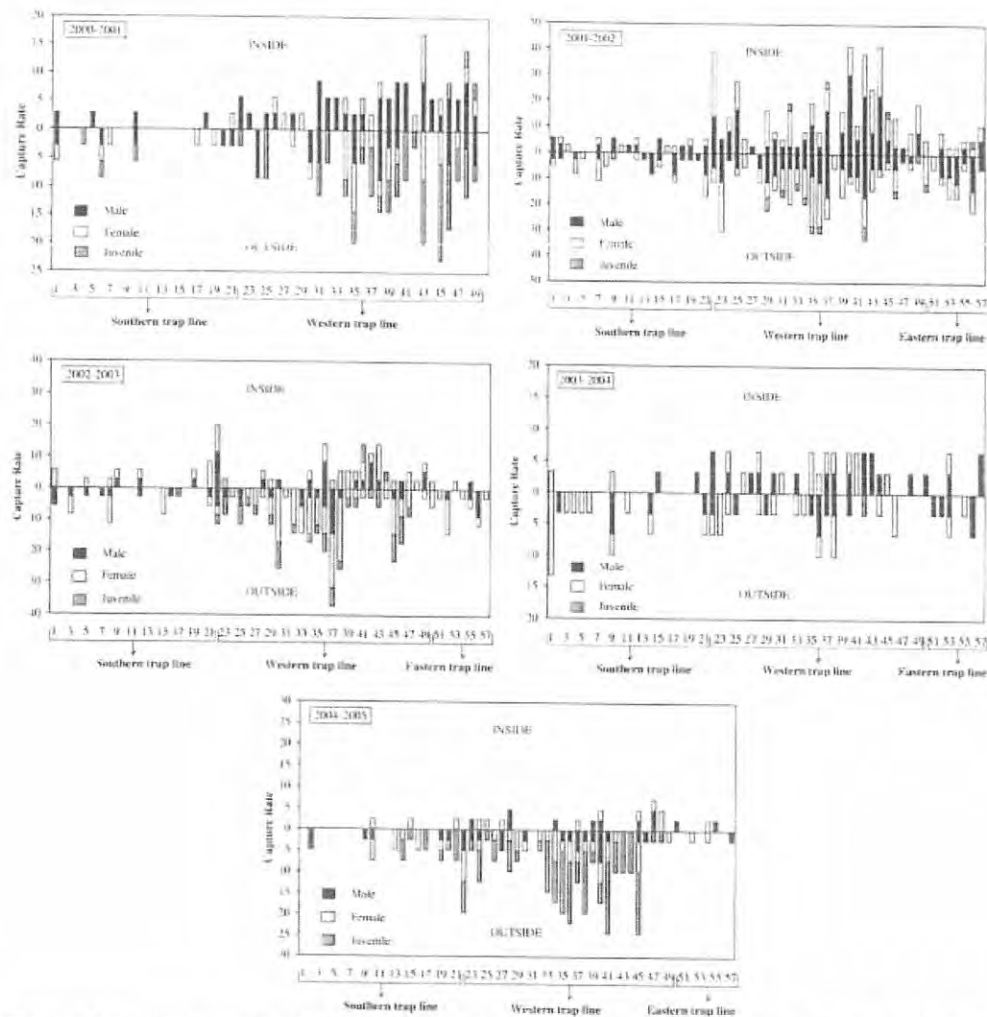


FIGURE 4. Capture rates (no. per 100 trap nights) of *Ambystoma californiense* made and outside the trap line by sex, age class, and trap line for each of the five study years. Trap number for each trap line segment is indicated on the x-axis. Recaptured individuals were excluded except for salamanders first captured during the early season inside the trap line and then recaptured outside the same trap line later in the season.

certain sections of the study site, and 3) trespass rates for the study site could not be determined (i.e., when a salamander exits or enters a site without being captured). These limitations may have influenced my analysis of patterns of movement, sex ratios/proportions, and annual reductions in number of individuals captured.

In addition, translocating salamanders and restricting their entry into the study site may have altered the age class distribution for those remaining within the site. Studies of *A. californiense* and other *Ambystoma* species

have shown that age classes may differ in their use of habitat (Rothermel 2004; Trenham and Shaffer 2005) and vary in activity in response to environmental cues (Semlitsch 1983). This may have influenced my analysis of patterns of movement, and migratory movements with applicable data sets. Lastly, my findings are also limited by having only one study location. Although my results are directly applicable to this site, it may not be representative of other grassland areas that support *A. californiense*.

TABLE 4. Capture rates of juvenile *A. californiense* (no. per 100 trap nights) along the western, southern, and eastern trap lines during the early and late winter breeding seasons of the five study years. Early season = late October to December 31; Late season = January 1 to end of March. Data represent captures inside/outside the trap lines. Recaptured individuals were excluded except for salamanders first captured during the early season inside the trap line and then later recaptured outside the same trap line during the late season. Total number of adults captured is indicated by N.

Season/Trap Line	2000– 2001	2001– 2002	2002– 2003	2003– 2004	2004– 2005
Early Season, N =	36	14	29	1	45
Western	0.5/5.3	0.2/2.4	0.6/5.2	0.2/0.0	0.0/8.0
Southern	0.0/0.7	0.0/0.0	0.0/0.3	0.0/0.0	0.0/1.1
Eastern	—	0.8/0.0	0.0/0.0	0.0/0.0	0.0/0.0
Late Season, N =	14	2	7	0	36
Western	0.0/2.7	0.2/0.0	0.0/1.1	0.0/0.0	0.0/3.8
Southern	0.0/0.3	0.0/0.2	0.0/0.2	0.0/0.0	0.0/1.7
Eastern	—	0.0/0.0	0.0/0.0	0.0/0.0	0.0/0.0

Capture numbers and movement patterns.—Adults tended to return to a location close to where they were initially captured, which suggests fidelity to specific areas of upland habitat. Although several other studies have indicated *Ambystoma* species tend to follow the same nonrandom pathways as they move toward and away from breeding ponds (Stenhouse 1985; Phillips and Sexton 1989; Trenham and Cook 2008), these results were typically inferred from the distribution of captures around ponds, not from distant upland habitat capture data.

In all study years more adults were captured early in the season (presumably going to breed) than were captured later in the season along the same trap line segment (presumably returning from breeding). Rainfall amounts during the early and late seasons did not appear to account for this decrease in captures. The lower number of returning animals may be partly due to mortality, or salamanders straying off path when returning from their natal ponds or dispersing to different ponds (Trenham et al. 2001; Trenham and Cook 2008).

A higher proportion of migrating males than females has been correlated with low rainfall years in other studies of *A. californiense* (Loredo and Van Vuren 1996; Cook et al. 2006). My findings are consistent with this pattern. Apparently more females forego breeding in dry years than males (Loredo and Van Vuren 1996; Trenham et al. 2000). My results contrast with previous studies of *A. californiense* and other *Ambystoma* species that suggest a female bias at greater distances from breeding ponds (Regosin et al. 2003; Trenham and Cook 2008). The distances from the nearest breeding ponds in my study were considerably greater than these previous studies, yet my annual sex ratios were only female biased in one of the five study years.

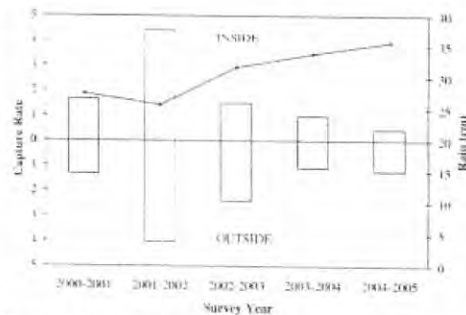


FIGURE 5. Annual capture rates (no. per 100 trap nights) of adult *Ambystoma californiense* inside and outside the trap line (bars) and on-site rainfall amounts (October–April; solid line) for the five study years. Recaptured individuals were excluded except for salamanders first captured during the early season inside the trap line and then recaptured outside the same trap line later in the season.

Migration distances.—I captured large numbers of *A. californiense* farther from breeding ponds than has been previously documented. In early studies of migration distances, maximum distance ranged from 130 m during one night of visually tracking (Loredo et al. 1996) to 248 m using radio tracking (Trenham 2001). However, these studies only examined movements during initial dispersal into the terrestrial habitat and thus may not be representative of the total distance adults may travel (Trenham and Shaffer 2005). In a more recent study using variable trap line distances from a pond, Trenham and Shaffer (2005) found that 50–95% of adults were trapped between 150 to 620 m from the pond, respectively. Continuing work at this site has documented a few individuals moving up to 1000 m from the most likely breeding pond (Peter Trenham, pers. comm.). *Ambystoma californiense* has also been observed up to 2.1 km from breeding ponds (U.S. Fish and Wildlife Service 2004); however, this was thought to be only a small number of individuals. Even in light of these studies showing a few individuals making longer distance movements, the large numbers of adults and juveniles I captured at least 800 m from the closest breeding ponds is noteworthy.

Current estimates that 95% of adult *A. californiense* occur within 620 m of the breeding pond (Trenham and Shaffer 2005) do not appear applicable to my study site. If this estimate were applied to my study site, which is greater than 620 m from the closest breeding ponds on CNWS, the large number of captures would represent less than 5% of the adult upland population. This would result in an exceedingly high extrapolated number of adults using the ponds on CNWS (~5,000 to 10,000 adults). However, Loredo and Van Vuren (1996) found an average of only 141 adults at their study pond on CNWS (Pond 5, Fig. 1), which is typical for other sites (Trenham et al. 2001; Cook et al. 2006). It is more likely that a greater percentage of the breeding population at

CNWS is moving farther away from the breeding ponds than previous research would have predicted.

Migratory movements and environmental parameters.—Movement patterns in my study area were influenced by the distribution of rainfall within the 24-h period prior to capture, with both rain at dusk and on the night of capture (12-h prior) strongly correlated to captures. Although several studies of *A. californiense* or other *Ambystoma* species also found adult migration to be positively associated with rainfall (Semlitsch 1983; Beneski et al. 1986; Trenham et al. 2000), these studies measured daily (24-h periods) or weekly rainfall, not rainfall within less than a 24-h period.

The majority of *A. californiense* adults were captured from early November to mid-December, which is earlier than other study sites where peak migration occurred in January in Monterey County (Trenham et al. 2000) or December and January in Sonoma and Contra Costa counties (Loredo and Van Vuren 1996; Cook et al. 2006). Unlike these other studies, which were conducted at study ponds and recorded only the date of arrival at those ponds, my data presumably represent the actual initiation of migration from upland emergence. Therefore, the discrepancy in peak migration periods may be because my study site was at least 800 m away from the closest probable breeding ponds, and it may have taken several rainy nights to reach the ponds.

Reduction in numbers.—My findings suggest that it takes multiple years of trapping and translocating animals to substantially reduce the number of adults within a project site. This is consistent with other research that has shown *A. californiense* typically spend up to four to five years in their upland burrows before they reach sexual maturity and migrate to breeding ponds for the first time (Trenham et al. 2000). The reduction in annual captures found over my five study years could have been affected by variables other than removal trapping. For example, rainfall has been shown to affect both the number of migrating adults and reproductive success among ambystomatids (e.g., Semlitsch 1983). However, my annual capture numbers were not correlated with on-site rainfall. In addition, I examined local annual rainfall data for the five years prior to my study and found no patterns that might have affected past reproductive success and subsequently influenced capture numbers during my study. It is important to note that because the drift fence was not a closed system, it was not possible to determine whether individuals captured inside or outside the trap line were resident to those sides of the study site.

The costs and benefits of amphibian translocation strategies have been debated and establishing criteria for success is difficult (Seigel and Dodd 2002; Trenham and Marsh 2002). Because my study only involved moving

animals to adjacent grassland habitat a short distance from the capture point (≤ 100 m), some of the more critical problems typically associated with translocation projects were not applicable, including the availability of suitable habitats, disease transmission, and genetic considerations (Dodd and Seigel 1991). However, because a portion of my translocated animals were recaptured presumably trying to return to the study site, they could have been subject to additional stress which reduced their survival (Matthews 2003; Germano and Bishop 2008). In addition, I do not know if the resources of the adjacent area were adequate to sustain an increase in population size (Petranka 1989).

Other options for managers to reduce the number of salamanders in a proposed construction area include passive relocation using wooden ramps with barrier fencing or excavating salamanders from their burrows. Although I have observed *A. californiense* using ramps to exit a project site, there are no published reports on the success of this passive relocation technique. Excavation is time consuming (Pittman 2005), difficult due to the complexity of burrow systems, and potentially hazardous to the salamanders.

Management implications.—My findings have several implications for future conservation and management of this species. First, the current suggested buffer zone of 630 m around breeding ponds for long-term preservation of individual *A. californiense* populations (Trenham and Shaffer 2005) may not protect a substantial portion of some upland populations. Second, the method proposed by Searcy and Shaffer (2008) for calculating mitigation value for *A. californiense*, which is based on the exponential decrease in salamander density with increased distance from breeding ponds, may not be applicable in all cases. Other factors could be influencing the density distribution around ponds, such as uneven distribution of resources and presence of other species (Rittenhouse and Semlitsch 2007; Searcy and Shaffer 2008). The results of my study underscore the need to consider other relevant biological factors in establishing buffer zones or mitigation credits. Third, trapping may be the most reliable means of predicting habitat value or detecting occurrence in uplands. I found that the number of salamanders observed during winter night surveys was not a reliable indication of population size. The limited number of salamanders I observed was probably due to few being above ground at the burrow entrances during the night surveys. Fourth, efforts to remove *A. californiense*, via trapping or passive relocation, from a proposed project site for only one year (to reduce impacts from development) may miss a large portion of the population. My findings suggest that multiple years are required to substantially reduce the abundance of adult life stages in upland habitat.

Acknowledgments.—I am grateful for the biologists who assisted in the field work for this study, including Kathy Willet, Derek Jansen, and Jill Bennett. I appreciate Mark Allaback of Biosearch (Santa Cruz, CA) for helping to develop and design this study. I thank Dr. Pete Trenham and Mark Allaback who reviewed and improved the original manuscript. I also thank the U.S. Fish and Wildlife Service and California Department of Fish and Game for authorizing this study through issuance of a 10(a)(1)(A) permit (TE-075898-1) and Scientific Collectors Permit (801083-05).

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SUSAN ORLOFF is a Wildlife Biologist and principal of a consulting firm in the San Francisco Bay Area. She has degrees from San Francisco State University (B.A.) and Sonoma State University (M.A.). During the last 25 years, she has worked on a diversity of projects involving the status and conservation of sensitive wildlife species. Her early career focused on species of the Central Valley in California and she has authored several papers on the endangered San Joaquin Kit Fox (*Falpes macrotis nictia*). She also has extensive experience assessing the impacts of windfarm development on raptor populations, which resulted in several publications. Her more recent research emphasizes sensitive amphibians and reptiles of California. This research includes a long-term population monitoring program for California Red-legged Frogs (*Rana draytoni*) and San Francisco Garter Snakes (*Thamnophis sirtalis tetrataenia*), a study on the impacts of variations in creek flow releases on California Red-legged Frogs, and a multiyear study on the effects of hydroelectric operations on the Foothill Yellow-legged Frog (*Rana boylei*). (Photographed by C.K. Cole)



EXHIBIT 3

SAVE MOUNT DIABLO



MALCOM SPROUL, Board Member, Chair of the Land Committee, Member of the Land and Nominating Committees

Malcolm received his B.A. and M.L.S. in Environmental Planning, from UC Berkeley, and then worked for the Marin County Planning Dept. for four years. In 1979, he joined LSA Associates and is now a principal in natural resources management and environmental planning, managing their Point Richmond office. An avid outdoorsman, Malcolm feels that Mount Diablo is a wonderful visual resource, and that the open space we are protecting is not just for people, but is essential to the protection and stability of the greatest possible diversity of biological resources in the central California region.

557081.1

EXHIBIT 4



Potential Pond Site - Image taken from Google Earth 2014

EXHIBIT 5

EFFECTS OF EXURBAN DEVELOPMENT ON BIODIVERSITY: PATTERNS, MECHANISMS, AND RESEARCH NEEDS

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Abstract. Low-density rural home development is the fastest-growing form of land use in the United States since 1950. This “exurban” development (~6–25 homes/km²) includes urban fringe development (UFD) on the periphery of cities and rural residential development (RRD) in rural areas attractive in natural amenities. This paper synthesizes current knowledge on the effects of UFD and RRD. We present two case studies and examine the patterns of biodiversity response and the ecological mechanisms that may underlie these responses. We found that many native species have reduced survival and reproduction near homes, and native species richness often drops with increased exurban densities. Exotic species, some human-adapted native species, and species from early successional stages often increase with exurban development. These relationships are sometimes nonlinear, with sharp thresholds in biodiversity response. These effects may be manifest for several decades following exurban development, so that biodiversity is likely still responding to the wave of exurban expansion that has occurred since 1950. The location of exurban development is often nonrandom relative to biodiversity because both are influenced by biophysical factors. Consequently, the effects on biodiversity may be disproportionately large relative to the area of exurban development. RRD is more likely than UFD to occur near public lands; hence it may have a larger influence on nature reserves and wilderness species. The ecological mechanisms that may underlie these responses involve alteration of habitat, ecological processes, biotic interactions, and increased human disturbance. Research on the patterns and mechanisms of biodiversity remains underdeveloped, and comparative and experimental studies are needed. Knowledge resulting from such studies will increase our ability to understand, manage, and mitigate negative impacts on biodiversity.

Key words: biodiversity; biotic interactions; ecological mechanisms; fire; habitat fragmentation; landscape management; land cover; land use; rural residential development; urban fringe development; weeds.

INTRODUCTION

Rural America is undergoing a dramatic transition. For the first time in more than a century, more people are moving to rural areas than from rural lands (Johnson 1998). Fleeing the cities, many retirees, entrepreneurs, and others are seeking the small-town lifestyles and natural amenities of rural landscapes (Rudzitis 1999).

This rural in-migration is driving large changes in land use. The typical trajectory of land use change across the United States prior to 1950 was from wild land and resource extraction uses to agriculture and to suburban and urban uses. An entirely new land use has become prevalent in many parts of the United States since 1950. Many people are choosing to live “out of town” on small “ranchettes” and in rural subdivisions. Termed exurban development, low-density housing (~6–25 homes/km²) within a landscape dominated by native vegetation is now the fastest growing form of land use in the United States (Brown et al. 2005). Land long used for forestry or ranching is now being converted to home sites. The effects of exurban development on native species and ecological communities have only recently been the topic of ecological studies.

Since 1950, there has been a five-fold increase in the area within the conterminous United States that is occupied at exurban densities (Brown et al. 2005). The

Manuscript received 21 July 2003; revised 10 September 2004; accepted 8 November 2004; final version received 10 December 2004. Corresponding Editor: M. G. Turner. For reprints of this Invited Feature, see footnote 1, p. 1849.

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PLATE 1. Rural residential development in the Greater Yellowstone Ecosystem near Red Lodge, Montana, USA. The rural homes are placed near low-elevation riparian forests that are especially important for biodiversity. Photo by A. Hansen.

exurban land use type currently covers nearly 25% of the area of the lower 48 states. The most rapid gains were in the eastern deciduous forest, the southwest, the western seaboard, the Rocky Mountains, and the upper Midwest.

This exurban development is manifest in two forms. Urban fringe development is the expansion of exurban densities on the periphery of cities. This urban fringe development (UFD) is largely driven by urban dwellers seeking more rural lifestyles while still having access to urban jobs and services (Ulmann 1954, Healy and Short 1987, Raish et al. 1997). Exurban development in counties adjacent to metropolitan counties increased six fold since 1950 (Brown et al. 2005). Over time, these exurban developments often transition to suburban and urban land uses.

A second form of exurban development is occurring distant from cities. It is focused on rural areas attractive in scenery, climate, outdoor recreation and other "natural amenities" (Rasker and Hansen 2000). Rural counties not adjacent to metropolitan counties increased fivefold in exurban area since 1950 (Brown et al. 2005). This rural residential development (RRD) is common in the rural counties of the Rocky Mountain West, the Pacific Northwest, the upper Midwest, and the southeastern United States (Gersh 1996). Rather than being randomly distributed, this development is often associated with the borders of national parks and other public lands; rivers, lakes, or coastal areas; areas of moderate climate and good outdoor recreational opportunities; and towns and small cities that offer national airports, high-speed internet access, and cultural ame-

nities (Cromartie and Wardwell 1999, McGranahan 1999, Nelson 1999, see Plate 1).

The effects of both forms of exurban development on wildlife and biodiversity are poorly known. Relative to other types of land use, exurban development is substantially understudied. Miller and Hobbs (2002) found that only 6% of the papers on human landscapes published in *Conservation Biology* dealt with exurban and urban places. The majority of these consider the general gradient from rural to urban in and around cities. While these studies typically do not cleanly separate biodiversity in exurban places relative to suburban and urban places, they do provide a context for assessing general trends in biodiversity under land use intensification. RRD has been examined in only a few recent studies, with most of them being in the Rocky Mountain West.

Understanding the effects of exurban development on biodiversity is important to public policy. With a quarter of the nation's land area in this land use type, policies on exurban development may have a substantial effect on biodiversity nationwide. The general view among conservationists and the public is that exurban development alters ecological processes and biodiversity to a greater extent than forestry and agriculture (Marzluff and Ewing 2001). Hence, many initiatives have emerged to protect "open space" from exurban development through conservation easements and other approaches. There is also the view that the effects of exurban development are proportional to home density. Thus, zoning for lower density housing is often used to protect ecological resources.

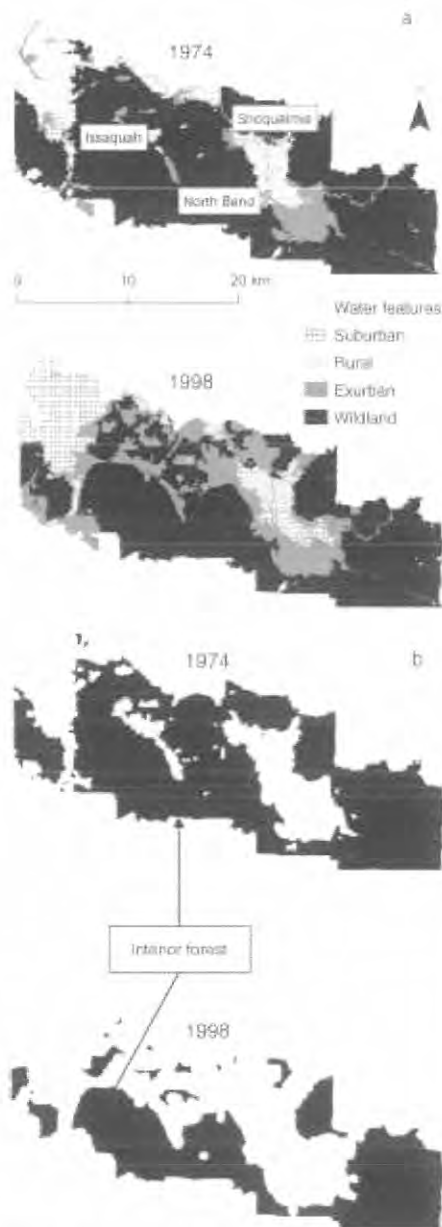


FIG. 1. (a) Change in land use in the urban fringe east of Seattle, Washington, USA. (b) Decline in interior forest resulting from changes in land use. The figure is from Robinson et al. (2005).

Several questions arise. How does exurban development change habitat and landscape patterns from those typical of lower intensity land uses? How do ecosystem, community, and population-level patterns vary as more natural habitats are converted to exurban? Are there thresholds in home density and spatial pattern where biodiversity is disproportionately affected? What ecological mechanisms underlie the response of biodiversity to exurban development? Can exurban development on private lands have consequences on adjacent or distant public lands? How do the effects of UFD and RRD compare?

In this paper, we synthesize current knowledge and attempt to answer these questions. We do so by first examining UFD and RRD and offer a case study of each. We then consider the ecological mechanisms linking both forms of exurban development to biodiversity. Where current research is insufficient to address the questions, we offer hypotheses in an effort to stimulate future research.

URBAN FRINGE DEVELOPMENT AND BIODIVERSITY

Case study: Seattle, Washington

The city of Seattle, in King County, Washington, lies between the Puget Sound and the Cascades Mountains. Like many metropolitan counties on the west coast, King County has been growing rapidly. The population size increased by 44% during 1970–2000 and the number of households grew by 72%. In an attempt to control sprawl around the city, the county instituted an urban growth policy aimed at confining high density development within urban growth boundaries while maintaining low-density housing in the surrounding rural lands. Robinson et al. (2005) quantified change in land use during 1974–1998 in a 474-km² study area extending east from Seattle towards the Cascade Mountains. The study area was a matrix of forest lands with dispersed agricultural, suburban, and urban, land uses.

The authors found that the primary trajectories of change were from wildlands to exurban and from exurban and agricultural to suburban. The area of exurban increased by 193%. Exurban and suburban covered 8% of the study area in 1974 and 33% in 1998 (Fig. 1a). The reduction of wildland and agricultural lands represents the conversion of 23% of the study area to development. These changes fragmented once contiguous forest and reduced interior forest area (>200 m from forest edge) by 60% (Fig. 1b). This land use change was largely driven by single-family housing. Despite the effort to concentrate growth within the urban growth boundary, 60% of the land committed to new residential development was outside urban growth boundaries.

This land conversion on Seattle's fringe changed plant, bird, and small mammal diversity. Native forb and tree diversity declined with loss of forest (Fig. 2a). A similar, but nonsignificant trend, was found for

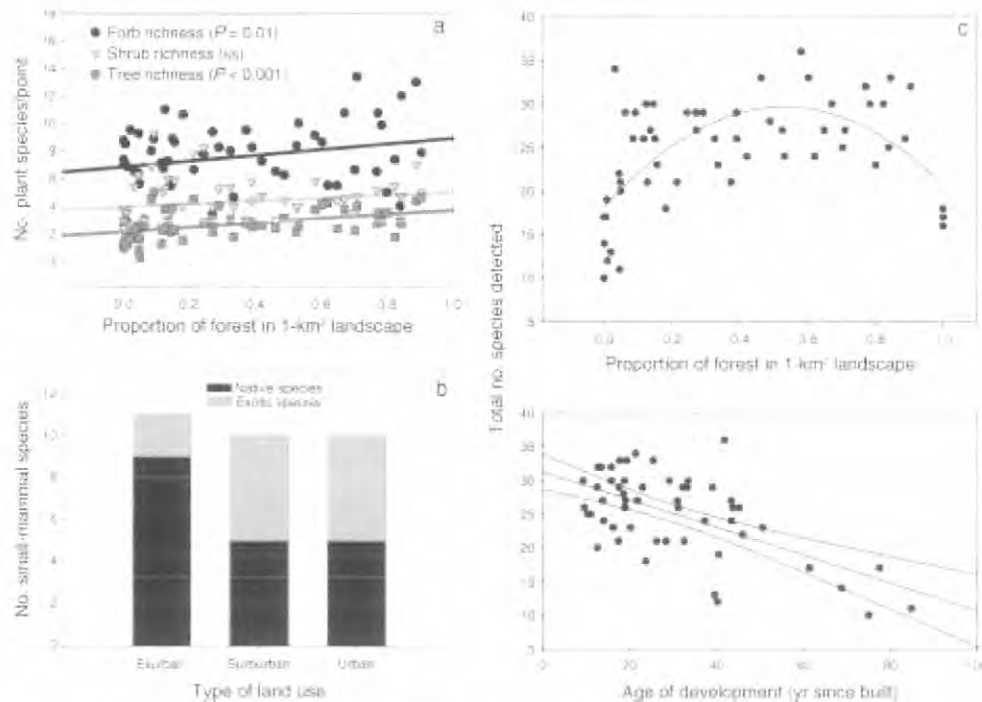


FIG. 2. Changes in biodiversity in response to urban sprawl in the Seattle metropolitan area. (a) Increases in plant species richness with increasing forest land cover. (b) Shifting composition of small mammal communities. (c) Correlation of bird species richness with amount of forest (upper panel) and age of development (lower panel). Bird data are from Donnelly (2002), Donnelly and Marzluff (2004), and Marzluff (*in press*).

shrubs. Alternatively, exotic ground cover increased significantly with development, especially with the interaction between age of development and interspersed of settled and forested remnants. The trends for plants were relatively linear. Small mammal communities changed abruptly from primarily native to mixtures of natives and exotics as landscapes were converted from exurban to suburban or urban (Fig. 2b). Bird species richness in combined samples of forest fragments and settled areas peaked at levels of settlement found in most single-family housing subdivisions (Fig. 2c). It dropped dramatically when development reached a threshold of approximately 80% developed, and when mature, second growth, coniferous forest cover occupied the entire 1-km² landscape (i.e., in relatively large forested reserves; Marzluff, *in press*). The peak in landscapes where forest and settlement are both abundant in the landscape occurs primarily because of colonization of early successional and deciduous forest species (Marzluff, *in press*). Native forest birds are predictably and linearly lost with increasing urbanization (Donnelly 2002, Donnelly and Marzluff 2004). Synanthropic birds, those ecologically associated with hu-

mans, predictably colonize landscapes as urban land cover increases. Species richness was also related to age of development, with bird species richness continuing to decrease more than 60 years after development. Average bird species richness dropped from about 35 at the time of development to below 15 by 80 years after development. This drop is accentuated by concomitant loss of forest cover with subdivision age in the sample, but additional research of similarly forested, but variously aged subdivisions confirms a general, but less extensive loss of species (Ianni 2004). Species diversity declines as subdivisions age because of losses in native mature forest birds and native birds not typically found in mature forests that colonized the openings, grasslands, ponds, and deciduous forest characteristic of new subdivisions. The loss of bird species was not explained by poor reproductive success. Nest success remained relatively high in developed study plots for all the bird guilds studied, but the numbers of active nests were greatly reduced in densely settled areas (Donnelly and Marzluff 2004). The authors concluded that the reduction in richness was primarily due to the loss of species dependent upon forest habitats,

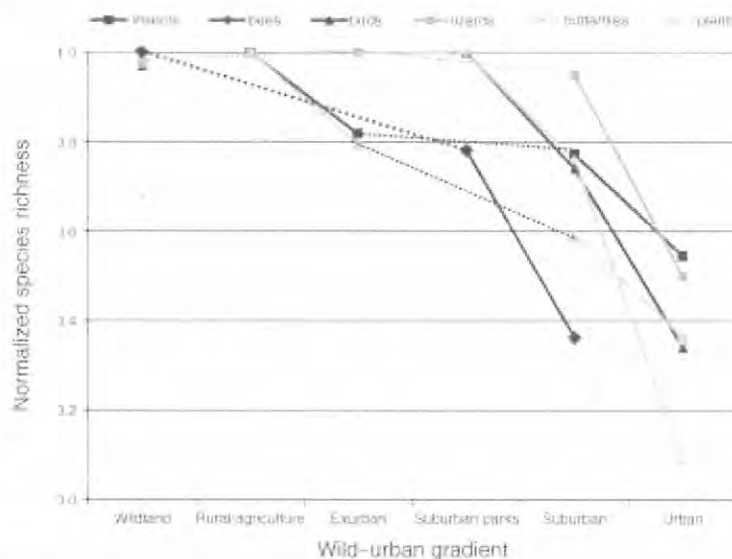


FIG. 3. Distribution of species richness across a gradient in land use for studies of various organisms. Normalized species richness is calculated as a function of the maximum number of recorded species at a point on the development gradient. Dashed lines represent unsampled portions of the gradient. Sources: insects, Denys and Schmidt (1998); bees, McIntyre and Hostetler (2001); birds, Blair (1996); lizards, Germaine et al. (1998); butterflies, Blair (1999); plants, Denys and Schmidt (1998).

rather than to increased predation levels. Reduced survival of adults and newly fledged birds is a potential factor currently being studied.

General biodiversity responses to land use intensification on the urban fringe

The results above are consistent with the growing body of literature finding that the quantity and pattern of urban fringe development strongly influence both native and nonnative flora and fauna. The responses at the community level are a function of species response patterns, which are in turn a function of the demographic responses of individual organisms (Marzluff and Ewing 2001).

Community patterns.—For many plant and animal communities, species richness decreases as housing density increases along the rural–urban gradient. The literature abounds with examples for arthropods (Miyashita 1998), insects (Denys and Schmidt 1998), and amphibians (Lehtinen et al. 1999) (Fig. 3). Along a gradient from wild and undeveloped parks around the outskirts of Phoenix, Arizona, to residential sites in the city, both richness and abundance of pollinator bees (*Hymenoptera: Apoidea*) decreased markedly (McIntyre and Hostetler 2001). Similar results were documented in Tucson, Arizona, for native bird guilds, as housing density best explained the decrease in species richness along the rural–urban gradient (Germaine et

al. 1998). For native rodents in protected grasslands in Boulder, Colorado, the capture rate exhibited a strong negative relationship with the percentage of surrounding suburbanization (Boek et al. 2002).

While native species often decrease in diversity and abundance along the rural–urban gradient, the opposite is often true for nonnative guilds. In the Tucson study, housing density best explained the increase in species richness for nonnative birds (Germaine et al. 1998). Within plant communities in Ohio, the percentage of nonnative species increased along the rural–urban gradient (Whitney 1985).

Because of these contrasting biodiversity response patterns along the rural–urban gradient, community richness sometimes exhibits a non-linear response in which richness peaks at intermediate levels of development (McKinney 2002). Avian and butterfly richness and diversity were both higher at moderate levels of development than in natural reserves in various sites in California and Ohio (Blair 1996, 1999). Lizard abundance, richness, and evenness all peaked at intermediate levels of development in Tucson, Arizona (Germaine and Wakeling 2001). In shoreline cottage development in central Ontario, moderate levels of development supported the highest levels of small mammal diversity (Racey and Euler 1982).

A recent meta-analysis of avian community response patterns to increasing urbanization (Marzluff 2001)

confirmed the patterns emerging from the individual studies summarized above. He found that richness decreased in 61% and evenness decreased in 56% of the studies (Marzluff 2001). Over 90% of the surveyed studies documented either an increase in exotic species or a decrease in interior habitat nesters with increasing settlement.

An important conclusion from the Seattle case study is that the biodiversity response to urbanization may continue to intensify for several decades after development (Donnelly 2002, Ianni 2004). Thus in the rapidly growing cities of the United States, the full effects of recent development are likely not yet fully manifest and native biodiversity will continue to erode for decades to come.

Species patterns.—The response patterns of individual species to the rural–urban gradient are complex and account for the variety of responses at the community level. Many species decline in abundance with increased intensity of land use. Of 21 species recorded at a nature reserve in Santa Clara County, California, only 14 of these species also occurred at a nearby recreation area, and only three of these species were also found at the most urbanized site (Blair 1996). The species found only in the nature reserves were all natives including Western Wood-pewee (*Contopus sordidulus*), Hutton's Vireo (*Vireo huttoni*), and Ash-throated Flycatcher (*Myiarchus cinerascens*). Other examples of species that are negatively correlated with development levels come from central Ontario where the masked shrew (*Sorex cinereus*), deer mouse (*Peromyscus maniculatus*), red-backed vole (*Clethrionomys gapperi*), and woodland jumping mouse (*Napeozapus insignis*) all decreased in abundance with increasing shoreline cottage development (Racey and Euler 1981).

Other species are able to tolerate and even increase under higher levels of development (Hoffman and Gottschang 1997). Higher densities of nesting Cooper's Hawks (*Accipiter cooperii*) were recorded in urban settings compared to rural settings in and around Tucson, Arizona (Boal and Mannan 1998). Schneider and Wasel (2000) found that the density of moose (*Alces alces*) in northern Alberta, Canada, increased near human settlement. Similarly, Racey and Euler (1982) observed increased capture success with increasing development level for eastern chipmunk (*Tamias striatus*), red squirrel (*Tamiasciurus hudsonicus*), and meadow vole (*Microtus pennsylvanicus*). Several other studies have documented a suite of common bird and mammal species that increase in abundance along the rural to urban gradient. Examples include the House Sparrow (*Passer domesticus*), European Starling (*Sturnus vulgaris*), American Crow (*Corvus brachyrhynchos*), Brown-headed Cowbird (*Molothrus ater*), skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and opossum (*Didelphis virginiana*) (Odell and Knight 2001).

The relationship between species abundance and urbanization is often not linear; many species are most abundant at intermediate levels of development, as demonstrated by Blair (1996). Gray foxes (*Urocyon cinereoargenteus*) in several rural communities in New Mexico were found to be tolerant of RRD up to a threshold of 50–125 homes/km² (Harrison 1997). A similar nonlinear response was also documented for abundance of mule deer (*Odocoileus* spp.) in an urbanizing valley in southwest Montana (Vogel 1989). Short-tailed shrews (*Blarina brevicauda*) were documented to peak at intermediate lakeshore cottage development levels in central Ontario (Racey and Euler 1982).

The life history attributes of species that avoid or expand with urbanization are not well studied. McKinney (2002) suggested that many human-sensitive species include large mammals with low reproductive rates, birds specializing on natural habitats, and late successional plants. Species most abundant in suburbs may be edge-adapted generalists able to exploit the wider variety of habitat configurations and resources available at intermediate levels of development. Species associated with urban areas may be preadapted to human structures or able to use human-derived food or water supplies (McKinney 2002). However, more study is needed to evaluate these hypotheses.

Demographic patterns.—Patterns of reproduction, survival, and dispersal are drivers for species and community responses to exurban development, yet relatively few studies have quantified population vitality rates across the development gradient. Marzluff (2001) reviewed the literature for results of urbanization on avian breeding success. He found that most studies dealt with species that were most abundant in cities. For these species, breeding success improved with increased settlement. For other species however, research on bird nesting success indicated a negative relationship with increasing development. The abundance of human development was found to be the strongest predictor of brood parasitism by brown-headed cowbirds and reduced nest success of several species such as Yellow Warbler (*Dendroica petchua*) (Tewksbury et al. 1998).

In sum, three general patterns of species abundances emerge along the gradient from rural to urban: decreases, increases, and nonlinear responses (McKinney 2002). Species that decrease in abundance along the development gradient are termed "human sensitive" (Odell and Knight 2001) or "urban avoiders" (McKinney 2002). Species that increase are termed "human adapted" (Odell and Knight 2001) or "urban exploiters" (McKinney 2002). "Suburban adaptables" (Blair 1996) reach peak abundance at intermediate levels of development. At the community level, richness for native species generally decreases with increasing development while richness

for nonnative species generally increases with increasing development. As a result, total community diversity often peaks at intermediate levels of development, because both native and nonnative species are present in the community (Marzluff, *in press*). The life history traits of individual species, native and nonnative, likely contribute to the variety of responses at the population and community levels.

RURAL RESIDENTIAL DEVELOPMENT AND BIODIVERSITY

Case study: Colorado

Colorado is representative of much of the new West. Growing at three times the nation's average, it was the sixth-fastest growing state in the United States in the 1990s (Knight 1998). Importantly, this population growth is occurring on rural landscapes as well as within urban areas. Indeed, from 1990 to 1998, population in rural areas grew faster than in urban areas in over 60% of the counties in the Rocky Mountain states (Theobald 2001, Odell et al. 2003).

In much of the Mountain West, there are three principal land uses beyond city limits: protected areas, ranches, and ranchettes. Maestas et al. (2003) examined songbirds, carnivores, and plant communities on these three land uses in Larimer County, Colorado. Importantly, their data came from sites that were similar in elevation, soil type, and plant community type. They found that the density of songbirds and carnivores were more similar between ranches and protected areas (without livestock grazing) than on the ranchettes. The songbirds and carnivores that were most abundant on the ranchettes included dogs, cats, Black-billed Magpies, European Starlings, and other human-adapted species. Songbirds and carnivores that occurred on ranches and protected areas were uncommon or did not occur on land in ranchettes. Importantly, many of these songbirds are of conservation concern, whereas the birds that did best on ranchettes are common and increasing across the West (Maestas et al. 2003).

The plant communities across these three land uses were even more distinct. Native plant species were more prevalent and nonnative species were less prevalent on ranches than in either protected areas or ranchettes (Maestas et al. 2002). The greatest number of nonnative species was found on the ranchettes, with eight of 23 nonnative species being found only on the ranchette developments. In addition, percent cover of nonnative plants was highest on the ranchettes and protected areas and was significantly lower on ranches.

The effects of RRD are often manifest as a function of distance from home site and roads. In Pitkin County, Colorado, the biodiversity responses to ranchettes extended out as far as 330 m into undeveloped areas, although most effects diminished at approximately 100 m from the homes (Odell and Knight 2001). Human-adapted species, such as Brown-headed Cowbirds,

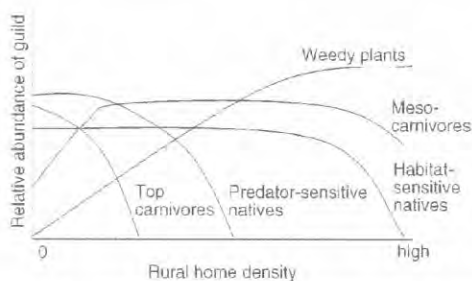


FIG. 4. Hypothesized responses of various guilds of species to rural home density.

Black-billed Magpies (*Pica pica*), and American Robins (*Turdus migratorius*), all occurred at higher densities near homes and at lower densities away from homes. Similarly, domestic dogs (*Canis familiaris*) and house cats (*Felis domesticus*) were more likely to be detected near homes than away from homes, while coyotes (*Canis latrans*) and red foxes (*Lynx rufus*) showed the reverse pattern (Odell and Knight 2001).

Such findings help elucidate the true ecological costs associated with RRD. Rather than simply acknowledging that rural residences perforate the landscape, one can begin to calculate the magnitude of land affected beyond the building site (Theobald et al. 1997). Assuming the depth of the house-edge effect is 100 m, and including a similar depth of road-effect (Forman 2000), Odell and Knight (2001) found that approximately one-fifth of the land area of the subdivided ranches they studied was affected by houses and roads.

General effects of RRD on biodiversity

Compared with the urban fringe, development in rural areas distant from cities generally involves the lower intensity land uses of exurban home development. The Colorado case study suggests that this low-density housing can have effects on biodiversity that are more extreme than traditional rural land uses such as protected areas or ranching. The relative impacts of RRD on biodiversity compared to other rural land uses such as logging, grazing, crop agriculture, and back-country recreation, however, are little studied. We can speculate that each has unique influences on biodiversity that are related to the nature of the land use. The plowing associated with crop agriculture likely alters soil communities to a greater extent than does RRD, but has fewer impacts associated with roads or with human disturbance. Similarly, logging may more greatly change forest structure and composition and disrupt soil layers. There may sometimes also be considerable overlap in impacts among these land use types. A study in south western Montana found that density of cowbirds and parasitism of native bird species were significantly associated with density of homes, area in

crops, and livestock densities within 6 km of riparian habitats (Hansen et al. 1999). Presumably this results because all three of these land use types provide supplemental foods that attract cowbirds. One way that RRD differs from the other rural land uses is its longevity. While logging and recovery typically occur in cycles, and livestock grazing and crop agriculture often have rest rotations, RRD is permanent on the order of decades or longer and its effects may intensify over this time.

The effect of land use is a function not only of land use type but also its intensity. In the case of RRD, home density is likely an important measure of intensity. A common perception is that homes scattered at low densities have little influence on biodiversity, while dense subdivisions have a large effect. Again, however, little research has examined how impacts on biodiversity vary with rural home density and development pattern.

As is the case with development intensity under UFD, we speculate that the relationship with rural home density under RRD varies among the different elements of biodiversity (Fig. 4). Top carnivores may be reduced even at low home densities as the expanding network of roads allows increased human access, hunting, and human disturbance. This may allow for an expansion of native or exotic meso predators and brood parasites. Consequently, native species vulnerable to predation and nest parasitism may undergo reduced survival and reproduction at low to medium densities of homes. Weedy plant diversity may increase at low home densities in association with roads, increase somewhat linearly with home density, then drop at high home densities as most of the land area is converted to lawns and ornamental plants. Suburban adaptables that benefit from human food sources and habitats may increase in proportion to home density. Finally, species richness of native species that require native habitats may decline only at higher home densities as the area of remaining habitat fall below key thresholds. Future research is needed to test these hypotheses and to identify key thresholds.

The effects of rural home density undoubtedly interact with the spatial distribution of homes and the behaviors of home owners. If homes are clustered, total road density is reduced and the ecological effects of each home overlap, allowing a larger proportion of the landscape to be free of these effects. Consequently, local planners often recommend clustered development to reduce ecological impacts and to reduce costs of government services (Daniels 1999). Also, home owners may reduce impacts on biodiversity by controlling weeds along roads, landscaping with native plant species, confining pets, covering compost, and managing livestock, pet foods, trash, and other artificial food sources including bird feeders to prevent access to wildlife.

A unique aspect of RRD compared with UFD is that rural homes are more likely to be placed in landscapes that include public lands with natural habitats and wilderness conditions. Typically, the sites productive for agriculture were claimed for private ownership, while less-productive mountain and desert settings remained under public control (Huston 2005). This has resulted in a high level of interspersed among private and public lands (Theobald 2000). An increasing number of people are now building homes on the edges of public lands for increased access to outdoor recreation, scenery, and solitude (Knight and Clark 1998). Consequently, the aura of impacts radiating from each home may extend hundreds of meters to kilometers within the public land boundary and alter biodiversity within this zone. Homes on the periphery of public lands may also attract wilderness species such as bears from the public lands, leading to increased mortality and declines in population sizes within the public lands (Mace and Waller 2002).

In the Greater Yellowstone Ecosystem, for example, national parks, national forests, and other public lands cover the majority (71.6%) of the land area. The private lands are largely in river valleys. These private lands have a longer growing season, better soils, and higher primary productivity than the public lands (Hansen et al. 2000). These same attributes make these settings attractive for native species. Consequently, the distribution of rural homes overlaps significantly with hotspots for birds (Hansen et al. 2002). The rural homes, livestock, and agriculture near the bird hotspots attract nest parasites and predators and result in reduced nest success of several native species (Hansen and Rotella 2002). P. H. Gude, A. J. Hansen, and D. A. Jones (*unpublished manuscript*) found that 49% of deciduous woodlands (the richest bird habitat in the area) across Greater Yellowstone are within 1 km of a home. Hence, even in this large, wilderness system, which is dominated by public lands, the effects of rural homes may extend over a substantial portion of key habitats.

We conclude that like exurban development on the urban fringe, exurban expansion in rural landscapes may have substantial negative impacts on native biodiversity. Considerable research is needed to better understand the effects of rural home density, spatial distribution, and homeowner behavior on biodiversity impacts. A particular concern about exurban development in rural areas is that it is more likely to be in close proximity to public lands and associated wilderness species.

MECHANISMS LINKING EXURBAN DEVELOPMENT AND BIODIVERSITY

The mechanisms underlying these responses to land use are generally less well studied than the patterns described above. Case studies provide insights for some mechanisms, but adequate comparative study and ex-

perimentation is generally not available to allow for derivation of general predictive principles. Below we describe the suite of factors that have been suggested to explain biodiversity responses to exurban and urban development. These involve changes in habitats, ecological processes, interactions among species, and human-related disturbance of native species. Our goal is to encourage additional research on these mechanisms. Beyond improving scientific understanding, knowledge of these mechanisms may provide the basis for management strategies to reduce the effects of exurban development on biodiversity.

Habitat alteration

As human settlement progresses, conversion of native habitat to roads, yards, and structures tend to fragment the landscape (Soulé et al. 1998, Marzluff and Ewing 2001). Fragmentation influences biodiversity through reduction of habitat area, creation of dispersal barriers (Trombulak and Frisell 2000, Marzluff and Ewing 2001), disruption of nutrient cycling, and increases in predation, parasitism, and competition (Marzluff and Ewing 2001). In the Seattle case study, reduction in the area of forest patches was thought to explain the loss of forest-dwelling bird species. Isolation of small canyons in California by subdivisions lessened the dispersal capabilities of and resulted in decreased species diversity for chaparral-requiring birds (Soulé et al. 1988).

In addition to habitat fragmentation, residential development may change microhabitat features. For example, decreasing abundance of native plant cover with increasing urbanization was correlated with decreasing bee, bird, and lizard species richness in Arizona (Germaine et al. 1998, Germaine and Wakeling 2001, McIntyre and Hostetler 2001). In Illinois, replacement of natural sandy patches with grassy patches in a residential area resulted in decreased snapping turtle (*Chelydra serpentina*) nesting success (Kolbe and Janzen 2002). Reduced coarse woody debris input (Christensen et al. 1996) tied to exurban development in Wisconsin and Michigan lakes reduced growth rates of bluegill sunfish (*Lepomis macrochirus*) but did not significantly affect largemouth bass (*Micropterus salmoides*) (Schindler et al. 2000).

The nonrandom location of land use relative to biophysical gradients and biodiversity may cause the resulting habitat fragmentation resulting from human settlement to have disproportionately large effects. We described above the concentration of rural residences in productive valley bottoms in mountainous landscapes (Riebsame et al. 1996, Theobald et al. 1996, Soulé et al. 1998, Hansen et al. 2002, Seabloom et al. 2002). Other favored settings for RRD include lakeshores in the upper Midwest (Beale and Johnson 1998), coastal areas (Seabloom et al. 2002), and wetlands in the coastal states (Brady and Flather 1994). Because

both humans and native species tend to concentrate in such locations (Hansen et al. 2002, Seabloom et al. 2002), the impacts of exurban development may be focused on the most critical habitats (see also Huston 2005).

Alteration of ecological processes

Less visible than habitat destruction, ecological processes such as disturbance regimes may be altered by exurban development and in turn influence habitats and biotic assemblages. In many parts of the arid west, humans have excluded fires from urbanizing landscapes to protect human property and lives. In Oklahoma, for example, such fire exclusion has led to increased juniper (*Juniperus* spp.) encroachment in suburban and rural habitats since 1950, as human population density increased (Coppedge et al. 2001). Correlated with the increase in juniper, the passerine community has also been altered. American Robin and Eastern Bluebird (*Sialia sialis*) abundance showed a unimodal trend with highest abundance at intermediate levels of juniper encroachment. Three species of potential juniper-feeders, Cedar Waxwing (*Bombycilla cedrorum*), Ruby-crowned Kinglet (*Regulus celendula*), and Yellow-rumped Warbler (*Dendroica coronata*), increased with juniper encroachment levels. Four species, Song Sparrow (*Melospiza melodia*), White-crowned Sparrow (*Zonotrichia querula*), House Sparrow, and American Goldfinch (*Carduelis tristis*), declined with increased levels of juniper encroachment. In other urbanizing environments, in contrast, increased human ignitions have accelerated fire frequency and decreased later seral habitats (Keeley 2002).

Flood regimes may also be altered with urbanization with consequences for riparian communities. For example, plains cottonwood (*Populus deltoides*) establishment on the floodplain and terrace of Boulder Creek in Boulder, Colorado declined from 1937 to 1992 as stream diversion, straightening, stabilization, and clearing led to decreased channel movement, decreased peak flow and a decreased flooding frequency in the floodplain. Concurrently, species less tolerant to flooding events—including the exotics crack willow (*Salix rubens*) and Russian-olive (*Elaeagnus angustifolia*)—have encroached upon the floodplain (Auble et al. 1997).

Changes to nutrient cycles are also likely with conversion to exurban land uses. Along an urban-rural gradient in New York, nitrogen and phosphorous levels in oak forest soils increased with increasing urbanization (Pouyet et al. 1995). Increased nitrogen availability tends to simplify biotic communities and favor exotic species (Vitousek et al. 1997). Nutrient effects may be particularly manifest in aquatic systems. Natural-amenity exurban development around four Wisconsin lakes has affected water quality and altered diatom communities (Garrison and Wakeman 2000). As

once-seasonal homes along these lakeshores were converted to year-long use, the amount of impervious surface increased and consequently run-off and sediment load to the lakes also increased. Increased levels of phosphorous, iron, and aluminum were tied to a shift from benthic to mainly planktonic diatoms and an increase in diatom taxa indicative of eutrophic conditions. Water quality in the higher alkalinity lakes showed improvement as construction slowed, but the lower alkalinity lakes appeared to be more sensitive to shoreline development, and water quality did not improve in these lower alkalinity lakes.

Alteration of biotic interactions

As human settlement alters species distributions, interactions among species may be changed with consequences for species viability and ecosystem function (Daszak et al. 2000, Marzluff 2001). Best studied among these changes in biotic interactions are predator-prey relationships. As illustrated by the Colorado case study, both native and nonnative predators may become abundant near human development and inflict heavy prey heavily upon other native species. Similarly, Wilcove (1985) found that suburban woodlots in Maryland experienced significantly higher rates of nest predation than did rural woodlots, likely as a result of higher densities of nest predators such as the Blue Jay (*Cyanocitta cristata*), Common Grackle (*Quiscalus quiscula*), gray squirrel (*Sciurus carolinensis*), and raccoon. Some predators may become abundant near human dwellings due to human subsidized food supplies (Marzluff 2001). This may also result from the loss of large carnivores that are intolerant to urbanizing landscapes, and the consequential release of mesopredators that are tolerant to human influences (Soulé et al. 1988, Crooks and Soulé 1999). Herbivores are also released by the elimination of large predators in developed areas, and the increased herbivory by deer and rabbits can have a major effect on plant diversity, both in urban parks and the surrounding landscapes.

Because predator occurrence and tolerance vary geographically, biodiversity response to urbanization may vary among regions of the United States. As described above, native songbird nest success declined in Montana as cowbird density increased with rural home density (Tewksbury et al. 1998, Hansen and Rotella 2002). In contrast, the absence of Brown-headed Cowbirds in King County, Washington, may be a factor in the lack of nest parasitism in the Seattle case study (Donnelly and Marzluff 2004).

Changes in competitive interactions induced by development are well illustrated by invasive plant interactions with native species. English Ivy (*Hedera helix*) was introduced as an ornamental plant and kills native trees through competition for light (Reichard 2000) in much of the continental United States. Similarly, Norway maple (*Acer platanoides*), a shade tree introduced

to eastern deciduous forests, out-competes native maples and beeches (Webb et al. 2001).

Many examples of the spread of infectious diseases related to human settlement exist. These can be classified as (1) human facilitated dispersal or translocation of hosts and parasites, (2) supplemental feeding, and (3) disease "spill-over" from domestic to wild populations (Daszak et al. 2000). Supplemental feeding of white-tailed deer at rural home sites was found to be directly related to the maintenance of bovine tuberculosis in Michigan deer populations (Michigan Department of Natural Resources 1999). Similarly, bird-feeders were found to increase the concentration of House Finches (*Carduelis mexicanus*) and other bird species, enhancing the spread of mycoplasmal conjunctivitis (Fisher et al. 1997, Nolan et al. 1998). Last, many examples of "spill-over" of infectious diseases to wildlife involve domestic dogs. Canine distemper virus, canine parvovirus, and sarcoptic mange (*Sarcoptes scabiei*) are three pathogens known to have spread due to domestic dog-wildlife interactions, and are suspected to have caused population declines in the endangered gray wolf (*Canis lupus*) and black-footed ferret (*Mustela nigripes*) (Daszak et al. 2000).

Human disturbance

Finally, the presence of humans and their pets around home sites can directly influence biodiversity. Human presence in yards or on trails near homes may displace some species of wildlife. Bald Eagles (*Haliaeetus leucocephalus*), for example, may decline in number in areas with increasing human recreation (Brown and Stevens 1997, Stalmaster and Kaiser 1998). Pronghorn antelope (*Antilocapra americana*) on Antelope Island State Park in Utah retreated further from trails once they were opened for recreational use (Fairbanks and Tullous 2002). Likewise, elk (*Cervus canadensis*) approached by humans during calving season, were repeatedly displaced resulting in elevated calf mortality (Phillips and Alldredge 2000).

Pets may also displace, injure, or kill wildlife. Pet cats are responsible for the deaths of millions of birds in the United States every year, and in Wisconsin alone, an estimated 39 million birds per year are lost to domestic cats (Coleman and Temple 1996). Pet dogs also act as predators in many ecosystems. In Florida, pet dogs have effected the distribution of the endangered key deer (*O. virginianus clavium*), and are suspected to have eliminated them from several islands in the Florida Keys. In Colorado, the flushing distance of ungulates to human hikers was increased if a pet dog was present (Miller et al. 2001). Because rural pets kill more than their suburban and urban counterparts, adverse effects on native species are potentially greatest in the undisturbed habitat near new rural residential developments (Barratt 1998).

Another direct consequence of suburban and exurban residential growth in the United States has been an increase in vehicle miles traveled per person and per household, escalating the potential for roadkill. Between 1980 and 2000, overall per capita vehicular travel in the United States increased by 48.7%, of which the fastest growing component was "home-based" travel, including shopping, recreation, and driving to school. Although mortality of animals from collision with vehicles is best documented in large mammals, few terrestrial species are immune (Trombulak and Frissell 2000). Roadkill has affected the demographics and migrations of birds, snakes, invertebrates, and amphibians, and is a major cause of mortality for moose, lynx (*Felis pardina*), wolves, and American crocodile (*Crocodylus acutus*) in various regions of the United States (Trombulak and Frissell 2000).

CONCLUSION

Our major conclusion is that exurban development is a pervasive and fast-growing form of land use that is substantially understudied by ecologists and has large potential to alter biodiversity. Covering about 25% of the land area of the conterminous United States in 2000 (Brown et al. 2005), area in exurban land use increased since 1974 at rates in excess of area in urban or agricultural land uses. Ecologists have traditionally focused research on wild or semi-wild lands (Miller and Hobbs 2002). The relatively few studies on exurban development are mostly done as contrasts to urban land use. Consequently, knowledge of the effects of exurban density, spatial configuration, and homeowner behavior on biodiversity, and specific mechanisms for response is poorly developed.

The relatively few studies on exurban development suggest that its impacts on biodiversity may be substantial, both in the immediate vicinity of homes and even on adjacent or even distant public lands. These impacts are summarized as follows.

1) Many native species incur reduced survival and reproduction near homes and consequently native species richness generally drops with increased exurban densities. At the same time, some exotic species and some human-adapted native species generally increase with intensity of exurban development.

2) The relationship between these elements of biodiversity and intensity of exurban development are sometimes nonlinear, with sharp thresholds where biodiversity changes abruptly with incremental increases in exurban intensity. Knowledge of these thresholds is important for managing exurban development to achieve biodiversity objectives.

3) These effects may be manifest for several decades following exurban development, so that biodiversity is likely still responding to the wave of exurban expansion that has occurred since 1950.

4) The location of exurban development is often nonrandom relative to biodiversity because both are influenced by biophysical factors such that they are concentrated in more equitable landscape settings. Consequently, the effects on biodiversity may be disproportionately large relative to the area of exurban development.

5) The effects of exurban development on biodiversity likely differ among ecosystem types. Additional research is needed to derive generalities on the types of ecosystems that are relatively vulnerable to exurban development.

6) An identifiable set of ecological mechanisms link exurban development and biodiversity. More research is needed on these mechanisms and the resulting knowledge can help with understanding, managing, and mitigating these impacts.

7) In addition to local effects, exurban development may alter ecological processes and biodiversity on adjacent and distant public lands. Consequently, exurban development in rural areas may have even more important impacts than in the urban fringe because of the elevated influence on lands dedicated to conservation and on wilderness species that are rare in human-dominated landscapes.

It is our hope that this review inspires the additional research that is needed to better understand and manage the impacts of this important type of land use.

ACKNOWLEDGMENTS

We thank the NASA Land Cover Land Use Program, the EPA Regional Sustainability Programs, and the National Science Foundation (DEB-9875041, BCS-0120024, IGERT-0114351) for financial support. Josh Newell drafted Fig. 1. Michael Huston, two anonymous reviewers, and editor Monica Turner provided helpful comments on the manuscript.

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EXHIBIT 6



DOMESTIC CAT PREDATION ON BIRDS AND OTHER WILDLIFE



How many birds and other wildlife do domestic cats kill each year in the U.S.?

Exact numbers are unknown, but scientists estimate that nationwide, cats kill hundreds of millions of birds, and more than a billion small mammals, such as rabbits, squirrels, and chipmunks, each year. Cats kill common species such as Cardinal, Blue Jay, and House Wren, as well as rare and endangered species such as Piping Plover, Florida Scrub-Jay, and California Least Tern.

There are more than 77 million pet cats in the United States. A 1997 nationwide poll showed that only 35% are kept exclusively indoors, leaving the majority of owned cats free to kill birds and other wildlife at least some of the time. In addition, millions of stray and feral cats roam our cities, suburbs, farmlands and natural areas. Abandoned by their owners or lost (stray), or descendants of strays and living in the wild (feral), these cats are victims of human irresponsibility due to abandonment and failure to spay or neuter pets. No one knows how many homeless cats there are in the U.S., but estimates range from 60 to 100 million. These cats lead short, miserable lives.

Loss of wildlife habitat and fragmentation due to human development are the leading causes of declining bird populations. However, scientists now list invasive species, including cats, as the second most serious threat to bird populations worldwide. Habitat fragmentation provides cats and other predators easier access to wildlife forced to live on smaller tracts of land. Rather than havens for wildlife, these areas can be death traps.

Cats Are *Not* a Natural Part of Ecosystems

The domestic cat, *Felis catus*, is a descendant of the European and African wild cats. Domesticated in Egypt more than 4,000 years ago, cats may be the most widespread predator in the world. In the U.S., cats were not abundant until the late 1800s when they were brought to help control burgeoning rodent populations associated with agriculture. Some people view cat predation of rodents as beneficial, but native small mammals are important to maintaining biologically diverse ecosystems. Field mice and shrews are also important prey for birds such as Great Horned Owl and Red-tailed Hawk.



Great Horned Owl

Photo: Clipart.com

Cats Compete With Native Predators

Owned cats have huge advantages over native predators. They receive protection from disease, predation, competition, and starvation — factors which control native predators such as owls, bobcats, and foxes. Cats with dependable food sources are not as vulnerable to changes in prey populations. Unlike many native predators, cats are not strictly territorial. As a result, cats can exist at much higher densities and may out-compete native predators for food. Unaltered cats are also prolific breeders. In warmer climates, a female cat can have 3 litters per year, with 4 to 6 kittens per litter.

Cats Transmit Disease to Wildlife

Unvaccinated cats can transmit diseases, such as rabies, to other cats, native wildlife and humans. Cats are the domestic animal most frequently reported to be rabid to the Centers for Disease Control and Prevention. Cats are also suspected of spreading fatal feline diseases to native wild cats such as mountain lion, the endangered Florida panther, and bobcat. For more information, see the fact sheet, *The Great Outdoors Is No Place For Cats* at www.abcbirds.org/cats.

Cat Predation Studies

Extensive studies of the feeding habits of free-roaming domestic cats have been conducted over the last 55 years in Europe,



Photo: Alan Hopkins

California Quail

North America, Australia, Africa, and on many islands. These studies show that the number and types of animals killed by cats varies greatly, depending on the individual cats, the time of year, and availability of prey. Roughly 60% to 70% of the wildlife cats kill are small mammals; 20% to 30% are birds; and up to 10 are amphibians, reptiles, and insects. However, birds can be up to 100% of a cat's prey on some islands.

Some free-roaming domestic cats kill more than 100 animals each year. One well-fed cat that roamed a wildlife experiment station was recorded to have killed more than 1,600 animals (mostly small mammals) over 18 months. Rural cats take more prey than suburban or urban cats. Birds that nest or feed on the ground, such as California Quail, are the most susceptible to cat predation, as are nestlings and fledglings of many other bird species.

The following are summaries of specific studies:

East Bay Regional Park District, CA: A two-year study was conducted in two parks with grassland habitat. One park had no cats, but more than 25 cats were being fed daily in the other park. There were almost twice as many birds seen in the park with no cats as in the park with cats. California Thrasher and California Quail, both ground-nesting birds, were seen during surveys in the no-cat area, whereas they were *never* seen in the cat area. In addition, more than 85% of the native deer mice and harvest mice trapped were in the no-cat area, whereas 79% of the house mice, an exotic pest species, were trapped in the cat area. The researchers concluded, "Cats at artificially high densities, sustained by supplemental feeding, reduce abundance of native rodent and bird populations, change the rodent species composition, and may facilitate the expansion of the house mouse into new areas." (Hawkins, C.C., W.E. Grant, and M.T. Longnecker. 1999. Effect of subsidized house cats on California birds and rodents. *Transactions of the Western Section of The Wildlife Society* 35:29-33).

San Diego, CA: In a study of the relationships between coyote, mid-sized predators such as cats, and scrub-dwelling birds, cat owners living along the rims of canyons collected the prey their cats brought home. These canyons are isolated pockets of habitat with species that may not occur elsewhere. On average, each

outdoor cat that hunted returned 24 rodents, 15 birds, and 17 lizards to the residence per year. Birds were 26.7% of the prey killed by cats. The researchers

estimated that cats surrounding mid-sized canyons return 840 rodents, 525 birds, and 595 lizards to residences each year. This level of predation appears to be unsustainable. The study



Photo: Dr. Gil Ewing

Cat catching Yellow-rumped Warbler

also found that in small canyons where the coyote was absent, there was an increase in mid-sized predators such as cats, and a drastic decline in diversity or elimination of scrub-breeding birds. But in the larger canyons where coyotes were still present, the scrub-breeding birds were also present. (Crooks, K.R. and M.E. Soule. 1999. Mesopredator release and avifaunal extinctions in a fragmented system. *Nature* 400:563-566).

England: The Mammal Society conducted a survey of animals brought home by domestic cats. During a five-month period in 1997, 964 cats killed more than 14,000 animals. The mean number of catches or kills per cat was 16.7, and birds were 24% of the prey. The mean kill rates for belled cats was 19 and for no-bells 15. In other words, cats wearing bells killed more. Only 162 rats were killed by the cats, making them very poor ratters. The researchers concluded, "Although it is unlikely that cats alone will cause any species to become endangered in Britain, for those which are already under pressure for other reasons, such as thrushes, harvest mice, grass snakes, and slow worms, cats could become significant." (The Mammal Society. 1998. Look what the cat's brought in! www.abdn.ac.uk/mammal/catkills).

Wichita, KS: In a study of cat predation in an urban area, 83% of the 41 study cats killed birds. In all but one case, when feathers were found in scat, the owner was unaware that their cat had ingested a bird. In fact, the majority of cat owners reported their cats did not bring prey to them. Instead, the owners observed the cats with the bird or found remains in the house or in other locations. A declawed cat killed more animals than any other cat in the study. (Fiore, C. and K. B. Sullivan. Domestic cat (*Felis catus*) predation of birds in an urban environment. www.zenilites.com/the_scorpion_Article.html).

Wisconsin: Researchers at the University of Wisconsin coupled their four-year cat predation study with data from other studies, and estimated that rural free-roaming cats kill at least 7.8 million and perhaps as many as 217 million birds a year in Wisconsin. Suburban and urban cats add to that toll. In some parts of the state, free-roaming cat densities reach 114 cats per square mile, outnumbering all similar-sized native predators. (Coleman, J.S., S.A. Temple, and S.R. Craven. 1997. Cats and Wildlife: A

Conservation Dilemma. 6 pp. www.wisc.edu/extension/cat/3.htm). In an ongoing, but unpublished, study of cat prey items including stomach contents, scat analysis, observations of kills, and prey remains, birds were 19.6% of 1,976 prey captured by 78 outdoor cats (Temple, S.A. Univ. of WI, personal communication, 1/22/04).

Virginia Researchers compared a free-roaming domestic pet cat in a rural area with 4 urban cats. The rural cat captured a total of 27 native species (8 bird, 2 amphibian, 9 reptile, and 8 mammal, including the star-nosed mole, a species of special state concern). The 4 urban cats captured 21 native species (6 bird, 7 reptile, and 8 mammal). Between January and November 1990 each cat caught, on average, 26 native individuals in the urban area, and 83 in the rural area. The study did not count prey killed and completely consumed, prey killed and left elsewhere, prey that escaped but died later from infection or injury, or non-native prey. (Mitchell, J. and R.A.Beck. 1992. Free-ranging domestic cat predation on native vertebrates in rural and urban Virginia. *Virginia Journal of Science* 43:197-206).

Cats on Islands: Because some island bird populations evolved in the absence of mammalian predators, they have no defense mechanisms against them. When cats are introduced or abandoned

on an island, elimination of entire bird populations can result. Domestic cats are considered primarily responsible for the extinction of 8 island bird species, including Stephens Island Wren,

Photo: David G. Smith



Wedge-tailed Shearwater

Chatham Island Fernbird, and Auckland Island Merganser, and the eradication of 41 bird species from New Zealand islands alone. On Marion Island in the Sub-Antarctic Indian Ocean, cats were estimated to kill 450,000 seabirds annually prior to cat eradication efforts. (Veitch, C.R. 1985. Methods of eradicating feral cats from offshore islands in New Zealand. *ICBP Technical Publication* 3: 125-141).

Cats in Habitat Islands: Cats can have significant impacts on local wildlife populations, especially in habitat "islands" such as suburban and urban parks, wildlife refuges, and other areas surrounded by human development. The loss of bird species from habitat islands is well documented, and nest predation is an important cause of the decline of neotropical migrants. (Wilcove, D.S. 1985. Nest predation in forest tracts and the decline of migratory songbirds. *Ecology* 66: 1211- 1214). The endangered Point Arena mountain beaver, Stephen's kangaroo rat, and Pacific pocket mouse now live on habitat islands created by destruction and fragmentation of their habitat in California. Predation by pet and

feral cats on these species is a serious threat to their future existence. (Thelander, C.G. and M. Crabtree. 1994. *Life on the Edge. A Guide to California's Endangered Natural Resources: Wildlife*. BioSystems Books, Santa Cruz, California).

Cat Predation of Federally-Protected Wildlife

The Migratory Bird Treaty Act (MBTA) prohibits the hunting, taking, capturing, or killing of any migratory bird. In seeming violation of this landmark law, owners of free-roaming cats permit their pets to kill birds protected by the MBTA. As noted above, domestic cats are also killing birds and other wildlife protected under the Endangered Species Act (ESA).



Photo: Lori Cohen

Cat with Blackpoll Warbler

Through the ESA, the federal government protects and restores wildlife at risk of extinction. Although cats may not be responsible for the perilous status of endangered wildlife, the loss of even a single animal can be a setback to the survival of some species.

The Truth About Cats and Birds:

Well-fed Cats Do Kill Birds. Well-fed cats kill birds and other wildlife because the hunting instinct is independent of the urge to eat. In one study, six cats were presented with a live small rat while eating their preferred food. All six cats stopped eating the food, killed the rat, and then resumed eating the food. (Adamec, R.E. 1976. The interaction of hunger and preying in the domestic cat (*Felis catus*): an adaptive hierarchy? *Behavioral Biology* 18: 263-272).

Cats With Bells on Their Collars Do Kill Birds. Studies have shown that bells on collars are not effective in preventing cats from killing birds or other wildlife. Birds do not necessarily associate the sound of a bell with danger, and cats with bells can learn to silently stalk their prey. Even if the bell on the collar rings, it may ring too late, and bells offer no protection for helpless nestlings and fledglings.

Most Birds That Seem to Escape Don't Survive Wildlife rehabilitation centers report that most small animals injured by cats die. Cats carry many types of bacteria and viruses in their mouths, some of which can be transmitted to their victims. Even if treatment is administered immediately, only about 20% of these patients survive the ordeal. A victim that looks perfectly healthy may die from internal hemorrhaging or injury to vital organs.

A large percentage of patients at wildlife rehabilitation centers are cat attack victims and animals orphaned by cats. At Wildlife Rescue, Inc. in Palo Alto, California, approximately 25% of



Cat attacked Western Scrub-Jay

Lindsay Wildlife Museum in California were caught by cats. Cat predation of wildlife is especially frustrating to wildlife rehabilitators. These losses are totally unnecessary because

their patients between May and June 1994 were native cat-caught birds, and almost half were fledglings. Thirty percent of birds, and 20% of mammals at the

unlike other predators, pet cats do not need to kill these animals to survive.

Cat Colonies Are a Problem for Birds and Other Wildlife:

Domestic cats are solitary animals, but groups often form around an artificial feeding source, such as garbage dumps or food specifically put out for them. These populations can grow very quickly, can have significant impacts on wildlife populations, and can cause significant health risks to other cats, wildlife, and humans. Feeding these cats does not prevent the predation of birds and other wildlife.

Conclusion: Cats are not ultimately responsible for killing our native wildlife—people are. The only way to prevent domestic cat predation on wildlife is for owners to keep their cats indoors!

For more information, contact:

AMERICAN BIRD CONSERVANCY

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EXHIBIT 7



Pipelines Explained: How Safe are America's 2.5 Million Miles of Pipelines?



Map of major natural gas and oil pipelines in the United States. Hazardous liquid lines in red, gas transmission lines in blue. Source: Pipeline and Hazardous Materials Safety Administration.

Lena Groeger

At 6:11 p.m. on September 6, 2010, San Bruno, Calif. 911 received an urgent call. A gas station had just exploded and a fire with flames reaching 300 feet was raging through the neighborhood. The explosion was so large that residents suspected an airplane crash. But the real culprit was found underground: a ruptured pipeline spewing natural gas caused a blast that left behind a 72 foot long crater, killed eight people, and injured more than fifty.

Over 2,000 miles away in Michigan, workers were still cleaning up another pipeline accident, which spilled 840,000 gallons of crude oil into the Kalamazoo River in 2010. Estimated to cost \$800 million, the accident is the most expensive pipeline spill in U.S. history.

Over the last few years a series of incidents have brought pipeline safety to national – and presidential – attention. As Obama begins his second term he will likely make a key decision on the controversial Keystone XL pipeline [1], a proposed pipeline extension to transport crude from Canada to the Gulf of Mexico.

The administration first delayed the permit for the pipeline on environmental grounds [2], but has left the door open to future proposals for Keystone's northern route. Construction on the southern route is already underway [3], sparking fierce opposition [4] from some landowners and environmentalists.

The problem, protesters say, is that any route will pose hazards to the public. While pipeline operator TransCanada has declared that Keystone will be the safest pipeline ever built [5] in North America, critics are skeptical.

"It's inevitable that as pipelines age, as they are exposed to the elements, eventually they are going to spill," said Tony Iallorardo of the National Wildlife Federation. [6] "They're ticking time bombs."

Critics of the Keystone proposal point to the hundreds of pipeline accidents that occur every year. They charge that system wide, antiquated pipes, minimal oversight and inadequate precautions put the public and the environment at increasing risk. Pipeline operators point to billions of dollars spent on new technologies and a gradual improvement over the last two decades as proof of their commitment to safety.

Pipelines are generally regarded as a safe way to transport fuel, a far better alternative to tanker trucks or freight trains. The risks inherent in transporting fuel through pipelines are analogous to the risks inherent in traveling by airplane. Airplanes are safer than cars, which kill

<http://www.propublica.org/article/pipelines-explained-how-safe-are-americas-2.5-million-...> 1/10/2014

about 70 times as many people a year (highway accidents killed about 33,000 people in 2010 [7], while aviation accidents killed 472). But when an airplane crashes, it is much more deadly than any single car accident, demands much more attention, and initiates large investigations to determine precisely what went wrong.

The same holds true for pipelines. Based on fatality statistics from 2005 through 2009 [8], oil pipelines are roughly 70 times as safe as trucks, which killed four times as many people during those years, despite transporting only a tiny fraction of fuel shipments. But when a pipeline does fail, the consequences can be catastrophic (though typically less so than airplane accidents), with the very deadliest accidents garnering media attention and sometimes leading to a federal investigation.

While both air travel and pipelines are safer than their road alternatives, the analogy only extends so far. Airplanes are replaced routinely and older equipment is monitored regularly for airworthiness and replaced when it reaches its safety limits. Pipelines, on the other hand, can stay underground, carrying highly pressurized gas and oil for decades – even up to a century and beyond. And while airplanes have strict and uniform regulations and safety protocols put forth by the Federal Aviation Administration, such a uniform set of standards does not exist for pipelines.

Critics maintain that while they're relatively safe, pipelines should be safer. In many cases, critics argue, pipeline accidents could have been prevented with proper regulation from the government and increased safety measures by the industry. The 2.5 million miles of America's pipelines suffer hundreds of leaks and ruptures every year, costing lives and money. As existing lines grow older, critics warn that the risk of accidents on those lines will only increase.

While states with the most pipeline mileage – like Texas, California, and Louisiana – also have the most incidents, breaks occur throughout the far-flung network of pipelines. Winding under city streets and countryside, these lines stay invisible most of the time. Until they fail.

Since 1986, pipeline accidents have killed more than 500 people, injured over 4,000, and cost nearly seven billion dollars in property damages. Using government data, ProPublica has mapped thousands of these incidents in a new interactive news application [9], which provides detailed information about the cause and costs of reported incidents going back nearly three decades.

Pipelines break for many reasons – from the slow deterioration of corrosion to equipment or weld failures to construction workers hitting pipes [10] with their excavation equipment. Unforeseen natural disasters also lead to dozens of incidents a year. This year Hurricane Sandy wreaked havoc [11] on the natural gas pipelines on New Jersey's barrier islands. From Bay Head to Long Beach Island, falling trees, dislodged homes and flooding caused more than 1,600 pipeline leaks. All leaks have been brought under control [12] and no one was harmed, according to a New Jersey Natural Gas spokeswoman. But the company was forced to shut down service to the region, leaving 28,000 people without gas, and it may be months before they get it back.

One of the biggest problems contributing to leaks and ruptures is pretty simple: pipelines are getting older. More than half of the nation's pipelines are at least 50 years old [13]. Last year in Allentown Pa., a natural gas pipeline exploded underneath a city street, killing five people who lived in the houses above and igniting a fire that damaged 50 buildings. The pipeline – made of cast iron – had been installed in 1928.



Feb. 2011

A fire rages through Allentown, PA, after a gas line explosion in

Not all old pipelines are doomed to fail, but time is a big contributor to corrosion, a leading cause of pipeline failure. Corrosion has caused between 15 and 20 percent of all reported "significant incidents" [14], which is bureaucratic parlance for an incident that resulted in a death, injury or extensive property damage. That's over 1,400 incidents since 1986.

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Corrosion is also cited as a chief concern of opponents of the Keystone XL extension. The new pipeline would transport a type of crude called diluted bitumen [15], or "dilbit." Keystone's critics make the case [16] that the chemical makeup of this heavier type of oil is much more corrosive than conventional oil, and over time could weaken the pipeline.

Operator TransCanada says that the Keystone XL pipeline will transport crude similar [15] to what's been piped into the U.S. for more than a decade, and that the new section of pipeline will be built and tested to meet all federal safety requirements. And in fact, none of the 14 spills that happened in the existing Keystone pipeline since 2010 were caused by corrosion, according to an investigation by the U.S. Department of State [17].

The specific effects of dilbit on pipelines – and whether the heavy crude would actually lead to more accidents – is not definitively understood by scientists. The National Academies of Science is currently in the middle of study on dilbit and pipeline corrosion [18], due out by next year. In the meantime, TransCanada has already begun construction of the southern portion of the line, but has no assurance it will get a permit from the Obama administration to build the northern section. (NPR has a detailed map of the existing and proposed routes [1].)

Little Government Regulation for Thousands of Miles

While a slew of federal and state agencies oversee some aspect of America's pipelines, the bulk of government monitoring and enforcement falls to a small agency within the Department of Transportation called the Pipeline and Hazardous Materials Safety Administration – [19] pronounced "FIM-sa" by insiders. The agency only requires that seven percent of natural gas lines and 44 percent of all hazardous liquid lines be subject to their rigorous inspection criteria and inspected regularly. The rest of the regulated pipelines are still inspected, according to a PHMSA official, but less often.

The inconsistent rules and inspection regime come in part from a historical accident. In the 60's and 70's, two laws established a federal role in pipeline safety [20] and set national rules for new pipelines. For example, operators were required to conduct more stringent testing to see whether pipes could withstand high pressures, and had to meet new specifications for how deep underground pipelines must be installed.

But the then-new rules mostly didn't apply to pipelines already built – such as the pipeline that exploded in San Bruno. That pipeline, which burst open along a defective seam weld, would never have passed modern high-pressure requirements according to a federal investigation [21]. But because it was installed in 1956, it was never required to.

"No one wanted all the companies to dig up and retest their pipelines," explained Carl Weimer, executive director of the Pipeline Safety Trust [22], a public charity that promotes fuel transportation safety. So older pipes were essentially grandfathered into less testing, he said.



C.A. after a pipeline explosion in Sept. 2010

A burned out car and charred remains of a home in San Bruno.

Later reforms in the 1990's mandated more testing for oil pipelines, and today PHMSA requires operators to test pipelines in "high consequence" areas, which include population centers or areas near drinking water. But many old pipelines in rural areas aren't covered by the same strict regulations.

Some types of pipelines – such as the "gathering" lines that connect wells to process facilities or larger transmission lines – lack any PHMSA regulation at all. A GAO report [23] estimates that of the roughly 230,000 miles of gathering lines, only 24,000 are federally

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regulated. Because many of these lines operate at lower pressures and generally go through remote areas, says the GAO, the government collects no data on ruptures or spills, and has no enforced standards for pipeline strength, welds, or underground depth on the vast majority of these pipes.

The problem, critics argue [24], is that today's gathering lines no longer match their old description. Driven in part by the rising demands of hydraulic fracturing, operators have built thousands of miles of new lines to transport gas from fracked wells. Despite the fact that these lines are often just as wide as transmission lines (some up to 2 feet in diameter) and can operate under the same high pressures, they receive little oversight.

Operators use a risk-based system to maintain their pipelines – instead of treating all pipelines equally, they focus safety efforts on the lines deemed most risky, and those that would cause the most harm if they failed. The problem is that each company use different criteria, so "it's a nightmare for regulators," Weimer said.

However, Andrew Black, the president of the Association of Oil Pipe Lines, a trade group whose members include pipeline operators, said that a one-size-fits-all approach would actually make pipelines less safe, because operators (not to mention pipelines) differ so widely.

"Different operators use different pipe components, using different construction techniques, carrying different materials over different terrains," he said. Allowing operators to develop their own strategies for each pipeline is critical to properly maintaining its safety, he contended.

Limited Resources Leave Inspections to Industry

Critics say that PHMSA lacks the resources to adequately monitor [25] the millions of miles of pipelines over which it *does* have authority. The agency has funding for only 137 inspectors, and often employs even less than that (in 2010 the agency had 110 inspectors on staff). A Congressional Research Service report [26] found a "long-term pattern of understaffing" in the agency's pipeline safety program. According to the report, between 2001 and 2009 the agency reported a staffing shortfall of an average of 24 employees a year.

A New York Times investigation last year found that the agency is chronically short of inspectors because it just doesn't have enough money to hire more [27], possibly due to competition from the pipeline companies themselves, who often hire away PHMSA inspectors for their corporate safety programs, according to the CRS.

Given the limitations of government money and personnel, it is often the industry that inspects its own pipelines. Although federal and state inspectors review paperwork and conduct audits, most on-site pipeline inspections are done by inspectors on the company's dime.

The industry's relationship with PHMSA may go further than inspections, critics say. The agency has adopted, at least in part, dozens of safety standards written by the oil and natural gas industry. [28]

"This isn't like the fox guarding the hen house," said Weimer. "It's like the fox designing the hen house."

Operators point out that defining their own standards allows the inspection system to tap into real-world expertise. Adopted standards go through a rulemaking process that gives stakeholders and the public a chance to comment and suggest changes, according to the agency.

Questions have also been raised about the ties between agency officials and the companies they regulate [29]. Before joining the agency in 2009, PHMSA administrator Cynthia Quarterman worked as a legal counsel for Enbridge Energy, the operator involved in the Kalamazoo River accident. But under her leadership, the agency has also brought a record number of enforcement cases against operators [30], and imposed the highest civil penalty in the agency's history [31] on the company she once represented.

Proposed Solutions Spark Debate

How to adequately maintain the diversity of pipelines has proved to be a divisive issue – critics arguing for more automatic tests and safety measures and companies pointing to the high cost of such additions.

One such measure is the widespread installation of automatic or remote-controlled shutoff valves, which can quickly stop the flow of gas or oil in an emergency. These valves could help avoid a situation like that after the Kalamazoo River spill, which took operators 17 hours from the initial rupture to find and manually shut off. Operators use these valves already on most new pipelines, but argue that replacing all valves would not be cost-effective and false alarms would unnecessarily shut down fuel supplies. The CRS estimates that even if automatic valves were only required on pipelines in highly populated areas, replacing manual valves with automatic ones could cost the industry hundreds of millions of dollars.

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A worker on the Kalamazoo river, helping to clean up an oil spill of almost a million gallons from a ruptured pipeline in July 2010

Other measures focus on preventing leaks and ruptures in the first place. The industry already uses robotic devices called "smart pigs" [32] to crawl through a pipeline, clearing debris and taking measurements to detect any problems [33]. But not all pipelines can accommodate smart pigs, and operators don't routinely run the devices through every line.

Just last month, a smart pig detected a "small anomaly" in the existing Keystone pipeline, prompting TransCanada to shut down the entire line. Environmentalists pointed out that this is not the first time TransCanada has called for a shut down, and won't be the last.

"The reason TransCanada needs to keep shutting down Keystone," the director of the National Wildlife Federation contended in a statement [34], "is because pipelines are inherently dangerous."

Last January, Obama signed a bill [35] that commissioned several new studies [36] to evaluate some of these proposed safety measures, although his decision on extending the Keystone pipeline may come long before those studies are completed.

Image credits: The Associated Press, Thomas Hawk [37], Kevin Martini [38]

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EXHIBIT 8



CITY OF PITTSBURG
DEVELOPMENT SERVICES DEPARTMENT
PLANNING DIVISION
65 CIVIC AVENUE
PITTSBURG, CA 94565

PROJECT PIPELINE LIST

SINGLE-FAMILY RESIDENTIAL

PROJECT	APPLICATION NO(S).	DEVELOPER	NO. UNITS	SITE ACREAGE	LOCATION	STATUS	MEETING(S)
Alves Ranch	AP-08-516 (SUB, DR, MP)	Alves Ranch, LLC (925) 831-1854	167 (SFD)	40.42	North of West Leland Road at Alves Ranch Road	Approved	01-20-09 (CC) 02-10-09 (PC)
Bancroft Gardens II	AP-03-78 (SUB 8805, DR); AP-11-730 (DR)	Discovery Builders (925) 682-6419	28	5.79	Western terminus Birchwood Drive	Subdivision Approved; DR application pending	10-26-04 (PC)
Lawlor Estates	GP-02-03, RZ-02-14; SUB 8112; AP-05-268 (DR); AP-06-391 (DA)	Discovery Builders (925) 682-6419	50	10.8	West Leland Road, east of Bailey Road	49 of 50 units - Built	05-27-03 (PC); 07-07-03 (CC); 02-14-06 (PC); 12-12-06 (PC); 01-29-07 (CC)

PROJECT	APPLICATION NO(S).	DEVELOPER	NO. UNITS	SITE ACREAGE	LOCATION	STATUS	MEETING(S)
Mariner Walk	AP-04-126 (GP, PD/RZ, SUB 8869, DR)	Mariner Pittsburg Holdings, LLC (925) 753-4007	123	15	West of Herb White Way	Under Construction	08-23-05 (PC); 10-03-05 (CC); 10-11-05 (PC)
Montreux	AP-10-684 (RZ, SUB 8279, Annexation)	Louis Parsons, Altec Homes/ Seecon Financial (925) 671-7711	368	148.3	West of Kirker Pass, just south of city limits	Pending	
San Marco Development	SUB 7362; DR-00-26; VA-00-01; DR-01-10; DR-02-23; DR-02-24; AP-05-199 (DR); AP-06-336 (DR); AP-06-346 (RZ, SUB); AP-11-779 (RZ, SUB, DR)	Discovery Builders (925) 682-6419	1,412	421	South of Hwy 4 at Willow Pass Road	Under Construction	01-19-93 (PC); 11-28-00 (PC); 02-13-01 (PC); 08-28-01 (PC); 09-10-02 (PC); 04-08-03 (PC); 03-25-05 (ZA); 07-11-06 (PC); 08-21-06 (CC); 12-07-06 (ZA) 10-15-12 (PC) 12-11-12 (PC)
Sky Ranch	RZ-02-21, SUB 8475, DR-02-48	Discovery Builders (925) 682-6419	415	163	Buchanan Road, west of Somerville Road	Approved	05-08-07 (PC); 06-04-07 (CC) 05-14-08 (LAFCO)
Sunnyside Estates	AP-11-810 (GP, RZ, SUBD)	Jackie Seeno 925-682-6419	33	4.4	Carion Court	Pending	
Tuscany Meadows	AP-12-843 (SUBD)	Discovery Builders (925) 682-6419	917	135.6	Buchanan Road at Somerville	Pending	
Vista del Mar	AP-03-33 (GP, RZ, SUB, DR); AP-06-379 (SR) AP-12-857 (AD)	William Lyon Homes (925) 543-5500	518	104	South of West Leland Road at Alves Ranch Road	Under Construction	11-23-04 (PC); 12-06-04 (CC); 06-28-05 (PC) 08-30-12 (ZA)

APARTMENTS/CONDOMINIUMS

PROJECT	APPLICATION NO(S).	DEVELOPER	NO. UNITS	SITE ACREAGE	LOCATION	STATUS	MEETING(S)
Almenara Condominiums	AP-10-670 (DR, SUB)	Meridian Modular Homes (858) 490-3624	20	.75	NE corner of Beacon and W. 10 th Streets	Built	04-13-10 (PC)
Almenara – Phase II	AP-11-777 (DR)	Domus Development (415) 856-0010	44	1.9	SW corner of W. 10 th & Beacon	Pending	
Alves Ranch	AP-08-516 (SUB, DR, MP)	Alves Ranch, LLC (925) 682-9862	364 to 393	40.42	North of West Leland Road at Alves Ranch Road	Approved (DR approval for 98 units only)	01-20-09 (CC) 02-10-09 (PC)
Los Medanos Apartments	AP-11-742 (DR)	Domus Development (415) 856-0010	30	.49	SE Corner of Los Medanos & E. 9 th Street	Approved	06-28-11 (PC); 08-15-11 (CC)
Oak Hills Apartments – Clubhouse Remodel	AP-08-567 (AD)	Sierra Pacific (925) 427-3700	264	17.2	2201 Oak Hills Circle	Approved	01-15-09 (ZA) 02-02-12 (ZA)
Peppertree Apartments – Clubhouse Remodel	AP-09-598 (AD)	Discovery Builders, Inc. (925) 682-6419	429	45	300 Peppertree Way	Approved	04-16-09 (ZA) 05-29-12 (ZA)
San Marco Development	SUB 7362; AP-06-346 (RZ, SUB)	SEECOM (925) 671-7711	1,526	141	South of Hwy 4 at Willow Pass Road	Approved; 330 Units Built	01-24-95 (PC); 07-11-06 (PC); 08-21-06 (CC)
Stoneman Village Rooftop Railing	AP-12-844 (AD)	Donovan Rittenbach, Allied Construction Service	148	2.67	390 East Leland Rd	Built	05-29-12 (ZA)
Woodland Hills Apartments – Clubhouse Remodel	AP-09-599 (AD)	Discovery Builders (925) 682-6419	220	10.28	241 West Buchanan Rd.	Approved	04-16-09 (ZA) 05-31-12 (ZA)
Woods Manor Apartments Remodel	AP-08-530 (DR)	BRIDGE Housing Corp. (415) 989-1111	82	5.8	850 East Leland Rd.	Under Construction	07-08-08 (PC) 07-14-09 (PC)

MIXED USE PROJECTS

PROJECT	APPLICATION NO(S).	DEVELOPER	RES. UNITS	NONRES. SQ. FT.	SITE ACREAGE	LOCATION	STATUS	MEETING(S)
Siena Court Senior Apartments	AP-09-583 (DR)	Domus Development (415) 856-0010	111	10,300	1.98	Western side of the 700 block of Railroad Ave	Built	03-10-09 (PC)
Vidrio – Block B	AP-05-225 (DR)	Pittsburg RDA	75	11,558 sq. ft.	2.41	Western side of 600 block of Railroad Avenue	Built	01-24-06 (PC)

COMMERCIAL

PROJECT	APPLICATION NO(S).	DEVELOPER/APPLICANT	BLDG. SQ. FT.	SITE ACREAGE	LOCATION	STATUS	MEETING(S)
2110 Railroad Avenue Retail Shell Building	AP-12-888 (DR)	DCI (916) 934-0106	8,250	062	2110 Railroad Avenue	Pending	
3811 Railroad Building Remodel	AP-11-751 (AD)	Richard Mao (510) 552-1687	5,700	1.92	3811 Railroad Avenue	Under Construction	04-13-11 (ZA)
All Star Ford	AP-12-882 (UP)	Brian Nokes	44,027	7	3800 Century Ct.	Approved	12-27-12 (PC)
Burger King Remodel	AP-12-894 (AD)	Anthony Sacca (707) 486-2771	3,405	.92	2162 Railroad Ave.	Pending	
Burlington Coat Factory Addition	AP-10-738 (DR)	Discovery Builders (925) 682-6419	6,360 (add'n)		4105 Century Blvd.	Built	02-08-11 (PC)
California Theater Remodel	AP-08-533 (DR)	City of Pittsburg, Attn: Dick Abono (925) 252-4044	16,000	.23	351 Railroad Ave.	Under Construction	10-14-08 (PC)
Century Plaza Remodel	AP-06-353 (DR)	Sierra Pacific (925) 427-3700	439,830	50.0	Century Blvd at Somersville Road	Approved (expires 9/26/14)	09-26-06 (PC); 09-22-09 (PC) 10-25-11 (PC)
Chili's Remodel	AP -12-816 (DR)	Robert Montgomery, Brinker International (972) 770-7227	5,897	1.68	4330 Century Blvd	Built	02-07-12 (ZA)
Clear Channel Digital Sign	AP-12-825 (SR)	Robert Hatton 510-446-7216	n/a	2.79	Frontage Road at Dover Way	Pending	

PROJECT	APPLICATION NO(S).	DEVELOPER/ APPLICANT	BLDG. SQ. FT.	SITE ACREAGE	LOCATION	STATUS	MEETING(S)
Continental Tow	AP-12-818 (UP)	Chris Rockenbaugh (925) 250-5465	n/a	1.43	2731 Pittsburg / Antioch Highway	Pending	
Contra Costa County Fire Prevention Bureau Office Building	AP-09-642 (DR) AP-11-744 (SR) AP-11-745 (SR)	Ron Guelden CCC Fire Protection District (925) 941-3300	6,227	1.91	2331 Loveridge Road	Built	12-08-09 (PC)
Delta Gateway Pad 12	AP-12-889 (DR)	Discovery Builders (925) 682-6419	10,623	1.04	Western Terminus of Delta Gateway Boulevard	Pending	
EJ Phair	AP-07-496 (DR)	John Phair (925) 595-1687	13,331	0.16	200 Cumberland Street	Built	05-13-08 (PC)
EJ Phair	AP-10-691 (UP)	John Phair (925) 595-1687	13,331	0.16	200 Cumberland Street	Approved	07-27-10 (PC)
El's Smog Shop	AP-12-881 (UP)	Aristotle Ramiro 925-252-0707	7,000	0.48	2172 Piedmont Way	Pending	01-08-13
Fermin's Autobody	AP-08-546	Fermin Ruiz	3,213	7,500 sq.ft.	437 W. 10 th Street	Under Construction	10-01-09 (ZA) 01-25-12 (ZA)
Ford Relocation Remodel	AP-12-883 (AD)	Brian Nokes	44,027	7	3800 Century Ct.	Under Construction	12-06-12 (ZA)
Granite Expo Outlet	AP-12-823 (VA)	Jacky Li 510-507-0999	50,200	4.66	3033 Harbor Street	Approved	3/29/2012 (ZA)
Island Pacific Supermarket	AP-12-812 (UP, AD)	Island Pacific Enterprises	15,026	3.18	2100 North Park Blvd.	Under Construction	02-28-12 (UP, AD)
La Marina Laundromat	AP-09-659 (AD)	Mercedes Grandez (925) 938-8019	4,500	11,415	301 East 10 th St.	Built	04-29-10 (ZA)
Lumpy's Diner Rear Outdoor Patio Cover	AP-12-828 (AD)	City of Pittsburg, Attn: Kolette Simonton	535 (new structure)	.08	615 Railroad Ave.	Built	03-27-12 (PC)
Marina Commercial Center	AP-07-461 (VA, DR)	Palm Plaza Development (925) 392-6611	22,861	9.73	Northeast side of Marina Blvd	Built	09-25-07 (PC) 04-22-08 (PC)
Maya Cinemas	AP-12-832 (AD)	Doug Messner, Sierra Pacific Properties	60,836	1.039	4085 Century Blvd.	Built	04-30-12 (PC)
McDonalds Remodel	AP-11-773 (DR)	Ware Malcomb Architects (925) 244-9620	3,907	.55	460 Atlantic Ave.	Built	07-26-11 (PC)
My Beauty Salon and Supply Company.	AP-12-837 (AD)	Bobby White (925) 522-1687	8,321	13.500	777 Railroad	Approved	9-7-2012 (ZA)
New Bethel Missionary Baptist Church	AP-08-543 (DR) AP-09-824 (UP, DR)	Frances Greene (925) 432-4566	20,600	2.41	360 Central Ave	Under Construction	10-14-08 (PC) 11-17-09 (PC)

PROJECT	APPLICATION NO(S).	DEVELOPER/ APPLICANT	BLDG. SQ. FT.	SITE ACREAGE	LOCATION	STATUS	MEETING(S)
New Mecca Restaurant Expansion	AP-08-582 (DR, OD, SE)	Redevelopment Agency of the City of Pittsburg; Guillermo & Teresa Muniz	7,225	0.23	306 & 324 Railroad Ave.	Built	02-10-09 (PC)
MoMo Restaurant	AP-812-817 (UP, OD)	Philip Yang (510) 334-2577	3,360	.47	610 Railroad Ave.	Under Construction	03-27-12 (PC)
North Park Commercial Center Expansion	AP-12-890 (UP, DR, VA); AP-12-891 (UP, DR, VA); AP-12-892 (UP, DR); AP-12-893 (DR, VA)	Discovery Builders (925) 682-6419	63,151	10.5	North Park Boulevard	Pending	
PBA Chapel Project	AP-12-867 (AD)	Elden Limmeo (925) 439-3660	28,517	1.46	310 Central Ave	Pending	
Pittsburg Library Café (1,280 square foot addition)	AP-10-707 (ADR)	City of Pittsburg 925-252-4015	7,000	1.75	80 Power Avenue	Under Construction	08-10-10 (PC)
Pittsburg Library Addition (2,050 square foot addition)	AP-11-746 (ADR)	City of Pittsburg 925-252-4105	7,000	1.75	80 Power Avenue	Under Construction	05-09-11 (ZA)
Red Lobster Remodel	AP-12-813 (ADR)	GHA Architecture and Development 972-239-8884	8,493	0.395	4095 Century Boulevard	Built	01-31-12 (ZA)
San Marco Gas Station & Convenience Store	AP-09-588 (RZ, UP, DR)	Discovery Builders (925) 682-6419	6,000	1.44	Northwest corner, San Marco Blvd. & West Leland Road	Approved	07-19-10 (CC) 07-27-10 (PC)
St. Claire Cigars	AP-12-878	Aaron Turner 707-290-2121	880	0.18	64 E. 4 th Street	Pending	
Synergy Charter School	AP-12-848 (UP)	Margie DiGiorgio	6,800	.38	355 East Leland Rd.	Built	07-10-12 (PC)
The Post	AP-12-885 (UP)	Eric Huber 925-852-9740	4,550	0.33	501 Railroad Avenue	Pending	
Tow Workx	AP-12-851 (ZA)	Robert Porter	4,600	7.38	100A Bliss Ave.	Approved	08-14-12 (ZA)
Trench Plate Above Ground Fuel Storage Tank	AP-12-814 (UP)	Caspar Busalacchi 415-990-116	2,400	3.25	530 Garcia Avenue	Built	02-28-12 (PC)
Wilson's Dance Studio	AP-12-886	Hannah Wilson 925-207-6097	2,574	0.143	1187 Railroad Lane	Pending	1-08-13

INDUSTRIAL

PROJECT	APPLICATION NO(S).	DEVELOPER	BLDG. SQ. FT.	SITE ACREAGE	LOCATION	STATUS	PC MEETING
All Bay Vehicle Donations	AP-09-615 (UP)	Robert Knox (925) 427-4483	900	1.56	1225 Loveridge Road	Approved; Appeal Pending	11-09-10 (PC)
Avila Road RV Storage Yard and Caretaker's Quarters	AP-12-863 (UP) and AP-12-880 (AD)	Legacy Framers 925-427-1011	1,198	12.5	101 Avila Road	Approved	12-11-12 (UP, AD)
Columbia Solar Energy	AP-12-879 (DR, RZ, DA)					Pending	
DDSD Solar Carport Canopies	AP-11-776 (AD)	DDSD - Irene O'Sullivan (925) 756-1917	23,735	.69	2500 Pittsburg- Antioch Hwy	Approved	08-19-11 (ZA)
DDSD Fueling Station Replacement	AP-12-859 (UP)	Patricia Chapman	n/a	14.69	2500 Loveridge Road	Approved	9-13-12 (PC)
Dow Alpha MRU and T-3	AP-12-831 (AD)	Phil McAllister, DOW Chemical Company		248.27	900 Loveridge Road	Approved	04-09-12 (ZA)
Family Medical Transport Gelateria Naia	AP-12-871 (UP) AP-12-872 (UP)	Amelia Younis Trevor Morris	13,680 5,500	1.15	2250 Freed Ave 671 Willow Pass Road #7	Approved Approved	11-13-12 (PC) 11-13-12 (PC)
Irish Construction	AP-11-769 (UP, DR)	Irish Construction (626) 288-8530	7,770	2.45	2141/2151 Piedmont Way	Built	07-26-11 (PC)
K 2 Pure	AP-08-573 (UP, DR)	Tim Morris (715) 421-2814	40,000+	15	950 Loveridge Road	Under Construction	10-19-09 (PC)
K2 Pure Fuel Cells	AP-11-792 (AD)	Peter Ellefson			950 Loveridge Road	Built	11-17-11 (ZA)
K 2 Pure, Phase III – HCl Skid Project	AP-11-793 (DR)	Tim Morris (715) 421-2814			950 Loveridge Road	Built	01-24-12 (PC)
LA-SRDC, LLC/ Scrap Metal Loading Project	AP-12-815 (UP, DR)	JinHo (David) Huh (773) 329-0598	320	1	900 Loveridge Road	Approved	02-28-12 (PC)
Lara's Concrete	AP-07-430 (UP)	Luis Lara (925) 458-6304	4,800	5	104 Avilla Road	Pending	
Marine Express Site Improvements	AP-12-864 (DR)	Randy Esch	168	2.86	695 East 3 rd Street	Pending	
MDR, Inc. Contractor Yard	AP-12-846 (UP, DR)				2139 Harbor St.	Pending	
Mount Diablo Recycling Center – Expansion of Use Permit	AP-09-654 (UP)	Dave Adler 925-682-7492	82,611	11.05	1300 Loveridge Road	Approved	01-12-10 (PC)

PROJECT	APPLICATION NO(S).	DEVELOPER	BLDG. SQ. FT.	SITE ACREAGE	LOCATION	STATUS	PC MEETING
Mount Diablo Resource Recovery Park – Modification of Transfer Station/Recycling Center Permits	AP-10-712 (UP)	Dave Adler 925-682-7492	82,611	17.5	1300 Loveridge Road	Pending	
PraxAir Temporary Modular Office Trailer	AP-12-869	Lee Sahagan, PraxAir	1,200	31.5	2000 Loveridge Rd.	Approved	09-27-12 (ZA)
Ramar Foods Solar Panels	AP-10-681 (DR)	Primo Quesada (925) 439-9009	31,230	2.27	355 Central Ave	Approved	05-08-10 (PC)
Ramar Foods Fuel Cell Installation	AP-12-839 (AD)	Primo Quesada (925) 439-9009	31,230	2.27	355 Central Ave	Approved	06-18-12 (ZA)
Rege Yard	AP-11-775 (UP)	David Rege (510) 599-9076	Portion of 217,800	5	111 Avila Road	Pending	
Trans Bay Cable	AP-04-157 (DA); AP-07-500 (DR)	Trans Bay Cable, LLC (415) 618-3301	25,150	5.6	570-610 West Tenth Street	Built	10-24-06 (PC); 11-06-06 (CC); 11-27-06 (CC); 01-29-07 (CC)
United Spiral Pipe Manufacturing Plant	AP-07-445 (UP, VA, DR, MS-676-07)	United Spiral Pipe, LLC (925) 439-6442	352,000	44.8	900 East Third Street	Built	09-25-07 (PC); 10-23-07 (PC)
Walmart Limited Remodel	AP-11-8907 (AD, SR)	Shade Lawrence O'Quinn (214) 749-0626	125,999	12.475	2203 Loveridge Road	Built	02-10-12 (ZA)
WesPac Energy – Pittsburg Terminal	AP-11-761 (UP, DR)	Art Deifenbach, WesPac Energy (949) 478-3158		164	696 West 10 th Street	Pending	

LONG RANGE PLANNING PROJECTS

PROJECT	APPLICATION NO(S).	SITE ACREAGE	LOCATION	STATUS	MEETING(S)
Hillside Development Standards & Design Guidelines	n/a	TBD		On Hold (indefinitely)	

James Donlon Blvd. Extension (Buchanan Bypass) & Southeast Hills Annexation, including General Plan Amendment and Rezoning	n/a	TBD	South of the existing city limits and east of Kirker Pass Road.	Pending; Environmental review (Draft EIR) underway	
Pittsburg Bay Point BART Master Plan	n/a	Approx. 55 acres	Vacant land and parking lots surrounding the existing BART Station	Approved	7-26-11 (PC) 8-15-11 (CC) 10-17-11 (CC)
Pittsburg Housing Element	Click Here for More Information	City-wide	City-wide	Approved; and certified by the State Department of Housing and Community Development.	5-12-09 (PC); 6-1-09 (CC); Amendments Adopted 7-6-10 (CC)
Railroad Avenue Specific Plan (eBART)	Click Here for More Information	1,076	Area within 1/2-mile of future eBART Station at State Route 4 and Railroad Avenue	Approved	07-06-09 (CC); 08-11-09 (PC); 09-21-09 (CC); 10-19-09 (CC); 11-02-09 (CC)
Southwest Hills/Faria Annexation	AP-10-717 (Annexation, RZ) Applicant: Faria Land Investors, LLC. (925) 682-6419	606	Southwest Hills	Pending; Environmental review underway	

List of Abbreviations of Permits:

AD (AD)	Administrative Design Review (Approval or Denial by Planning Staff)
DR (DR)	Design/Architectural Review (Approval or Denial by Planning Commission)
DA	Development Agreement
GP	General Plan Amendment
MS	Minor Subdivision
MP	Master Plan
PR	Preliminary Plan Review
RZ	Zoning Amendment
SR	Sign Review
SUB	Major Subdivision
UP	Conditional Use Permit
VA	Variance

Other Abbreviations:

CC	City Council review and/or action
PC	Planning Commission review and/or action
ZA	Zoning Administrator review and/or action
EIR	Environmental Impact Report
CEQA	California Environmental Quality Act

Response 10-1

The project water supply is not uncertain. As discussed on page 89 in the Initial Study (see **Appendix 1.0** of the Draft EIR), the project site is already in the CCWD SOI. The SOI includes the “probable physical boundaries and service area” of CCWD (Gov. Code 56076). As the Contra Costa County LAFCO recently stated, “SOIs are designed to both proactively guide and respond to the need for the extension of infrastructure and delivery of municipal services to areas of emerging growth and development” (LAFCO 2014). The Initial Study discloses that CCWD has the capacity to serve the raw water needs of the proposed project from existing entitlements. The project has also been anticipated in the DDSD planning and is consistent with its Conveyance and Treatment master plans (Initial Study page 88).

The consistency of the proposed project with the City’s General Plan is primarily evaluated and presented on pages 62 and 63 of the Initial Study (see **Appendix 1.0** of the Draft EIR). As discussed in the Initial Study, the project site is within the voter-approved ULL. The land uses on the proposed Vesting Tentative Map are consistent with the existing Low Density Residential and Open Space General Plan land use designations of the project site. In addition, a consistency analysis comparing the proposed project with the General Plan policies that guide development in the southern hills is provided in **Chapter 4.0, Plans and Policies**, of the Draft EIR. As discussed on pages 4.0-1 to 4.0-8 in that chapter, the proposed project does not conflict with any applicable General Plan policies.

PMC Chapter 18.48 allows for the amendment of the zoning map to rezone property within the City, and the proposed project is following these procedures in requesting the 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.

The proposed project is consistent with the ULL and General Plan. It extends southerly from existing residential development to the north and is the southernmost site planned for urban level residential uses in the area. The project continues existing and completed planned residential development in the vicinity. The General Plan land use map (General Plan Figure 2-2) clearly demonstrates that the project is not leapfrog development and complies with the City’s adopted plan to guide logical development throughout the City, including the southern hills.

Response 10-2

The Draft EIR includes a detailed project description that presents project location and boundaries, as well as the project’s proposed development and technical characteristics. As directed by *CEQA Guidelines* Section 15124, the project description provides those project description details that are needed for the evaluation of environmental impacts. The development agreement (DA), while mentioned, is not

included in the Draft EIR as it is not an element of the proposed development. As noted on page 3.0-12 of the Draft EIR, the DA would vest any project approvals; it would not itself approve development beyond that described in the Draft EIR. With respect to consultant reports referred to in the Draft EIR, the most pertinent reports were included in the Draft EIR appendices, and all other reports were on file with the City and could have been requested by the commenter.

The City reviewed the comments received on the Draft EIR and determined that the biological resource section must be recirculated to provide the public, agencies, and the decision makers a chance to review additional biological resource information that was gathered for the project since the publication of the Draft EIR. The Recirculated Draft EIR was prepared and circulated in compliance with CEQA. The Recirculated Draft EIR provides detailed discussions of the existing biological conditions of the project site (pages 5.3-2 to 5.3-42), direct and indirect impacts to sensitive biological resources from implementation of the project (pages 5.3-49 to 5.3-73), and required mitigation measures (pages 5.3-50 to 5.3-73). The Recirculated Draft EIR provides a complete analysis of impacts to sensitive biological resources, and mitigation measures are provided that would reduce all impacts to sensitive biological resources to a less than significant level. With respect to the other environmental topics discussed in the Draft EIR, the analysis of these topics in the Draft EIR is considered complete and all other significant environmental impacts of the proposed project were properly disclosed. For this reason, the recirculation of the other portions of the Draft EIR was determined to be unnecessary.

Response 10-3

An analysis of the project's hydrology and water quality impacts is provided on pages 58 to 61 of the Initial Study (see **Appendix 1.0** of the Draft EIR). Additional discussion of the hydrological impacts of the proposed project on- and off-site is provided in Responses 10-25 to 10-27 below. With respect to the proposed project's impacts on aesthetics, public services, and public safety, please see **Section 5.1, Aesthetics** and **Section 5.6, Public Services**, of the Draft EIR, **Subsection VI.8, Hazards and Hazardous Materials**, of the Initial Study, and Responses 10-22 to 10-23, Responses 10-47 to 10-48, and Response 10-49, respectively, below. As the responses show, the Draft EIR provides an adequate analysis of the project's potential environmental impacts with regard to these environmental topics.

With respect to the project's impacts on biological resources, that section of the Draft EIR was revised and recirculated. As discussed in Response 10-2 above, the Recirculated Draft EIR provides a complete analysis of impacts to sensitive biological resources, and mitigation measures are provided that would reduce all significant impacts to sensitive biological resources to a less than significant level.

Response 10-4

As discussed below in Responses 10-5 to Responses 10-14, the proposed project does not conflict with the California Planning and Zoning Law, the Subdivision Map Act, nor the City of Pittsburg's General Plan and Municipal Code, and therefore if the City Council so chooses, it can make findings necessary to approve the proposed project's requested rezoning and tentative map. Therefore, no recirculation of that analysis is required.

However, new information regarding biological resources was received as part of the comments on the 2013 Draft EIR and after reviewing this information, the City as lead agency, determined that it was necessary to add this information to the Draft EIR. As a result, **Section 5.3, Biological Resources**, of the Draft EIR, was revised and recirculated. With respect to consistency with plans and policies and all other environmental topics discussed in the Draft EIR, as demonstrated in the responses below, the Draft EIR complies fully with CEQA, provides a sufficient degree of environmental analysis, and makes a good faith effort at full disclosure. For this reason, the recirculation of these portions of the Draft EIR is not required.

Response 10-5

The project is consistent with the residential uses and density of the applicable Low Density Residential General Plan land use designation. It also provides open space consistent with the Open Space land use designation, which is intended to provide greenbelts and/or urban buffer areas (General Plan page 2-21). A detailed analysis of the proposed project's consistency with the City of Pittsburg General Plan policies is provided on pages 4.0-1 to 4.0-8 of the Draft EIR, which exceeds the requirements of Section 15125(d) of the *State CEQA Guidelines* to identify only inconsistencies. The discussion is required as part of the Environmental Setting, not as part of the impact analysis. Similarly, as noted on page 4.0-1 of the Draft EIR, and contrary to Comments 10-6 through 10-14, a policy inconsistency does not equate to a significant impact. As further noted in the Draft EIR, to the extent that physical environmental impacts could result from such conflicts, any such impacts are analyzed in the EIR. Specific responses to the concerns expressed by the commenter related to General Plan consistency are provided in Responses 10-6 to 10-14 below, along with discussions of relevant impact analyses. As explained below, the proposed project is compatible with the City's vision for this area and would not conflict with General Plan policies for this growth area. The City would make all required consistency and other findings under the Planning and Zoning Law and Subdivision Map Act at the time it considers whether and how to approve the project. That is, it is up to the City Council, not the EIR, to determine whether the project is consistent with state planning and subdivision law.

Response 10-6

A discussion of the consistency of the proposed project with General Plan policy 2-P-21 is provided in Response 9-5 of this Final EIR. A discussion of the consistency of the proposed project with General Plan policies 2-P-23, 2-P-24, and 2-P-25 is provided on pages 4.0-2 to 4.0-3 of the Draft EIR and the consistency of the proposed project with General Plan policy 4-P-9 is presented on page 4.0-6 of the Draft EIR. Additional discussion related to consistency with General Plan policies 2-P-23 and 2-P-24 is also included in Responses 9-6 and 9-7 of this Final EIR.

The comment correctly notes that General Plan policy 2-P-22 requires General Plan policies apply to the development of hillside land, irrespective of zoning. As discussed in **Chapter 4.0, Plans and Policies**, of the Draft EIR, and throughout this Final EIR, the proposed project does not conflict with any applicable General Plan policies. Page 4-10 of the General Plan further clarifies the applicability of hillside policies, by stating “all hillside development policies in the General Plan apply to land above the 500-foot elevation only.” Per Figure 3.0-6 from the Draft EIR and per the discussion included on page 4.0-4 of the Draft EIR, there is no residential development proposed above the existing 500-foot elevation so the applicability of the hillside policies is limited. Nonetheless, the City has addressed General Plan hillside policy consistency on pages 4.0-1 to 4.0-8 of the Draft EIR, and in the responses provided throughout this Final EIR. As demonstrated in the Draft and Final EIRs, the proposed project is consistent with all generally applicable General Plan policies, and those specific to hillside development and the Montreux project site.

Response 10-7

An analysis of the consistency of the proposed project with General Plan policy 2-P-73, which applies specifically to the Woodlands subarea and implements General Plan goals 2-G-27 and 2-G-28, is provided on pages 4.0-3 to 4.0-4 of the Draft EIR, and in Response 9-10 of this Final EIR. The analysis specifically addresses alterations to the natural topography to accommodate the planned water tank based on the City’s adopted Water Master Plan. Related grading is proposed for this purpose and would maintain the natural appearance of the graded hillsides. The Draft and Final EIRs support a finding of consistency with General Plan policy 2-P-73.

Response 10-8

The commenter is referring to PMC Chapter 18.56 which provides development regulations for the City’s HPD (Hillside Planned Development) District. As shown on Figure 3.0-4 in the Draft EIR, the current pre-zoning designations for the main project site are HPD and OS (Open Space). As part of their application to the City for the proposed project, the applicants have requested that the current pre-zoning designation of HPD be changed to RS-6 (Single-Family Residential District – 6,000 Square Foot Minimum

Lot Size). With this rezone, the HPD regulations would no longer apply to the proposed development. With that said, the proposed project does still work to “protect natural topographic features, aesthetics views, vistas and prominent ridges.” As discussed on pages 5.1-8 to 5.1-9 of the Draft EIR, the City-designated “major” ridgeline on the southern portion of the project site would not be altered by the proposed development, and while the ridgeline on the northern portion of the project site would be graded (as required for installation of a water tank per the City’s Water Master Plan) it would not be entirely removed and would still appear as a ridgeline. In addition, the proposed development would be located behind the northern ridgeline and would not be visible from public viewpoints in the City to the north, nor from nearby recreational areas.

Furthermore, the proposed project would also “protect adjacent properties from adverse impacts of grading and drainage associated with Hillside development.” A majority of the developed site would drain to two stormwater detention basins on the eastern edge of the project site while a small portion of the developed site on the northwest edge of the project site would drain to an offsite stormwater detention basin to the northwest. According to the Stormwater Control Plans prepared for the project site (see **Appendix 3.0** of this Final EIR), the selection, sizing, and preliminary design of the project’s detention basins meet the requirements of provision C.3 of the San Francisco Bay MRP. As a result, stormwater runoff discharged from the project site would not exceed pre-project rates and durations, and no drainage would be directed to undeveloped lands to the east, south and west of the project site or to existing residences to the north.

Concerning slopes adjacent to existing residential development to the north, as shown on Figure 3.0-6 of the Draft EIR, no grading of the northern slopes of the northern ridgeline is proposed as part of the project. As those slopes would not be altered, existing residences to the north of the project site would not be subjected to any adverse impacts from grading such as an increase in geological risks related to erosion, slope instability, and landslides.

In addition, the proposed project would utilize development techniques that would be compatible to the terrain of the hillside. As discussed on pages 4.0-3 to 4.0-4 of the Draft EIR, construction of residential uses within the existing valley on the project site would place development on flatter natural slopes and cluster development between the ridgelines to the west, north and south, thus reducing environmental impacts on surrounding slopes and preserving views of the ridgelines to the north and south.

Finally, concerning the requirements listed in PMC Chapter 18.56 to provide topographic maps indicating the steepness of the site’s slopes, this information is provided in Figure 3.0-6 of the Draft EIR. Concerning the requirement listed in PMC Chapter 18.56 to indicate the location of existing and proposed trees and other plant material, the general location of existing trees on the project site is provided in Figure 5.3-2 of

the Recirculated Draft EIR while the location of proposed trees and other plant material on the project site is provided in Figure 3.0-8 of the Draft EIR.

Response 10-9

As discussed in Responses 10-6 to 10-8 above, the proposed project would not conflict with General Plan policies and Municipal Code provisions relating to the preservation of hillsides despite the grading and construction activity required to build the project. The impacts of the proposed cut and fill and landform changes are fully analyzed and disclosed in the Draft EIR. Please note that the project site is primarily vegetated with annual grassland vegetation and there are only a few trees located on the southern and western portions of the project site, the majority of which would not be removed.

As discussed on page 5.3-49 of the Recirculated Draft EIR, the project site does not contain any riparian habitat or other sensitive natural communities as defined by the East Contra Costa County HCP/NCCP, California Fish and Wildlife Code, Federal Endangered Species Act, California Endangered Species Act, Clean Water Act, or any other local or regional plans, policies or regulations. In addition, the project site contains a total of 0.462 acre of wetlands, of which 0.340 acre would be preserved and only 0.121 acre would be filled to construct the proposed project.

Response 10-10

An analysis of the project's consistency with General Plan policies 4-P-14 and 4-P-15 is provided on pages 4.0-6 to 4.0-7 of the Draft EIR.

As discussed in Response 10-2 above, the Recirculated Draft EIR provides a complete analysis of project impacts to sensitive biological resources, and mitigation measures are provided that would reduce all significant impacts to sensitive biological resources to a less than significant level. The EIR mitigation measures require compliance with the East Contra Costa County HCP/NCCP. For these reasons, the proposed project would not conflict with General Plan goals 9-G-1 and 9-G-2.

General Plan policy 9-P-13 pertains to redevelopment and intensification of industrial properties along the Suisun Bay waterfront, and thus is not applicable to the proposed project.

Response 10-11

The potential for soil erosion is identified in **Section 5.4, Geology and Soils**, of the Draft EIR. As discussed on pages 5.4-10 to 5.4-11 in that section, in compliance with NPDES regulations, the proposed project would be required to prepare and implement a SWPPP during construction. Examples of appropriate erosion control measures are described in the Draft EIR and would be incorporated into the SWPPP and implemented during site grading and construction. As discussed on page 5.3-49 of the

Recirculated Draft EIR, the project site does not contain any natural creeks or riparian habitat, and as discussed below hydromodification impacts to Kirker Creek would be avoided by project design. For these reasons, construction of the proposed project would not conflict with General Plan goal 9-G-4 and General Plan policy 9-P-15.

In addition, as discussed above in Response 10-8, the selection, sizing, and preliminary design of the project's detention basins meet the requirements of provision C.3 of the San Francisco Bay MRP. As a result, stormwater runoff discharged from the project site would not exceed pre-project rates and durations, and therefore no flooding or hydromodification impacts would occur downstream of the project site (e.g., along Kirker Creek).

For the reasons stated above, the proposed project would not substantially affect the drainage capacity of waterways in the City and thus would not conflict with General Plan goal 9-G-5.

The proposed project would minimize paved areas through the construction of roads only necessary to serve the project. As discussed on page 3.0-9 of the Draft EIR, the proposed Vesting Tentative Map includes approximately 42 acres of undeveloped land along the southern portion of the main project site (Parcel B) to provide a required greenwall. In addition, another 29 acres on the project site, though temporarily disturbed for construction of a water tank in accordance with the City's Water Master Plan, would be set aside for open space. As a result, almost half the site would be available as open space and would thus minimize the generation of stormwater runoff. Finally, all stormwater runoff from the developed portion of the project site would be directed to stormwater detention basins to avoid flooding downstream. For these reasons the proposed project would not conflict with General Plan policy 9-P-17.

According to provision C.3 of the San Francisco Bay MRP, runoff flow and volume from projects that disturb and/or replace one acre or more of impervious surface "shall be managed so that post-project runoff shall not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force." According to the stormwater management plans (see **Appendix 3.0** of this Final EIR) prepared for the proposed project, the selection, sizing, and preliminary design of the project's stormwater treatment and other control measures meet the C.3 requirements of the San Francisco Bay MRP. As a result, stormwater runoff from the project would not exceed pre-project rates and durations, and thus would not impact downstream drainage or City stormwater facilities along Kirker Creek. For this reason, the proposed project would not conflict with General Plan policy 9-P-21.

Response 10-12

See Response 9-35 in this Final EIR for a discussion of impacts to schools. As discussed on pages 5.6-8 to 5.6-9 of the Draft EIR, the proposed project would be required to pay school development fees, as dictated by state law, prior to the issuance of building permits, and according to Government Code Section 65996, the payment of such fees constitutes full school facilities mitigation under CEQA.

General Plan goal 8-G-10 is broad and applies to the entire City, suggesting continued work with the school district to adequately serve the educational needs of the community. As stated in Response 9-35, the 'unhoused' student population to be added as a result of this project can be served by existing schools; however, those facilities may need to add temporary portable classrooms to meet the growth projections. Therefore, the proposed project would not conflict with General Plan goal 8-G-10.

Response 10-13

See Draft EIR pages 5.6-7 to 5.6-8 and Response 9-34 in this Final EIR for a discussion of impacts to police services. The statement quoted by the commenter was made in reference to insufficient General Fund revenues associated with development of the proposed project. The comment fails to reference the discussion immediately following the quoted statement, which advises that funding would be provided through annexation to an existing CFD rather than the general fund. More specifically, "standard conditions of approval require that the [project applicants] annex new development into the CFD 2005-1, which collects fees to provide funding for increased police protection services that would be needed within the project area." Funds collected in conjunction with this CFD are held separate from the General Fund and are specifically designated for police services. As noted in the Draft EIR, impacts related to police services would be less than significant.

Response 10-14

The purpose of an EIR is to identify and evaluate potential environmental impacts of the proposed project, not to evaluate compliance with state and local planning laws. However, as discussed in Responses 10-6 to 10-13 above, the proposed project would not conflict with the City's General Plan and the Municipal Code, and thus approval of the proposed project would not violate State Planning and Zoning Law and the City's Development Code. Such compliance would be addressed in staff reports when the proposed project goes to public hearing before the Planning Commission and City Council.

Response 10-15

As discussed in Responses 10-6 to 10-13 above, the proposed project would not conflict with the City's General Plan, and thus approval of the proposed project would not violate Subdivision Map Act requirements.

Response 10-16

Regarding the adequacy of the Project Description, see Response 10-2 above, and Responses 10-17 to 10-19 below. The Draft EIR has been revised and recirculated. As discussed in Response 10-2 above, the Recirculated Draft EIR provides a complete analysis of impacts to sensitive biological resources, and mitigation measures are provided that would reduce all impacts to sensitive biological resources to a less than significant level.

With respect to the other environmental topics discussed in the Draft EIR, the analysis of these topics in the Draft EIR complies fully with CEQA as it provides adequate information to the decision makers and the public regarding the significant impacts of the proposed project, lists mitigation measures to avoid or reduce significant impacts, and includes an analysis of alternatives to the proposed project. As explained in detail in Responses 10-17 to 10-27 and Responses 10-45 to 10-56, below, the analysis of these topics presented in the Draft EIR is adequate under CEQA and, where necessary, text has been added to the Draft EIR and Initial Study to further clarify the environmental effects of the proposed project. All of the mitigation measures set forth in the Draft EIR for these topics are detailed and enforceable. None of the measures would require future studies or are measures that would constitute deferred mitigation. Furthermore, a mitigation monitoring and reporting program (MMRP) is being prepared parallel with this Final EIR. The MMRP, which presents more detail on the timing of the mitigation measures, would be presented to decision makers for consideration in conjunction with associated project entitlements.

Response 10-17

As with any residential subdivision project in the City, stormwater generated on the project site following the development of streets and homes would be collected by storm drains located in the streets of the subdivision in accordance with the City's development standards. Drainage would then be directed to three detention basins described on pages 59 to 60 of the Initial Study and page 3.0-9 of the Draft EIR and as shown on Figures 3.0-6 and 3.0-7 of the Draft EIR. Additional information clarifying how the detention basins would operate and that they would be designed and constructed according to criteria adapted from the *Contra Costa Clean Water Program Stormwater C.3 Guidebook, Sixth Edition* has been added to **Chapter 3.0, Project Description**, of the Draft EIR (see **Chapter 2.0, Revisions to the 2013 Draft EIR and 2014 Recirculated Draft EIR**, of this Final EIR) and the Stormwater Control Plans prepared for the proposed project are included in **Appendix 3.0** of this Final EIR. As noted in **Section VI.9, Hydrology and Water**, of the Initial Study, the proposed project would not cause any significant drainage impacts, and the information added to **Chapter 3.0** and in **Appendix 3.0** does not change this conclusion. Environmental impacts from the construction of the three detention basins are adequately analyzed throughout the Draft EIR. As discussed in Response 10-27, below, stormwater runoff discharged from the project site would not exceed pre-project rates and durations and would not result in the

hydromodification of Kirker Creek downstream of the project site. As a result, runoff would not add to hydraulic and flood risks downstream of the project site.

Response 10-18

The impact associated with tree removal is addressed in **Section 5.3, Biological Resources**, of the Recirculated Draft EIR. As described on page 5.3-68 in the section, the only trees on the project site are some widely scattered valley oaks (*Quercus lobata*) and buckeye (*Aesculus californica*). While the project would result in the removal of some of these trees, a majority of the trees on the project site are located within the boundaries of the proposed greenwall on the southern 20 percent of the main project site, and would not be removed. A description of the existing trees on the project site has been added to **Chapter 3.0, Project Description**, of the Draft EIR (see **Chapter 2.0, Revisions to the 2013 Draft EIR and 2014 Recirculated Draft EIR**, of this Final EIR).

All construction staging would occur on the project site. As discussed on page 3.0-12 of the Draft EIR, no soil would be imported or exported from the project site. Therefore, all spoil sites would be located on the project site and no trips on- or off-site associated with grading would occur. All material deliveries and construction work trips to the project site would utilize Kirker Pass Road. Material deliveries for the construction of housing would occur by phase and construction worker trips would occur during the non-peak hours and therefore would not result in any significant traffic impacts. Information on construction staging, spoil sites, and haul routes has been added to **Chapter 3.0, Project Description**, of the Draft EIR (see **Chapter 2.0, Revisions to the 2013 Draft EIR and 2014 Recirculated Draft EIR**, of this Final EIR). As all staging and soil sites would be located on the project site, the environmental impacts associated with these activities were adequately addressed by the construction-phase impacts analyzed and disclosed in the Draft EIR and Initial Study.

The construction schedule for the proposed project is presented on page 3.0-12 of the Draft EIR. Construction of the project is proposed to occur in four overlapping phases. Each phase is expected to last approximately 18 months. All construction activity would occur on the project site and off-site within utility right-of-ways. The number of construction employees and types of equipment that are used on the site would vary. However, the environmental effects from construction worker trips and use of construction equipment on the site are captured in the analysis contained in the Draft EIR (e.g., in the model assumptions used to estimate criteria pollutants, toxic air contaminants, and greenhouse gas emissions [see **Section 5.2, Air Quality**; **Section 5.5, Greenhouse Gas Emissions**; and **Appendices 5.2 and 5.5** of the Draft EIR]).

No bridges would be constructed on the project site. Project fencing would include several short spans of six-foot tall sound walls along the eastern project boundary as required by Mitigation Measure NOI-1

(Initial Study page 66) and open wire fencing on the southern and western border of the project site, chain-link vinyl clad fencing around the proposed water tank and detention basins, and wood “good neighbor” fencing around the proposed residences. The project fencing along the southern and western boundaries of the site would be similar to current fencing and would not interfere with wildlife movement. Furthermore, as discussed on page 5.3-66 of the Recirculated Draft EIR, the southern 20 percent of the main project site would be preserved as a greenwall, thus providing a corridor for wildlife to cross the site, which would reduce potential impacts related to wildlife movement.

Response 10-19

The commenter states that the DA would limit the lead agency’s permitting authority and ability to impose additional mitigation measures at later discretionary phases of the project. The DA is a negotiated contract between the City and the applicants and includes terms that are acceptable to both parties. To the extent that the DA locks the development rights over an extended period of time, this provision would occur only if it is acceptable to the City. Consistent with CEQA principles to analyze the “whole of the action”, the Draft EIR and Recirculated Draft EIR are based on a conceptual, but highly detailed, site plan shown in Draft EIR Figures 3.0-6 and 3.0-7, which includes all phases of the proposed development. As such, the EIR identifies mitigation measures for implementation through all phases of the project. As noted on page 3.0-12 of the Draft EIR, the purpose of the DA is to vest project entitlements, i.e., the requested pre-zoning and VTm. It is not clear why the commenter claims that not having the draft DA would exacerbate the environmental impacts of the project. The environmental effects of the project are a result of the characteristics of the project and the environmental conditions and resources on the project site and its vicinity. The environmental effects of the proposed project are fully analyzed and disclosed in the Draft EIR and Recirculated Draft EIR and the mitigation measures set forth in the Draft EIR and Recirculated Draft EIR apply to all phases of the project.

Response 10-20

See Response 10-2 above. The Draft EIR and the Recirculated Draft EIR analyze the potential environmental effects of the whole action and does not minimize impacts or fail to characterize the impacts from the full build-out conditions, including the effects of increasing the residential density on the project site by changing the residential designation from HPD to RS-6. At buildout, a total of 356 single-family homes would be developed on the site, and the environmental impacts from developing this number of homes are evaluated in the Draft EIR and Recirculated Draft EIR. To clarify the concern brought up by the commenter regarding the area to be rezoned, please note that the proposed project requests only those areas with an existing pre-zoning designation of HPD to be changed to a pre-zoning designation of RS-6 (see Draft EIR page 3.0-8). As stated on page 3.0-8 of the Draft EIR, these areas total 77 acres and coincide with the boundaries of the ‘main project’ area, which is also defined on page 3.0-8

of the Draft EIR. The proposed project does not request a zone change for any portions of the project site with a current pre-zoning designation of OS. As the lands that are currently pre-zoned OS would remain open space and would not be developed, there would be no increase in density of development on that portion of the site. With respect to the long-term protection of the open space to be preserved on the site, please see Response 7-2 in this Final EIR.

Response 10-21

See Response 10-2 above. The Draft EIR (including the Initial Study) and Recirculated EIR identify, analyze and support with substantial evidence all of the conclusions regarding the proposed project's significant environmental impacts. Please see Responses 10-22 to 10-49, below, which identify the specific analyses and studies conducted and information presented in the Draft EIR and Recirculated EIR to identify and evaluate the potential environmental impacts of the project in the areas of aesthetics, hydrology and water quality, biological resources, cultural and historic resources, public services, and public safety. Responses 10-50 to 10-56, below, provide the same information regarding the growth-inducing impacts and cumulative impacts of the proposed project. All environmental impacts of the proposed project are adequately analyzed in the Draft EIR and Recirculated Draft EIR.

Response 10-22

Contrary to the commenter's assertion, the EIR provides a comprehensive analysis of aesthetics based on each of the identified thresholds of significance. The Draft EIR clearly describes how the residential development would be located in a valley (see Figure 5.1-2) and not visible from most offsite public vantage points. The residences would generally be visible only where the valley opens out at Kirker Pass Road. As discussed on pages 5.1-8 to 5.1-9 of the Draft EIR, views of the project site from Kirker Pass Road would be brief and views of the developed project would not be visible from public view points in the City, such as the marina, and nearby recreation areas due to the northern ridgeline, intervening topography, and distance. Figure 4-2 of the City of Pittsburg General Plan designates the ridgeline on the southern portion of the project site as a "major" ridgeline. No other City-designated ridgelines are located on the project site. With the establishment of the proposed "greenwall" on the southern portion of the project site, this City-designated ridgeline would be permanently protected. While the proposed design would alter the appearance of the northern ridgeline, the project would not eliminate this feature as shown in Figures 5.1-5 and 5.1-6. In addition, all development except the proposed water tank and off-site detention basin would be located behind the northern ridgeline and thus out of view from development and other publicly accessible viewpoints in the City to the north; none of the residential structures would be visible from public view points to the north, including city parks. Impact AES-1 recognizes that the development would be briefly visible along a portion of Kirker Pass Road and would contrast with the natural surroundings. Mitigation Measure AES-1 would require that architectural elevations and

materials of the subdivision include natural, terrain-neutral colors and that the proposed project undergo design review, which would reduce the significant effect on views of the site from Kirker Pass Road due to a contrast in colors between the proposed development and grasslands on the site. The mitigation is not intended to address the height, mass and location of the proposed project which would be hidden from most vantage points by existing topography. For these reasons, scenic vistas that include the project site would not be substantially degraded.

The comment appears to assert that because one impact was identified as significant and unavoidable, all aesthetic impacts must necessarily be significant. This is incorrect. Each threshold is analyzed separately to determine if there is an impact. The Draft EIR reasonably and appropriately concluded that the project's extensive land transformation would affect scenic vistas differently from the effect it would have on the existing visual character of the site.

As further discussed on pages 5.1-10 to 5.1-17 of the Draft EIR, the off-site detention basin would be visible from Woodland Hills Park, located to the north in the Woodlands neighborhood. As discussed in that section, Mitigation Measure AES-2 would require the project applicants to hydro-seed all disturbed, yet undeveloped, slopes (including those surrounding the proposed detention basin and the earthen berm) to encourage the growth of new vegetation on disturbed hillsides, and thus reduce the significance of the impact associated with the grading for the off-site detention basin. As discussed above, none of the residential structures would be visible from public view points to the north, including city parks. Further, Mitigation Measure AES-1 requires the use of a neutral color palette to reduce the impact to views of the project site from Kirker Pass Road due to a contrast in colors between the proposed development and grasslands and does not apply to views of the site from Woodland Hills Park located at the intersection of Crestview Drive and Sunnyhill Way to the north.

Response 10-23

The closest trail owned and maintained by the EBRPD is the Contra Costa Canal trail, located approximately 1.5 miles north of the project site in the City of Pittsburg, while Stoneman Park, which is owned and managed by the City of Pittsburg is located about 2 miles to the northwest of the project site. As discussed on page 5.1-9 of the Draft EIR, the proposed development area located behind the northern ridgeline would not be visible from public view points in the City to the north, including these facilities. Only the top portion of the proposed water tank would be visible. Both of these park facilities are located at an elevation of less than 150 feet. After implementation of the proposed project the northern ridgeline on the project site would range in elevation from 350 feet to 600 feet. Given the difference in elevation between the project site and the park facilities, the northern ridgeline would completely screen all of the

residential development on the site, and therefore no views of the main project site, besides the top of the proposed water tank, would be available from these facilities.

The “Thomas North” parcel is located directly south of the project site while the “Land Waste Management” and “Affino” parcels are located approximately 1 mile to the southwest. Ridgelines on the “Thomas North” parcel range in height from 600 to 800 feet while ridgelines on the “Land Waste Management” and “Affino” parcels range in height from 800 to 1,000 feet. The southern ridgeline on the project site ranges in height from 460 and 770 feet in elevation. Due to the presence of this southern ridgeline, which would not be altered by the project, only partial views of the northern ridgeline and some development on the site would be available from the Thomas North parcel. Views of the entire project site would be available from the Land Waste Management and Affino parcels. However, these views would be distant and would also include views of existing development to the north of the project site. Furthermore, there are no developed trails that currently exist or are currently planned along the ridgelines as all of these parcels are in “land bank status,” which means that they are set aside for future park use/open space use. As a result, no public vantage points exist from these parcels. Finally, with the implementation of Mitigation Measure AES-1, which would require use of natural, terrain-neutral colors on building exteriors, and Mitigation Measure AES-2, which would require the project applicants to hydro-seed all disturbed, yet undeveloped slopes, the proposed project would not contrast substantially with the grassland setting of the surrounding hills. For these reasons, views of the project site from these parcels would not be substantially degraded.

Response 10-24

A discussion of the proposed project’s impact on hydrology and water quality is provided on pages 58 to 61 of the Initial Study (see **Appendix 1.0** of the Draft EIR). Responses to the specific concerns of the commenter are provided below in Responses 10-25 through 10-27. As explained further in the responses below, the proposed project’s storm drainage system, including the detention basins, has been designed to comply with NPDES requirements and that compliance with the requirements is feasible even in the type of terrain at the project site. The potential for soil erosion and instability is evaluated on pages 5.4-10 to 5.4-11 in **Section 5.4, Geology and Soils**, in the Draft EIR.

Response 10-25

According to the City’s General Plan EIR, the Kirker Creek watershed has an overall area of 8,539 acres and is the most significant watershed in the City’s planning area. Approximately seven miles in length, the creek originates in the hills in the southern portion of the watershed and flows north through the City. In the southern hills, the creek and its tributary channels have sufficient capacity to carry peak stormwater flows, although further downstream, capacity declines as the creek channel flattens and the

channel is constricted by existing urban development (City of Pittsburg 2001). As discussed in the Initial Study, the project site is located in the southern hills of the Pittsburg planning area. The site runoff at this time drains into Kirker Creek. See page 3.0-9 in **Section 3.0, Project Description**, of the Draft EIR, for a discussion of the project's stormwater treatment system which has been designed to comply with water quality requirements of the current San Francisco Bay Region MRP, and see Response 10-27, below, for a discussion of the project's contribution to flooding along Kirker Creek. All environmental impacts of the proposed project, including hydrology and water quality impacts, are adequately disclosed in the Draft EIR (including Initial Study) and the Recirculated Draft EIR.

Response 10-26

As discussed in Response 2-2 in this Final EIR, the project would treat stormwater runoff from the new impervious surfaces created on-site, as required by provision C.3 of the current San Francisco Bay MRP. This treatment would be provided by the detention basins proposed on the eastern portion of the project site and on the off-site parcel. These facilities would remove pollutants by filtering runoff slowly through an active layer of soil. In addition, the proposed project would implement source control measures such as marking on-site inlets with the words "No Dumping! Flows to the Bay," and by designing final landscape plans to minimize erosion and runoff and to minimize use of fertilizers and pesticides.). According to the Stormwater Control Plans prepared for the project site (see **Appendix 3.0** of this Final EIR), the selection, sizing, and preliminary design of detention basins and other source control measures comply with the requirements of the permit. As a result, the project's stormwater treatment and control measures have been designed in accordance with the most recent NPDES permit.

According to provision C.3 of the San Francisco Bay MRP, runoff flow and volume from projects that disturb and/or replace one acre or more of impervious surface shall be managed so that "post-project runoff shall not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force." The goal of provision C.3 is to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is accomplished primarily through the implementation of LID techniques such as harvesting and re-use, infiltration, or evapotranspiration at a project site. However, if LID techniques are infeasible at a project site, according to provision C.3, a properly engineered and maintained biotreatment system, which the project proposes in the form of detention basins, may be considered acceptable. Many of the LID measures required by provision C.3 are not feasible for inclusion in the proposed project. According to the Stormwater Control Plans prepared for the proposed project, typical roof sizes on the project site

would be much less than the 10,000 square feet required to make use of harvested stormwater for toilets and urinals feasible. In addition, capture and reuse of stormwater for onsite landscaping irrigation is also impractical due to dense development and small amount of common area that needs to be irrigated. As stated above, the project would comply with applicable C.3 provisions and no changes to the proposed project are required; therefore, recirculation of the Draft EIR is not required.

Response 10-27

As discussed in Response 10-26 above, the selection, sizing, and preliminary design of the project's stormwater treatment and other source control measures meet the requirements of provision C.3 of the MRP. Each basin is slightly larger than required by the C.3 manual. Stormwater in each of the basins would also be subject to losses due to evaporation and percolation through the bottom layers of the basins. As a result, stormwater runoff discharged from the project site would not exceed pre-project rates and durations, and would not result in the hydromodification of Kirker Creek downstream of the project site. Because hydromodification downstream of the site would not occur, the impacts related to erosion would be less than significant and no recirculation is required. Stormwater Control Plans prepared for the proposed project as well as a report detailing the preliminary sizing of the proposed detention basins are provided in **Appendix 3.0** of this Final EIR.

Response 10-28

The biological resources section of the Draft EIR was revised and recirculated. The surveys and analysis conducted for the preparation of the revised biological resources section are described in the Recirculated Draft EIR (pages 5.3-1 to 5.3-2). These surveys are adequate to describe the biological conditions of the project site and to support the conclusions in the Recirculated Draft EIR. The Recirculated Draft EIR meets the CEQA standards of adequacy and is not deficient. Comments on the original Draft EIR, such as 10-28 to 10-44, were addressed in the Recirculated Draft EIR (see Recirculated Draft EIR page 1.0-2). However, the responses below provide cross-references to the Recirculated Draft EIR for the benefit of the reader.

Response 10-29

The surveys and analysis conducted to prepare the revised biological resources section are described in the Recirculated Draft EIR (pages 5.3-1 to 5.3-2). These surveys were adequate to describe the biological conditions of the project site, including providing detailed descriptions of the onsite soils and plant communities (pages 5.3-3 to 5.3-10) and the occurrence of special-status species (pages 5.3-14 to 5.3-42). Where appropriate, focused surveys were conducted. Special-status plant surveys were conducted by Moore Biological Consultants on June 28, July 19, and September 29, 2010; November 1, 2011; June 5, 2012; and March 18, 2013. A jurisdictional delineation for wetlands was also conducted according to the

accepted protocol; the delineation was verified by the USACE on July 5, 2012 (SPN File Number 1999-24307S). Protocol surveys for some species were not conducted because it was not appropriate to do that. For example, protocol surveys for California tiger salamander and California red-legged frog were not conducted because the survey protocols for these species are focused on surveying aquatic habitat and suitable aquatic habitat for these species is not present on the project site. Although aquatic habitats that may provide potential breeding habitat for these species is not present on the project site, the Recirculated Draft EIR advises that it is present near the project site. Appropriately therefore, the analysis for the Recirculated Draft EIR focused on the suitability of onsite habitats for use by these species, and the EIR concluded that both species could use the upland habitat present on the project site (Recirculated Draft EIR pages 5.3-35 and 5.3-36). The biological resources section of the Recirculated Draft EIR meets the requirements of CEQA and accurately describes the biological resources on the project site based on appropriate methodology and fully and accurately informs decision-makers and the public of the environmental consequences of the proposed project.

Response 10-30

The Recirculated Draft EIR provides a discussion of the environment in the vicinity of the project site (pages 5.3-2 and 5.3-3). The occurrences of special-status species in the vicinity of the project are addressed in Tables 5.3-2 and 5.3-3. The location of the project relative to nearby undeveloped lands is shown in Figure 5.3-1 and the location of the project site relative to documented occurrences of special-status species within approximately 3 miles of the project site is shown in Figure 5.3-5.

Response 10-31

The Recirculated Draft EIR provides detailed discussions of the existing biological conditions of the project site (pages 5.3-2 to 5.3-42). The Recirculated Draft EIR discusses the presence of alkali soils (pages 5.3-3 and 5.3-7) and the locations of alkali and other soil types on the project site are shown in Figure 5.3-3.

Response 10-32

The Recirculated Draft EIR (pages 5.3-14 to 5.3-24) provides a detailed discussion of the occurrence of special-status plant species on the project site. The Recirculated Draft EIR (pages 5.3-16, 5.3-21, and 5.3-49) concludes that suitable habitat for big tarplant is present (although the actual plant was not present). As a result, the species could occur on the project site in low numbers, and that in the absence of mitigation measures, impacts to the species would be potentially significant.

Response 10-33

The grasshopper sparrow is identified as having potential to occur on the project site (although it was not observed) (Recirculated Draft EIR pages 5.3-28 and 5.3-41), and the Recirculated Draft EIR concludes that

in the absence of mitigation measures, impacts to the species would be potentially significant. A comprehensive list of all special-status bird species with potential to nest on the project site is included (pages 5.3-28 to 5.3-29).

Response 10-34

All special-status wildlife species with potential to occur on the project site are addressed in the Recirculated Draft EIR (pages 5.3-24 to 5.3-42). The potential of California tiger salamander to occur on the project site is discussed in the Recirculated Draft EIR (pages 5.3-35 to 5.3-36, 5.3-54 to 5.3-55). The Recirculated Draft EIR concludes that the species may disperse and aestivate on the project site and that impacts to the species would be potentially significant. Mitigation is proposed to address the potential loss of individuals through construction activities and the loss of potential dispersal and aestivation habitat.

Response 10-35

The potential of burrowing owls to occur on the project site is discussed in the Recirculated Draft EIR (pages 5.3-39 to 5.3-40, 5.3-59 to 5.3-60). The Recirculated Draft EIR concludes that the species may occur on the project site and that impacts to the species would be potentially significant. Mitigation is proposed to prevent the loss of burrowing owls during construction (Mitigation Measure BIO-2d) and to compensate for the loss of burrowing owl habitat (Mitigation Measure BIO-1a).

Response 10-36

The Recirculated Draft EIR (pages 5.3-46 to 5.3-48) discusses the role of the East Contra Costa County HCP/NCCP. All special status wildlife species with the potential to occur on the site are addressed (Recirculated Draft EIR pages 5.3-24 to 5.3-42) and where appropriate for HCP/NCCP covered species, the Recirculated Draft EIR incorporates mitigation measures from the HCP/NCCP, which is consistent with the HCP/NCCP's intent of providing a coordinated approach to the mitigation of the impacts of development in a manner that facilitates regional species and habitat preservation.

Response 10-37

The Recirculated Draft EIR provides detailed discussions of the existing biological conditions of the project site (pages 5.3-2 to 5.3-42). All special-status wildlife species with potential to occur on the project site are addressed in the Recirculated Draft EIR (pages 5.3-24 to 5.3-42). See Response 10-29 above, for more information on the surveys conducted on the project site.

Response 10-38

The Recirculated Draft EIR provides detailed discussions of the existing biological conditions of the project site (pages 5.3-2 to 5.3-42). The Recirculated Draft EIR (pages 5.3-24 to 5.3-42) includes a detailed

discussion of the potential use of onsite habitats by burrowing owl, San Joaquin kit fox, vernal pool fairy shrimp, and other special-status wildlife species. The Recirculated Draft EIR also includes a project-level, detailed analysis of impacts to special-status species and other sensitive biological resources (pages 5.3-49 to 5.3-73). See Response 10-29 above, for a discussion of the adequacy of the surveys conducted on the project site.

Response 10-39

Swainson's hawk is discussed in the Recirculated Draft EIR (pages 5.3-36 to 5.3-37). The Recirculated Draft EIR (page 5.3-55) concludes that the potential loss of a Swainson's hawk nest site and the loss of foraging habitat would be a significant impact. Consistent with the requirements of the East Contra Costa County HCP/NCCP, the Recirculated Draft EIR (page 5.3-50) requires the payment of fees, or dedication of land in lieu of fees, to mitigate the impact. Through payment of fees, or land dedication, the HCP/NCCP would provide an equivalent area of compensatory habitat for the grasslands developed on-site, which would also provide suitable foraging habitat for Swainson's hawks and other raptors.

Response 10-40

The Recirculated Draft EIR (pages 5.3-68 to 5.3-72) includes a discussion of indirect impacts to sensitive biological resources. Toxic compounds from residential activities (such as fertilizer and pesticides used in routine yard maintenance) could potentially be discharged off-site via stormwater flow from individual properties. As discussed in Response 10-26 above, stormwater control plans have been prepared for the project site and would be implemented that require stormwater generated on the site to be directed to stormwater detention basins and treated in accordance with NPDES requirements. Operation of the basins would ensure that residential pollutants are collected and treated rather than being carried offsite. In addition, the stormwater control plans include specific source control measures to address pollutants generated by the use of common fertilizers and pesticides during routine yard maintenance and landscaping. For example, final landscape plans for common open space areas would be designed to minimize irrigation and runoff. To minimize the use of fertilizers and pesticides that can contribute to stormwater pollution, the final landscape plans for common areas would include pest-resistant plants and plantings appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency and plant interactions.

Response 10-41

The Recirculated Draft EIR (pages 5.3-70 to 5.3-71) includes an analysis of indirect noise impacts on wildlife. Potential construction-related noise impacts to nesting birds are also addressed (pages 5.3-63 to 5.3-64).

Response 10-42

The Recirculated Draft EIR (page 5.3-69) includes an analysis of indirect impacts from light and glare on wildlife.

Response 10-43

The Recirculated Draft EIR (pages 5.3-70 to 5.3-71) includes an analysis of indirect impacts from domestic animals (e.g., cats) on wildlife.

Response 10-44

The biological resources section of the Recirculated Draft EIR meets the requirements of CEQA and fully and accurately informs decision-makers and the public, of the environmental consequences of the proposed project.

Response 10-45

Historic resources that were once present on the site but are no longer there are described on pages 41 and 42 of the Initial Study (see **Appendix 1.0** of the Draft EIR). The vacant site is the existing condition, or baseline, against which project impacts are measured (*State CEQA Guidelines* Section 15125(a)). As all above ground structures and improvements associated with the Thomas Ranch were no longer on the project site as of the date that the NOP for the EIR was issued (baseline conditions), the proposed project would not result in the demolition or removal of a known historic resource and none of the mitigation measures put forth by the commenter, including avoidance, are required for the former ranch. The Initial Study does, however, acknowledge the potential for grading or trenching in the area of the demolished ranch complex to encounter and disturb/destroy buried resources, and identifies the impact as potentially significant (see page 42 of the Initial Study). As there is a potential to encounter subsurface resources in the area of the ranch, the City has expanded Mitigation Measure CUL-1 to require the applicants to conduct a program of additional archival research, leading to a testing program that would utilize mechanical equipment to search for buried archaeological deposits in the area of the ranch in advance of construction. If anything of potential significance is discovered, the material would be left in the ground until it is determined if any damage to it could occur during construction. Impacts to only those archaeological deposits/features which appear to be eligible for the CRHR would then be mitigated by excavation and analysis. Because the buildings and structures are no longer intact, any potential resources would likely be building fragments or remnants. Under these circumstances, documentation is an appropriate mitigation. See **Chapter 2.0, Revisions to the 2013 Draft EIR and 2014 Recirculated Draft EIR**, of this Final EIR for the full text of the expanded Mitigation Measure CUL-1. This expanded mitigation measure does not change the conclusion stated in the Initial Study that the project's potentially significant impact to historical resources would be mitigated to a less than significant level. In the opinion

of the cultural resource expert for the project, recordation and removal of resources that are found would reduce the impact to a less than significant level.

Response 10-46

As the cultural resources evaluations prepared by Holman and Associates (1995, 1999, and 2000) contain sensitive information they were not included as an appendix to the Initial Study circulated with the Notice of Preparation or to the Draft EIR. All reports not included in the Draft EIR are on file with the City and can be requested by the commenter. All of the important information from the cultural resources evaluations was fully described in the Initial Study and the document provides adequate information to decision makers and the public regarding the project's cultural resource impacts.

Response 10-47

See Response 9-35 in this Final EIR regarding project impacts on schools.

Response 10-48

As discussed on page 76 of the Initial Study (see **Appendix 1.0** of the Draft EIR), existing approved but not yet constructed residential projects in the City (including all projects listed in the City of Pittsburg's Project Pipeline List, and including the five major projects listed in **Chapter 5.0, Environmental Setting, Impacts, and Mitigation Measures**, of the Draft EIR) would result in an increase in population, thus resulting in an increase in demand for public services, including schools. In order to accommodate added student population from these projects, the Pittsburg Unified School District would likely need to provide new facilities. See Response 9-35 in this Final EIR for a discussion of potential environmental impacts associated with providing new school facilities. School districts typically address needed school facilities in different ways, taking into account demographic trends and other factors. The Initial Study stated that facilities may be needed for project generated students. According to the District, temporary portable classrooms on existing school grounds would serve the needs of the proposed project. In addition, all of these projects would be required to pay school development fees, as dictated by law, prior to issuance of building permits. As payment of fees constitutes full mitigation under CEQA according to Government Code Section 65996, the cumulative impact to student generation is considered less than significant.

Response 10-49

The impact related to potential exposure of project residents to hazards associated with the high-pressure petroleum pipeline within the proposed greenwall in the southern portion of the project site is analyzed on pages 55 of the Initial Study (see **Appendix 1.0** of the Draft EIR). As discussed in the Initial Study, the likelihood of rupture or leakage of a high pressure petroleum pipeline is very low according to the Pipeline and Hazardous Materials Safety Administration (PHMSA), as the safety record of pipelines in the United States is strong (PHMSA 2015).

In addition, pipelines are highly regulated by federal and state law and agencies. PHMSA administers the national pipeline regulatory program to ensure the safe transportation of gas and other hazardous materials. The Pipeline Safety Statute at Title 49, Chapters 601 and 603 establishes requirements for pipeline construction, operational safety, and risk management. The Hazardous Liquid Pipeline Safety Act of 1979, as amended, authorizes the DOT to regulate pipeline transportation of hazardous liquids. The Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006 established a damage prevention program and additional safety requirements for petroleum, natural gas, and hazardous liquid pipelines. The federal pipeline regulations are published in Title 49 CFR 26, Parts 190 through 199. CFR 192 specifically addresses natural and other gas pipelines. Many of the pipeline regulations are written as performance standards, which set the level of safety to be attained and allow the pipeline operator discretion in the choice of technologies to achieve the required safety level.

The California Pipeline Safety Act provides regulatory jurisdiction and enforcement authority to the California State Fire Marshal (SFM) for the safety of all intrastate hazardous liquid pipelines. Through reference to 49 CFR 195 in the California Pipeline Safety Act, the SFM is responsible for implementing requirements pertaining to design, construction, testing procedures, corrosion control, maintenance, personnel qualifications, and reporting for hazardous liquid transport via pipeline.

Further, in August 2014 the City of Pittsburg updated its adopted Emergency Operations Plan for disaster response and recovery operations within the City. The plan establishes the emergency organization, assigns tasks, specifies policies, and general procedures, and provides for coordination of planning efforts of the various emergency staff and service elements in the event of an emergency, such as the leak, or rupture of a pipeline. The objective of the plan is to incorporate and coordinate all the facilities and personnel of the City into an efficient organization capable of responding to any emergency.

The pipeline on the project site has been constructed, and is operated and maintained in compliance with the federal and state regulations. The owner of the pipeline, Kinder Morgan, also has procedures in place to monitor pipeline safety. For example, an electronic surveillance system monitors pipeline pressures, volume and flow rates and the status of pumping equipment and valves. Whenever operating conditions change, an alarm sounds and the condition is investigated. Also automated and manual valves are strategically placed along the pipeline system to enable the pipeline to be shut down immediately and sections to be isolated quickly in case of a problem. In addition, visual inspections of the right-of-way are conducted by air and/or ground on a regular basis. Finally, an electrostatic current is applied to all pipelines to protect them from external corrosion (Kinder Morgan 2015).

Finally, the pipeline passes through the far southeastern corner of the project site through the proposed greenwall on the southern 20 percent of the main project site. The pipeline is located on the backside of

the southern ridgeline approximately 900 feet from the nearest proposed residential structure. In the event of a leak, petroleum products would drain away from the proposed development given the site's topography. In the event of a rupture (e.g., explosion), the proposed residences would be shielded by the southern ridgeline and would be located a sufficient distance so as not to be immediately affected. Concerning wildfire risk associated with a rupture or leak of the pipeline, Mitigation Measure HAZ 3.2 requires that all residential units adjacent to open slopes maintain a 100-foot defensible-space setback to the residential structure with fire resistant landscaping for areas adjacent to open slopes. For these reasons, in the unlikely event of the rupture or leak, impacts to the proposed development would be minimal.

Under existing CEQA law, the EIR is not required to analyze the effects of existing conditions on the project; however, in the interests of disclosure, the presence of the pipeline was discussed in the Initial Study. There are other similar existing pipelines near residential development throughout the City, and there have been no reports of major pipeline leakage or rupture, which is consistent with PHMSA's findings. In the past, the City has imposed mitigation measures and/or conditions of approval requiring developers to inform potential buyers of existing hazardous conditions near residential sites. Similarly, Mitigation Measure HAZ-2 would require the applicants to inform potential home buyers of the presence and location of the pipeline, Mitigation Measure HAZ-2 also includes safety guidance, including the importance of observing pipeline location notices and restrictions on subsurface activities, and information on the City's emergency response plan and procedures. The identified mitigation measure builds on the extensive regulatory requirements for pipeline operation, the City's emergency response plans and procedures, and the pipeline owner's safety precautions (as briefly described above). The mitigation ensures that prospective homeowners know their role in the City's emergency planning and also requires dissemination of information on subsurface activity restrictions, further minimizing the risk from inadvertent accidents. Under the totality of these circumstances, the mitigation adequately reduces the impact to less than significant.

Response 10-50

Contrary to the commenter's opinion, the Draft EIR includes a detailed discussion of potential growth inducement "in light of current and contemplated plan," and reasonably concludes that the project would not be growth inducing. The project site is already planned for residential uses and open space, is located within the City's ULL, and has been pre-zoned for residential development; the proposed rezoning would change the pre-zoning to the same RS-6 district as other residential subdivisions in the area. The project site is bounded on its southern and western edges by the existing ULL (see **Figure 3.0-1, Urban Limit Line**). Since no development can extend beyond a ULL and since the location of the ULL cannot be modified or adjusted unless first approved by the voters, it can be concluded that no development would

occur beyond these limits without a vote of the people. The lands to the north and northeast of the project site are already developed with single-family neighborhoods. As discussed in Response 7-1 in this Final EIR, the property located directly south and directly adjacent to the project site is owned by the EBRPD and PG&E. The land owned by EBRPD is in "land bank status," which means that it is set aside for future park use/open space use. Lastly, as discussed on page 3.0-9 in Draft EIR, the greenwall located in the southern portion of the project site would further prohibit the extension of the project site utility infrastructure to the south and implements General Plan policy 2-P-73 calling for a permanent greenbelt buffer on the southern portion of the site. As noted in the Draft EIR, the project would provide no new street access to other properties; utilities would be extended from existing neighboring development; the greenwall would prevent further utility extensions to the south; no other property is designated for development to the south or west; the project completes the southerly extent of planned development within the ULL; the site is contiguous to a residential subdivision to the north; and utility extension to the site was previously planned and can be extended within system capacities. The above facts and the rest of the Draft EIR discussion adequately support the conclusion that development of the proposed project would not be growth inducing and would not cause adjacent vacant land outside of the ULL to be developed.

The only piece of land in the immediate vicinity of the project site that could be developed is located to the southeast across Kirker Pass Road, within the ULL. This land is a narrow strip located between Kirker Pass Road and Kirker Creek that is approximately 9 acres in size and extends from the existing neighborhood (city limit line) to the north to the planned intersection of Kirker Pass Road and the JDBE to the south. This land is designated for Hillside Low Density Residential development in the City's General Plan. As this property is located contiguous with existing single-family development in the City of Pittsburg, utility infrastructure could be extended to this property whether or not the proposed project was developed. In addition, the infrastructure on the project site, including the water tank, would only serve the proposed project and would not be sized to allow for additional growth not already envisioned beyond the project site.

For these reasons, the proposed project would not be growth inducing through the extension of infrastructure or under any other criteria.

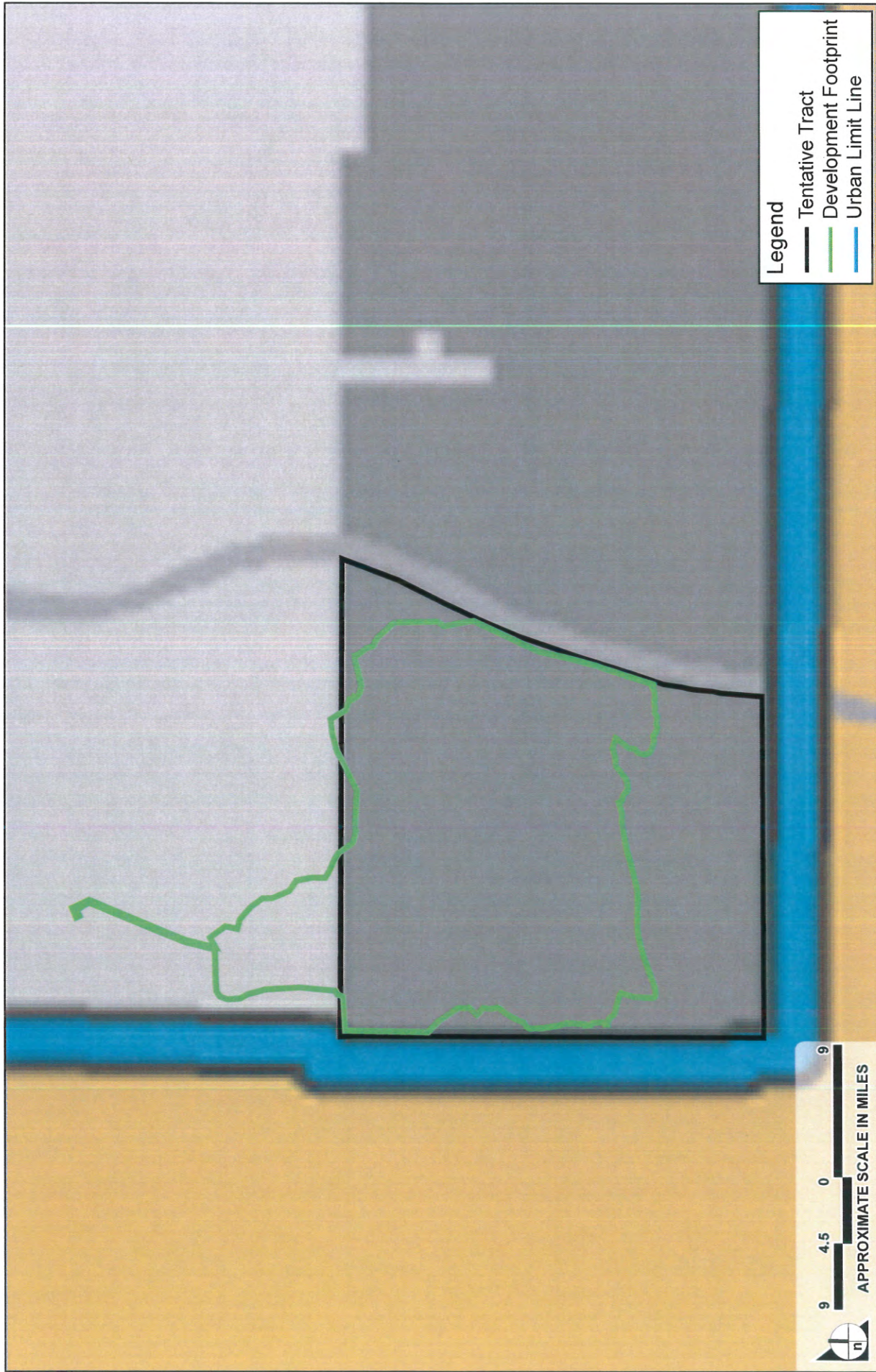


FIGURE 3.0-1

Urban Limit Line



Response 10-51

The Draft EIR biological resources analysis has been revised and recirculated. The project's cumulative impacts on biological resources are analyzed in **Section 5.3, Biological Resources**, of the Recirculated Draft EIR under Impact BIO-8. As noted on pages 5.3-72 to 5.3-73 in this section, development associated with the proposed project and other development in the vicinity of the project site, including five major projects, have the potential to result in significant cumulative impacts to biological resources, including special-status plant and wildlife species. However, the project's contribution to a significant cumulative impact would be rendered cumulatively not considerable as the proposed project would contribute to the preservation of high-quality habitat types and contribute to the recovery of Threatened or Endangered species through compliance with the East Contra Costa County HCP/NCCP. A project's contribution to a significant cumulative impact can be rendered cumulatively not considerable (i.e., less than significant) if the project is required to fund its fair share of mitigation designed to alleviate the impact (CEQA Guidelines 15130(a)(3)). Payment of the development and wetland mitigation fees complies with this standard.

With regard to the other projects mentioned in the comment that are located throughout the City, some of these projects, such as Bancroft Gardens II, are located in urbanized areas of the City, and would not significantly affect biological resources. Other projects, such as Alves Ranch, Vista Del Mar, and San Marco, have already undergone environmental review and would implement project-specific mitigation to reduce each project's respective impacts on biological resources.

It is noteworthy that the Recirculated Draft EIR conclusions regarding cumulative impacts on biological resources are consistent with the conclusions in the City's General Plan EIR and the East Contra Costa County HCP/NCCP EIR. The General Plan EIR evaluated the cumulative impacts to biological resources and found that the expansion of urban land uses under the General Plan may result in the loss of sensitive habitat areas. However, with the implementation of General Plan conservation policies this impact would be reduced to a less than significant level (City of Pittsburg 2001). Similarly, the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) prepared for the East Contra Costa County HCP/NCCP addressed the impacts to biological resources from development and preservation activities in East Contra Costa County (which included the City of Pittsburg and the project site). That EIS/EIR concluded that, with the acquisition of land and implementation of conservation measures contained in the HCP/NCCP that would avoid, enhance, and restore impact to sensitive vegetation communities, impacts to these communities would be less than significant. In addition, the EIS/EIR concluded that, with (1) the establishment of a conservation strategy that avoids, minimizes, and mitigates, to the maximum extent practicable, impacts to covered plant and animal species, (2) preservation of habitat, and (3) the administration of a comprehensive monitoring and adaptive

management program to examine the effectiveness of the program, impacts to special status plant and wildlife species would be less than significant (ECCCHCPA 2006).

Response 10-52

An analysis of the project's cumulative hydrology and water quality impacts is provided on pages 60 to 61 of the Initial Study (see **Appendix 1.0** of the Draft EIR). As discussed in the Initial Study, all reasonably foreseeable future development in Pittsburg would be required to implement a SWPPP during construction. The SWPPP is required to include Best Management Practices (BMPs) to control on-site erosion and off-site sedimentation, and to keep construction pollutants from coming into contact with storm water. Examples of the BMPs that the project would implement include, but are not limited to, the use of sediment traps such as hay bales, minimizing new land disturbance during the rainy season, and the use of water or dust suppressants to provide temporary stabilization of disturbed soils. In addition, all foreseeable future development in Pittsburg would also treat and control runoff in accordance with provision C.3 of the San Francisco Bay MRP post-construction. As described in Response 2-2, the project would treat and control stormwater runoff by directing it to detention basins where pollutants would be removed by filtering runoff slowly through an active layer of soil. Therefore, cumulative impacts to water quality and drainage would be less than significant.

Either all or portions of the five major projects in the vicinity of the project site listed in **Chapter 5.0, Environmental Setting, Impacts and Mitigation Measures**, of the Draft EIR, are located within the Kirker Creek watershed along with several other projects listed in the City's Project Pipeline List. As discussed above in Response 10-26, the proposed project would be designed in accordance with provision C.3 of the San Francisco Bay MRP. Each of the future development projects within the Kirker Creek watershed would also be required to comply with C.3 provisions, which prohibit an increase in runoff flow over existing conditions. Therefore, a significant cumulative impact on Kirker Creek would not occur.

Response 10-53

The Draft EIR alternatives analysis has been revised and recirculated. The alternatives analysis presented in **Chapter 6.0, Alternatives**, of the Draft EIR and Recirculated Draft EIR, evaluates a reasonable range of alternatives as required by CEQA Guidelines Section 15126(d), including a No Project/No Development alternative, an alternative that develops the site consistent with existing General Plan and pre-zoning designations (which essentially reduces the proposed development density by 50 percent), a reduced density alternative (which reduces the proposed development density by 25 percent), and a ridgeline preservation alternative (which eliminates 25 units in the northeastern portion of the site and reduces the

proposed development density by 7 percent). Due to the reductions in development densities, development area and/or location, each alternative avoids or minimizes the project's significant effects with regard to aesthetics, air quality, biological resources, geology and soils, and public services as required by CEQA Guidelines Section 15126(b). Therefore, the Draft EIR and Recirculated Draft EIR do not fail to consider feasible alternatives that would reduce the project's significant impacts.

Response 10-54

As demonstrated in all of the responses above, the Draft EIR and Recirculated Draft EIR properly disclose the extent and severity of the project's environmental impacts and do not fail to identify any significant impacts. As a result, the alternatives analysis in **Chapter 6.0, Alternatives**, of the Draft EIR and Recirculated Draft EIR, is not distorted and evaluates an appropriate range of reasonable alternatives to the proposed project that would avoid or reduce the project's significant impacts.

Response 10-55

As discussed on page 6.0-3 in **Chapter 6.0, Alternatives**, of the Draft EIR and the Recirculated Draft EIR, the possibility of placing the proposed project on an alternative site within the City of Pittsburg was considered but determined not to be feasible as neither the project applicants nor the City owns or controls any other property in the vicinity of the site that is of sufficient size to accommodate the project. All the properties that are controlled by the project applicants are either entitled or in the process of being entitled. In addition, other properties within the City of Pittsburg General Plan planning area that appear to be large enough to accommodate the proposed project are all beyond the City's ULL. As the extension of the ULL requires a vote of City residents, it would be speculative to assume that the ULL could be moved to accommodate an alternative site. Although there is one comparable vacant property within the City's ULL that is approximately 58.7 acres in size, it is not big enough to accommodate the proposed project, and because it is comprised of undeveloped hillside grazing land and is adjacent to open space outside the ULL, development on that site would result in similar impacts with regard to aesthetics and biological resources. In addition, it is proposed to be re-designated for open space as part of the JD BE project, which has yet to be approved.

In the course of preparing a response to this comment, the City examined whether there could be a feasible alternative that breaks the proposed project up into two or more locations. The examination determined that the availability of alternative sites in the City is limited, as discussed above. In addition, according to an inventory of vacant land within the City conducted for the update to the City's General Plan Housing Element, there are no existing residentially zoned sites (or combination of sites) within the City that do not have an application pending and that are big enough to accommodate the proposed

project. For these reasons, an alternative that breaks the proposed project up and constructs the residential units in two or more locations would not reduce the project's impacts and is not feasible. For these reasons, such an alternative does not need to be included in the EIR's alternative analysis.

Response 10-56

The comment is unclear as the proposed project was not selected over other alternatives. *State CEQA Guidelines* Section 15126.6(e)(2) requires that an environmentally superior alternative other than 'No Project' be identified among the alternatives analyzed in the EIR. Alternative 2, Existing General Plan and Zoning Alternative Designations, was identified as the environmentally superior alternative on pages 6.0-27 to 6.0-28 of the Draft EIR and the Recirculated Draft EIR.

Response 10-57

The Draft EIR, the Recirculated Draft EIR, and the responses in the Final EIR provide a complete analysis of impacts that can be anticipated with implementation of the proposed project, and mitigation measures to reduce most of the impacts to less than significant. The analyses provide a straightforward and comprehensive discussion of the sensitivities of the site and adequately fulfill CEQA's goal of informing the public and decision makers about the environmental effects of the proposed project.

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February 6, 2015

Via E-Mail and U.S. Mail

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Re: Montreux Residential Subdivision and Recirculated Draft
Environmental Impact Report

Dear Ms. Pollot:

On behalf of Save Mount Diablo ("SMD"), we have reviewed the City of Pittsburg's December 2014 Recirculated Draft Environmental Impact Report ("RDEIR") for the proposed Montreux Residential Subdivision Project ("Project"). Our firm submitted extensive comments on the 2013 DEIR for the Project. The City subsequently revised the DEIR with respect to the Project's impacts on biological resources only. We submit this letter to reiterate our earlier, unaddressed comments and to provide additional, new comments on the revised portions of the RDEIR. The RDEIR continues to violate the California Environmental Quality Act ("CEQA") and the CEQA Guidelines for the reasons stated below.

BACKGROUND

After receiving new information on biological resources in response to its November 2013 DEIR, the City decided to revise and recirculate the document pursuant to the CEQA Guidelines. See CEQA Guidelines § 15088.5. The City made the RDEIR available for public comment in December 2014, and explicitly limited the scope of the RDEIR to "only those sections of the previously circulated Draft EIR that have been affected by the additional information related to biological resources." RDEIR at 1.0-2. The City also asked that reviewers submit new comments "related to the revised

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information on biological resources . . . only.” *Id.* Comments on the DEIR that were not addressed in the RDEIR would be responded to in the Final EIR, according to the City. *Id.*

It is unclear to us why the City took the time and energy to develop an RDEIR but failed to address most of the DEIR’s inadequacies. As described in our previous comment letter (attached here), the DEIR lacked basic information regarding the Project description, elements of the development agreement, impacts to aesthetic, historic, and hydrologic resources, and the Project’s public services, public safety, and growth inducing effects.

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Even the revised portions of the EIR remain deficient. The Project’s anticipated impacts to biological resources are a manifest violation of the City’s General Plan, and the RDEIR takes a blinkered approach to its analysis of those resources. It plays down the Project area’s recognized sensitivity and understates its importance as habitat for endangered, threatened, and sensitive species. The RDEIR fails to analyze the cumulative impacts of nearby and anticipated future development projects on these resources.

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These flaws render the RDEIR inadequate. CEQA requires that an EIR provide the analysis and detail about environmental impacts that is necessary to enable decision-makers to make intelligent decisions in light of the environmental consequences of their actions. *See* CEQA Guidelines § 15151; *King County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692. The EIR is also the “primary means” of ensuring that public agencies “take all action necessary to protect, rehabilitate, and enhance” the environment. *Laurel Heights Improvement Ass’n v. Regents of the University of California* (1988) 47 Cal.3d 376, 392. Thus, CEQA incorporates a substantive requirement that the lead agency adopt feasible mitigation measures or alternatives that can substantially lessen the project’s significant environmental impacts. Pub. Resources Code § 21002; CEQA Guidelines § 15002(a)(3). Finally, the EIR is a “document of accountability,” intended to demonstrate to the public that the agency has considered the environmental implications of its action. *Laurel Heights*, 47 Cal.3d at 392. The RDEIR does not comply with CEQA’s objectives because it fails to (1) provide sufficient information for informed decision-making; (2) provide substantive mitigation requirements; and (3) demonstrate that the City has fully grappled with the environmental implications of the Project. To comply with these requirements, the City must revise the RDEIR to address the issues raised below and in our prior comments.

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I. The Recirculated DEIR Fails to Adequately Identify and Mitigate the Project's Inconsistencies with the Applicable General Plan.

As we noted in our previous letter, the City's General Plan calls for development that is compatible with the environment and sensitive habitats, "particularly habitats that support special status species." Resources Conservation Element Goals 9-G-1 and 9-G-2 and Policies 4-P-14, 4-P-15, 9-P-13. The City acknowledges the existence of some of these goals and policies in the RDEIR (*see* RDEIR at 5.3-45 and 46), but nonetheless presents a Project that would result in significant and unmitigated adverse impacts to sensitive habitats and species on and adjacent to the Project site. *See* section II below. Perhaps sensing that the Project's impacts are incompatible with the General Plan, the RDEIR begins by noting that the southern portion of the Project area will "provide a greenwall (defined as open space with no water or sewer services passing through) as required by General Plan Policy 2-P-73." RDEIR at 5.3-1. Policy 2-P-73 requires "[p]ermanent greenbelt buffers." General Plan Land Use Element, Woodlands, 2-P-73. No mention is made of whether the proposed "greenwall" is protected by a conservation easement or any other mechanism that could provide the "permanent" protection required by the General Plan. As a result, the land remains vulnerable to future development.

Not only do these unmitigated inconsistencies render the RDEIR inadequate, they also make the Project unapprovable. Under the Subdivision Map Act and the City's own code, the City cannot approve a tentative map unless it is consistent with the City's General Plan. *See* Gov't Code §§ 66473.5 & 66474 (prohibiting approval of tentative maps that are inconsistent with general plan policies); *see also Friends of "B" Street v. City of Hayward* (1980) 106 Cal.App.3d 988, 998 (Subdivision Map Act expressly requires consistency with general plan); City of Pittsburg Municipal Code § 17.20.060 (to approve a tentative map, the following findings must be made, among others: 1) the proposed map is consistent with the general plan and any applicable specific plan, or other applicable provisions of [the municipal] code; 2) the site is physically suitable for the proposed density of development; and 3) the design of the subdivision or the proposed improvements will not cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat). Because the City cannot make these required findings, it cannot approve the requested rezoning and tentative map.

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II. The Recirculated DEIR Fails to Analyze and Mitigate the Project's Significant Impacts to Biological Resources.

The RDEIR's purported analysis of biological impacts achieves a result exactly opposite from what CEQA requires. Under CEQA, decision-makers and the public are to be given sufficient information about impacts and mitigation to come to their own judgments and decisions. *See* Pub. Res. Code § 21061 ("The purpose of an environmental impact report is to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project."). Where, as here, the environmental review document fails to fully and accurately inform decision-makers, and the public, of the environmental consequences of proposed actions, it does not satisfy the basic goals of CEQA.

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It appears this RDEIR's strategy is to withhold information and to encourage the public and decision makers to trust that the applicant will ultimately mitigate the Project's impacts. The Project's critical discussion of biological impacts must explain exactly what will happen on the Project site and the surrounding ecosystem if the Project goes forward. *See Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 568 ("[T]he EIR must contain facts and analysis, not the agency's bare conclusions . . ."). The RDEIR must offer some specific information about the consequences of this Project. It cannot, as the RDEIR does over and over again, merely acknowledge that the Project will have consequences and then assert that those consequences will be mitigated without providing evidentiary support. Thus, this document, like its predecessor, remains inadequate under CEQA.

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A. The Recirculated DEIR Continues to Employ a Faulty Methodology.

Despite the opportunity to correct previously identified deficiencies in the DEIR's methodology, the RDEIR continues to rely upon a flawed methodology and incorrect assumptions about the project setting. The RDEIR describes surveys that involved visiting "representative habitat locations" and "generally" mapping plant communities, suggesting that the City failed to perform thorough surveys for special status species despite the known presence of those species in the project area. RDEIR at 5.3-2. Moreover, much of the limited surveying took place between October and January during "the driest winter on record," conditions that would make it difficult to accurately identify plant species. RDEIR at 5.3-1 and 5.3-3. The likelihood of missing special status plants is particularly worrisome given the RDEIR's conclusion that a variety of

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STATE ATTORNEY
W. L. BERGER

special status plants could occur in the project site but are unlikely to occur because they were not “observed during the surveys.” RDEIR at 5.3-15. As the RDEIR notes, certain species may have been missed given that the “surveys were not conducted during the peak blooming period . . .” RDEIR at 5.3-24.

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Other conclusions appear flawed due to the timing of the surveys. For example, during the discussion of California Tiger Salamander habitat, the RDEIR concludes that the seasonal wetlands on the site do not pond for an adequate duration or depth to support the species. RDEIR at 5.3-36. The RDEIR never explains whether this conclusion remains true during a normal rainy season or if the conclusion is based on the present drought.

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As a result, the survey information still fails to provide an accurate description of the environmental setting and thereby underestimates the Project’s biological impacts. The EIR cannot be approved without properly timed surveys that accurately determine the presence of special status species rather than reliance on “general” mapping.

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B. The Recirculated DEIR Continues to Present an Inaccurate Description of the Project’s Biological Setting.

Our previous letter noted that an EIR “must include a description of the environment in the vicinity of the project, as it exists before the commencement of the project, from both a local and a regional perspective.” Guidelines § 15125; *see also Environmental Planning and Info. Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 354. Special emphasis should be placed on rare or unique resources that will be affected by the Project. Guidelines § 15125(c). Curiously, the City undertook the additional time and effort to prepare an RDEIR, yet that document continues to present an inaccurate description of the environmental resources in the Project area. This failure makes it impossible for the public and decision-makers to accurately assess the Project’s environmental effects.

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The RDEIR characterizes the Project site as containing a “limited variety of wildlife species,” (RDEIR at 5.3-11), but the data presented in the document undercut that characterization. For example, the RDEIR contains a long list of potentially occurring special status animal species. RDEIR at 5.3-25, 26. Aerial photographs in the RDEIR depict a project site within an regional open space area home to a panoply of special status species. RDEIR Figure 5.3-5. Yet as explained above, the RDEIR

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STUDY MATERIALS
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employs a faulty methodology to measure the richness of this biodiversity, and the document never presents an accurate picture of the resources on the project site.

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The RDEIR incorrectly characterizes the dispersal patterns of the California Red-legged Frog ("CRF"). The document refers to a study by Zeiner et al. for the proposition that the CRF might travel "up to 300 feet away" from breeding ponds during rainy nights. RDEIR at 5.3-34. The Zeiner study, however, reached no such conclusion about the maximum dispersal range of the CRF. According to a biologist familiar with the study, it concluded simply that CRF might travel 300 feet from breeding ponds on a nightly basis in order to forage. Other studies confirm that the maximum dispersal distance of the CRF is much higher. Gary M. Fellers and Patrick M Kleeman, *California Red-legged Frog (Rana draytonii) Movement and Habitat Use: Implications for Conservation*, 41 Journal of Herpetology 276, 283-84 (2007) (observing "a wide range of migration distances (30-1400 m[eters])" and concluding that average dispersal distances have limited value to land management decisions and that "[a] herpetologist familiar with [the species'] ecology needs to assess the local habitat requirements"). [With a seasonal pond 100 feet from the project site and known breeding habitat 550 feet from the site, it is likely that there is non-temporary, terrestrial estivation habitat in the project area. At a minimum, a herpetologist familiar with the CRF should have examined this possibility.

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The document reaches similarly unfounded conclusions regarding the movements of California Tiger Salamander ("CTS"). The RDEIR cites a U.S. Fish and Wildlife study finding CTS dispersal is generally less than 1.24 miles when suitable estivation habitat occurs in proximity to a pond, but it ignores newer research suggesting that larger numbers of CTS travel farther from breeding ponds than previously believed. See, e.g., Susan G. Orloff, *Movement Patterns and Migration Distances in an Upland Population of California Tiger Salamander (Ambystoma californiense)*, 6 Herpetological Conservation Biology 266, 273 (2011) (noting that large numbers of CTS were captured at least 800 meters from a breeding pond in one study). In light of these studies, concluding that it is unlikely that a "large number of CTS" would disperse onto the project site when there are two confirmed breeding ponds within one mile of the site and a possible breeding pond within 100 feet of the site is pure conjecture. [The RDEIR underlines its own deficiencies in this regard by imposing a mitigation measure that the project proponent should conduct additional biological surveys. RDEIR, MM BIO-1b. These surveys need to be included in the RDEIR's description of the existing setting, not postponed until after CEQA review.

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C. The Recirculated DEIR Fails to Analyze the Extent and Severity of Impacts and to Mitigate Those Impacts to Less Than Significant Levels.

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Despite acknowledging the Project's potentially adverse impacts to special status species, the RDEIR fails to disclose the extent of those adverse impacts. Compounding this deficiency, the RDEIR then relies on the payment of mitigation fees in many instances where more direct and effective mitigation could be employed. *See California Native Plant Society v. County of El Dorado* (2009) 170 Cal.App.4th 1026, 1055 (holding payment of fees into county habitat preserve program insufficient mitigation, and noting that "payment of the fee does not obviate the need for project-specific analysis of impacts"). While it is true that CEQA permits payment of fees as mitigation for cumulative impacts, *see Save Our Peninsula Committee v. Monterey County Bd. Of Supervisors* (2001) 87 Cal.App.4th 99, 140-41, that does not permit the RDEIR to rely on fees to mitigate direct impacts where more direct avoidance or mitigation is available. Ultimately the RDEIR depends on fees and other mitigation measures without providing evidence that those measures will actually mitigate impacts to less than significant levels. The RDEIR must quantify the Project's effects on biological resources rather than relying on programmatic analysis in the regional habitat conservation plan ("HCP") and must disclose the efficacy of the proposed mitigation so that the public and decision-makers may reach their own conclusions. *Id.* at 130.

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For example, the RDEIR reveals that "most of the plants listed in Table 5.3-2 [i.e. special status species] as occurring within clay soils have potential to occur on Diablo clay soils." RDEIR at 5.3-7. This is the type of soil existing on the site on steep slopes that will be impacted by the Project. *Id.* The RDEIR does not discuss how the predominance of this soil type relates to the Project design and the foreseeable impacts associated with the Project. Given that the Project includes extensive grading and filling on these steep slopes, the RDEIR's oversight is particularly problematic.

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Where the RDEIR identifies potentially significant impacts, the proposed mitigation measures do nothing to avoid or minimize those impacts. The proposed mitigation measure for impacts to wetlands, MM BIO-1a, relies on HCP fees alone. RDEIR at 5.3-50. The RDEIR never presents any evidence that this type of mitigation will reduce impacts to less than significant levels, and indeed admits that with respect to certain protected species the "HCP/NCCP does not include or recommend any avoidance or minimization measures" RDEIR at 5.3-54. Instead the fees compensate for expected loss to species and habitat by funding a "regional strategy." *Id.* This sort of mitigation does not address the site-specific impacts that must be analyzed and mitigated

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pursuant to CEQA. The HCP itself expresses an expectation that future project-level analysis of biological resources will occur. East Contra Costa County HCP/NCCP at 6-6 (Oct. 2006) (“Some avoidance and minimization is still required at the project level . . .”). Avoidance and minimization is a standard way to mitigate project-level impacts and is understood as best practice. The RDEIR itself incorporates avoidance and minimization in some of its mitigation measures. See, e.g., RDEIR, MM BIO-2b and MM BIO-2c (applying avoidance and minimization measures for kit fox and fairy shrimp). This inconsistent approach to mitigation undermines the RDEIR’s purpose as an informational document, making it difficult for the public to determine the efficacy of the mitigation measures that rely on fees alone. *Save Our Peninsula Committee*, 87 Cal.App.4th at 130.

Even assuming that HCP fees were adequate mitigation for project-specific impacts here, the Project proposes density in this area that exceeds the amount of density contemplated by the HCP. Compare RDEIR at 1.0-1 (assuming an average lot size of 7,668 square feet) with HCP/NCCP Signed Implementing Agreement, Exhibit B n.4 (basing development fees on an assumption of 4 units per acre, or lot sizes of roughly 10,890 square feet). Therefore, the Project appears to be inconsistent with the HCP, and fees established by the HCP might not provide adequate mitigation for the Project. CEQA requires site-specific analysis of impacts for precisely this type of situation.

Other mitigation measures are based on incomplete analyses of the Project site. As noted in our previous comment letter, the EIR neither includes nor references any hydrologic or hydraulic engineering reports regarding the Project’s expected hydraulic and flood risks. See Letter from SWM to Kristin Pollot at 8 (January 10, 2014) (citing the Baseline Report at 1 and 2). Yet the RDEIR contains mitigation measures that are tied directly to potentially significant “hydrological interruption.” RDEIR at 5.3-65. Without a proper hydrological analysis, whether the proposed mitigation (MM BIO-1a) will be effective is nothing more than a guess.

Finally, many of the mitigation measures in the RDEIR are unenforceable. For example, measures MM BIO-7a through 7d rely on deed disclosures and recommendations to future homeowners. Even if these measures were enforceable, the RDEIR provides no evidence to support its conclusion that they will reduce indirect impacts to nearby sensitive species to less than significant levels. RDEIR at 5.3-71 and 72.

SHREVE & SMITH
ARCHITECTS

D. The Recirculated DEIR Fails to Adequately Analyze Cumulative Impacts and Mitigate Them to Less Than Significant Levels.

According to the RDEIR, this 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.” RDEIR at 5.3-66. Incoherently, the RDEIR simultaneously concludes that the Project would contribute to the preservation of high quality habitat. *See* RDEIR at 5.3-72. It is absurd to suggest that by developing presently undeveloped land, the Project will actually enhance habitat. The Project does the opposite. While the payment of in-lieu fees may protect other areas, the Project area will be permanently disturbed. Moreover, development in this area will set a precedent for further urban and suburban sprawl into open space. Without providing an assessment of how this development will affect biological resources when considered alongside other proposed and approved developments in the region, the RDEIR continues to provide an impoverished and unhelpful analysis of the Project’s cumulative impacts.

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CONCLUSION

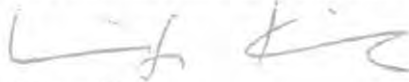
As currently designed, the Montreux Residential Subdivision Project remains inconsistent with the City’s General Plan and would lead to numerous significant and unmitigated environmental impacts. The City’s environmental review—even as presented in the RDEIR—remains deficient and inadequate under CEQA. Therefore Save Mount Diablo urges the City to delay further consideration of the Montreux Residential Subdivision until the City prepares and recirculates a revised draft EIR that fully complies with CEQA and the CEQA Guidelines.

SHR TO MOUNT
DIABLO RESIDENTIAL

Kristin Pollot
February 6, 2015
Page 10

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP



Winter King



Benjamin J. Brysacz

Attachments:

January 10, 2014 Letter re Montreux Residential Subdivision and DEIR

Bruce Abelli-Amen, Comments on Draft Environmental Impact Report and Initial Study, Baseline Environmental Consulting, Jan. 8, 2014

Gary M. Fellers and Patrick M Kleeman, *California Red-legged Frog (Rana draytonii) Movement and Habitat Use: Implications for Conservation*, 41 Journal of Herpetology 276 (2007)

Susan G. Orloff, *Movement Patterns and Migration Distances in an Upland Population of California Tiger Salamander (Ambystoma californiense)*, 6 Herpetological Conservation Biology 266 (2011)

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SHUTE, MIHALY &
WEINBERGER LLP

Attachment 1

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January 10, 2014

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Re: Montreux Residential Subdivision and Draft Environmental Impact Report

Dear Ms. Pollot:

This firm represents Save Mount Diablo ("SMD") with regard to the Montreux Residential Subdivision Project ("Project"). SMD is a non-profit organization dedicated to preserving Mount Diablo's peaks, surrounding foothills and watersheds through land acquisition and preservation strategies designed to protect the mountain's natural beauty, biological diversity and historic and agricultural heritage. To advance this goal, SMD regularly participates in land use planning processes for projects that could impact Mount Diablo and its surrounding foothills, such as the Montreux Project. We submit these comments on the Project and associated draft Environmental Impact Report ("DEIR") on SMD's behalf.

As described below, SMD has serious concerns about the impacts of the Project, which proposes to transform 77 acres of largely untouched open space lands in the Woodlands subarea, immediately adjacent to the open spaces of the South Hills subarea, into a residential subdivision with 356 estate homes, onsite access roadways, drainage basins, and a water storage tank. DEIR at 3.0-8 and 9. The urban-scale Project is currently outside the City limits, outside the service areas for the Delta Diablo Sanitation District and the Contra Costa Water District Service Area boundary, and therefore lacks a certain water supply. The Project is patently inconsistent with the City's general plan and requires rezoning to permit development at the proposed density. In short, the Project has all the hallmarks and adverse environmental impacts of leapfrog development. It is

therefore perhaps unsurprising that it directly conflicts with numerous general plan policies that discourage such development.

In addition, the DEIR for the Project fails to provide the public and decision makers with crucial information about the Project, its impacts, and feasible mitigation measures, in direct violation of the California Environmental Policy Act ("CEQA").¹ For example, the Project description lacks sufficient detail for the public to determine what the impacts of the Project will be. Although the City is apparently contemplating a development agreement as part of the Project, the agreement itself is not included as an attachment to the DEIR or otherwise made available to the public, and the description of the agreement's terms is cursory at best. Similarly, consultant reports on various impact areas are referred to in the DEIR but not provided for public review. At the very least, the DEIR must be revised and recirculated to include these documents and information.

The DEIR's analysis of specific environmental impacts is similarly lacking. As discussed in this letter and the attached report from consulting hydrologist Bruce Abelli-Amen of Baseline Environmental Consulting ("Baseline Report"), developing the Project on the area's steep terrain will require extensive cut and fill, which, in turn, will drastically affect the hydrology of the area and could even damage downstream properties. Baseline Report attached as Exhibit 1. Yet the DEIR contains *no discussion whatsoever* of these potential impacts, relying solely on the Initial Study's cursory discussion of the issue. Similar flaws are found in other impact analysis, including aesthetics, biological resources, public services, and public safety. More is required of an adequate EIR.

In sum, after reviewing the DEIR and other Project documents, it is our opinion that the Project conflicts with the City of Pittsburg's General Plan and Municipal Code in violation of State Planning and Zoning Law, Gov't Code § 65000 et seq. For this and other reasons, the City cannot make the findings necessary to approve the Project's requested rezoning and tentative map. *See* Gov't Code §§ 66473.5 & 66474. In addition, the DEIR for the Project violates the minimum standards of adequacy under CEQA. As a result, the City cannot approve the Project as currently proposed and must, at a minimum, recirculate a revised DEIR that addresses the inadequacies identified in this letter.

¹ Public Resources Code § 21000 et seq. (hereinafter "CEQA"); Cal. Code of Regulations, tit. 14, § 15000 et seq. (hereinafter "Guidelines").

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I. Approval of the Project Would Violate California Planning and Zoning Law and the Subdivision Map Act.

The State Planning and Zoning Law (Gov't Code § 65000 et seq.) requires that development decisions be consistent with the jurisdiction's general plan. *See* Gov't Code §§ 65860 (requiring consistency of zoning to general plan), 66473.5 & 66474 (requiring consistency of subdivision maps to general plan), and 65359 and 65454 (requiring consistency of specific plan and other development plan and amendments thereto to general plan). Thus, "[u]nder state law, the propriety of virtually any local decision affecting land use and development depends upon consistency with the applicable general plan and its elements." *Resource Defense Fund v. County of Santa Cruz* (1982) 133 Cal.App.3d 800, 806. Accordingly, "[t]he consistency doctrine [is] the linchpin of California's land use and development laws; it is the principle which infuses the concept of planned growth with the force of law." *Families Unafraid to Uphold Rural El Dorado County v. Board of Supervisors* (1998) 62 Cal.App.4th 1332, 1336.

It is an abuse of discretion to approve a project that "frustrate[s] the General Plan's goals and policies." *Napa Citizens for Honest Gov't v. Napa County* (2001) 91 Cal.App.4th 342, 379. The project need not present an "outright conflict" with a general plan provision to be considered inconsistent; the determining question is instead whether the project "is compatible with and will not frustrate the General Plan's goals and policies." *Napa Citizens*, 91 Cal.App.4th at 379.

Here, the proposed Project does more than just frustrate the General Plan's goals. It is directly inconsistent with numerous provisions in the General Plan. Consequently, the Project cannot be approved in its current form.

A. The Project Is Inconsistent with Numerous General Plan and Municipal Code Provisions.

The City's General Plan and Municipal Code contains several provisions intended to ensure that development occur in an environmentally sensitive manner. As discussed below, the Project is inconsistent with many important Plan and Code provisions.

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1. General Plan and Code Provisions Relating to the Preservation of Hillsides

The Project site is designated and pre-zoned for Hillside Plan Development. DEIR at 3.0-8. The General Plan requires that development in the hills be sensitive to the natural terrain, minimize cut-and-fill, and incorporate natural features (*e.g.*, topography and creeks) into the design of residential neighborhoods. General Plan Land Use Element Policies 2-P-21, 2-P-23, 2-P-24, 2-P-25, 4-P-9. General Plan Land Use Element Policy 2-P-21. The General Plan also indicates that the City must “ensure that all General Plan policies apply to hillside land irrespective of zoning –whether Planned Development or any other base district.” General Plan Land Use Element Policy 2-P-22.

General Plan provisions specific to the Woodlands sub-area where the Project is located are even more protective. For example, the General Plan specifies a goal to support new residential development in locations that do not significantly impact the natural setting.” General Plan Goal: Woodlands 2-G-27 and 2-G-28. As discussed below and throughout this letter, the Project proposes mass grading that fills a natural drainage and denudes the site of natural vegetation. Other Woodlands-area specific provisions require that the “natural topography be retained to the *maximum extent feasible*, and large-scale grading discouraged” and that development be minimally visible from Kirker Pass Road. General Plan Policy: Woodlands 2-P-73.

The Municipal Code accordingly establishes regulations for development in hillside areas that establish several goals to protect hillsides. For example, the Code establishes the goal “to protect natural topographic features, aesthetic view, vistas, and prominent ridges.” It also calls for the City to “protect adjacent properties from potential adverse impacts of grading and drainage associated with hillside development,” and “encourage the use of development techniques and alternatives that will be compatible to the terrain of the hillside areas.” Municipal Code § 18.56.02.

The Municipal Code contains provisions requiring topographic maps indicating the steepness of the site’s slopes. Municipal Code § 18.56.070.K. The Code also requires landscape plans indicating the location of existing and proposed trees and other plant materials, and before and after grading details. *Id.* But neither the DEIR nor technical appendix actually include these details.

Despite the lack of information in the DEIR, it is clear that the Project would be inconsistent with these provisions. The DEIR concludes that the Project is consistent with the General Plan because the Project proposes to preserve the southernmost portion of the site. DEIR at 4.0-2. However, the development plan

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proposed for the remainder of the site would be anything but sensitive to the natural terrain. Rather than follow the natural topography and minimize grading, the Project site's steep slopes would be cut away to create unnaturally "flat" areas for building pads where steep slopes and drainage areas, including wetlands, previously existed. The Project requires a staggering 1.4 million cubic yards of excavation and fill material. DEIR at 3.0-12. Grading involving an estimated this level of excavation would result in the removal of trees and other natural vegetation throughout the development area and would also change much of the site's natural landform. Moreover, as made clear in the DEIR, the development would be very visible from Kirker Pass Road and would stand in stark contrast to the surrounding hillsides. DEIR at Figures 5.1-5 and 5.1-6.

2. General Plan Provisions Relating to the Protection of Natural Resources.

The General Plan encourages development that is compatible with the environment and sensitive habitats, "particularly habitats that support special status species" and calls for development that preserves significant ecological resources. Resources Conservation Element Goals 9-G-1 and 9-G-2 and Policies 4-P-14, 4-P-15, 9-P-13. The DEIR again concludes that the Project is consistent with the General Plan because the Project proposes to preserve the southernmost portion of the site and because the site's resources were "considered and documented." DEIR at 4.0-6. However, as discussed below, the DEIR's documentation of natural resources is seriously flawed. See section II.B.3 below. The Project is inconsistent with these provisions because, as discussed below, it will result in significant adverse impacts to sensitive habitats and species on and adjacent to the Project site. The DEIR has failed to provide a complete analysis of these impacts. *Id.* As a result, the Project will result in significant impacts related to direct and indirect impacts to special status species in contravention of the General Plan. *Id.*

3. General Plan Provisions Relating to the Protection of Drainages

The General Plan includes provisions that protect drainages and prevent erosion. Resources Conservation Element Policies 9-G-4 and 9-G-5. The General Plan also includes provisions to require evaluation and implementation of Best Management Practices to protect against creek bank destabilization and require assessments of downstream drainage impacts. Policies 9-P-15, 9-P-17, and 9-P-21. The DEIR fails to mention these General Plan provisions let alone analyze consistency with them. As discussed further below, and in the attached Baseline Report, the DEIR fails to evaluate these impacts. As a result, the Project is inconsistent with these General Plan provisions.

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4. General Plan Provisions Relating to the Provision of Public Services.

The DEIR discloses that the Project would add school children to area schools that are already over capacity. DEIR at 5.6-8. The Project is inconsistent with General Plan provisions that specify the City is to “ensure that school facilities maintain adequate capacity to provide for current and projected enrollment.” General Plan Policy 8-G-10. The Project is inconsistent with the General Plan in that it would approximately 277 new students to a school system already over-capacity.

The General Plan specifies that the City is to provide 1.8 *sworn officers* per each 1,000 residents. The DEIR discloses that the Project would add to the City’s population so that additional police officers would be needed to serve the community. DEIR at 5.6-8. As the DEIR makes clear, there is “no guarantee that the General Fund revenues provided by the new development would fully fund the new positions.” DEIR at 5.6-8. Thus, the Project conflicts with the General Plan requirements for police protection.

For all of these reasons, the Project is inconsistent with the General Plan and the Municipal Code. Because of the Project’s inconsistencies with these planning documents, approval of this Project would violate State Planning and Zoning Law and the County’s Development Code.

B. Approval of this Project Would Violate the Subdivision Map Act.

The proposed Project requires approval of a tentative subdivision map. *See* DEIR at 3.0-13. As a result, the City must comply with the Subdivision Map Act. This statute requires that a tentative map approval be consistent with the local general plan. *See* Gov’t Code §§ 66473.5; 66474; *see also Friends of “B” Street v. City of Hayward* (1980) 106 Cal.App.3d 988, 998 (Subdivision Map Act expressly requires consistency with general plan). Approval of a project that is inconsistent with the general plan violates the Subdivision Map Act and may be enjoined on that basis. *See Friends of “B” Street*, 106 Cal.App.3d at 998 (“City approval of a proposed subdivision ... may be enjoined for lack of consistency of the subdivision map with the general plan.”); *see also* City of Pittsburg Municipal Code § 17.20.060 (to approve a tentative map, the following findings must be made, among others: 1) the proposed map is consistent with the general plan and any applicable specific plan, or other applicable provisions of [the municipal] code; 2) the site is physically suitable for the proposed density of development; and 3) the design of the subdivision or the proposed improvements will not cause substantial

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environmental damage or substantially and avoidably injure fish or wildlife or their habitat).

As detailed throughout this letter, the Project is inconsistent with various goals and policies set forth in the City's General Plan. *See e.g.*, Section I(A), *supra*. Because approval of the Project would violate the general plan consistency requirements of the Subdivision Map Act and the City's own municipal code, the Project application must be denied.

II. The DEIR Is Inadequate Under CEQA.

The environmental impact report is "the heart of CEQA." *Laurel Heights Improvement Ass'n v. Regents of University of California* (1988) 47 Cal.3d 376, 392 (citations omitted) ("*Laurel Heights I*"). It "is an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return. The EIR is also intended 'to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action.' Because the EIR must be certified or rejected by public officials, it is a document of accountability." *Id.* (citations omitted). Where, as here, an EIR fails to fully and accurately inform decision makers, and the public, of the environmental consequences of proposed actions, it does not satisfy the basic goals of the statute. *See* CEQA § 21061 ("The purpose of an environmental impact report is to provide public agencies and the public in general with detailed information about the effect that a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.").

As discussed in detail below and in the attached technical report, the DEIR is replete with serious flaws. *See* Baseline Report. It lacks a legally defensible description of the Project and contains so little information about the Project's potential environmental impacts that, in many instances, it is difficult to evaluate the accuracy of the environmental analysis. Nor does the DEIR provide the necessary evidence or analysis to support its conclusions that environmental impacts would be less than significant. Many of the so-called mitigation measures proposed in the DEIR are nothing more than general assertions that something will be done in the future about the Project's significant environmental impacts. Such deferral is prohibited by CEQA. Consequently, the City must prepare and recirculate a revised EIR if it chooses to proceed with the proposed Project.

SEE ATTACHED
WORKBOOK

A. The DEIR Fails to Adequately Describe the Project.

1. The DEIR's Project Description Omits Critical Information.

Under CEQA, the inclusion in the EIR of a clear and comprehensive description of the proposed project is critical to meaningful public review. *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193. The court in *Inyo* explained why a thorough project description is necessary:

“A curtailed or distorted project description may stultify objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the “no project” alternative) and weigh other alternatives in the balance.” d. at 192-93. Thus, “[a]n accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR.” *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 830.

Here, the description of the Project is inadequate. The DEIR fails to identify key components of the Project that have the potential to result in significant environmental impacts. For example, the DEIR entirely omits critical information about the improvements that would be needed to resolve the area's hydraulic and flood risks. See Baseline Report at 1 and 2. Additionally, the DEIR fails to adequately describe the Project's stormwater system and fails to include a Stormwater Control Plan. The proposed Project will result in a substantial increase in impermeable surfaces, which will, in turn, increase runoff from the site, yet the document does not include any detail about where drainage features (inlets, piping, culverts, etc.) would be located and how these systems, including the detention basins, would be operated. The DEIR does not appear to include, nor does it reference, any hydrologic or hydraulic engineering that supports the drainage plan. The reader of the DEIR has no idea how the detention basins were sized or how they would be operated. Without detailed information regarding the location and design of the drainage facilities, it is impossible for decision makers and the public to evaluate the accuracy of the DEIR's conclusions.

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The DEIR also fails to include the following crucial information about the Project:

- Number and type of trees to be removed;
- Location of the Project staging areas;
- Location of spoils sites and haul routes;
- Construction-related activities (including timeline, location, number of construction employees, types of equipment, etc.);
- Other Project features such as fences, bridges, gates or other proposed improvements.

All of this information must be included in a revised EIR so that the impacts associated with these features and activities can be analyzed.

2. The Project Description Avoids Any Meaningful Discussion of the Proposed Development Agreement.

The DEIR notes that the Project will include a development agreement, and states that the agreement's primary purpose is to vest the applicant's entitlements. DEIR at 3.0-12. The DEIR also states that the development agreement will include provisions regarding integration of the project entrance with the future Donlon Boulevard extension, requirements for payment of fees related to open space and compliance with the City's inclusionary housing ordinance. *Id.* However, no information is provided about the conditions, terms, restrictions and requirements for subsequent actions. The text of this development agreement is not included anywhere in the DEIR. And the development agreement was not included among the publicly available environmental documents for the project. Without any more detailed information about the terms of the agreement, key elements of the project description are omitted and cannot be analyzed in the EIR, in direct violation of CEQA. *See, e.g., Laurel Heights Improvement Ass'n v. Regents of the University of California* (1993) 6 Cal.4th 1112, 1123 ("*Laurel Heights II*") (the purpose of CEQA "is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made").

This omission is particularly disturbing as development agreements typically seek to "lock in" development rights – including existing regulations and the density and intensity of development – over an extended period of time. As such, development agreements have the potential to greatly exacerbate the potential impacts of

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a project by limiting the lead agency's permitting authority and ability to impose additional mitigation measures or reduce the intensity of development at later discretionary phases of the project. This problem is only compounded where, as here, the development of critical mitigation measures is deferred to the indefinite future.

The DEIR's failure to provide any specifics regarding the development agreement constitutes a fatal shortcoming in the Project Description and the subsequent analysis of Project impacts. To comply with CEQA, the DEIR must be recirculated with a more detailed description of the development agreement or with the draft agreement attached.

3. The DEIR Minimizes the Extent of the Project By Failing to Describe and Analyze Full Build-Out Conditions.

Courts have held that, when analyzing the environmental impacts of a general plan or other planning document, the lead agency must analyze "the future development *permitted* by the [plan]. . . . Only then can the ultimate effect of the [plan] upon the physical environment be addressed." *Christward Ministry v. Superior Court of San Diego County* (1986) 184 Cal.App.3d 180, 194 (emphasis added); *see also City of Redlands v. County of San Bernardino* (2002) 96 Cal.App.4th 398, 409 (quoting same).

Here, the Project proposes rezoning not only for the 77-acre portion of the site designated for residential development but for entire site. DEIR at 3.0-8. Nowhere does the DEIR analyze the impacts of a potential increase in density on the entire site. The DEIR proposes that the 71-acre area proposed for open space will be subject to "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)." DEIR at 2.0-21. This approach is not adequately protective of the open space. First, recording the deed restriction prior to the last Final Map (rather than prior to the *first* Final Map) leaves the open space area vulnerable to damaging uses during construction. Second, deferring recordation of the deed restriction to such a late date leaves the open space vulnerable to future proposals for alteration of the open space area to other uses.

Alternatively, the DEIR could have specified use of a conservation easement on the open space area, conveyed to a land trust capable of managing and enforcing it, to preserve and protect the area in perpetuity. Such an easement should be recorded prior to acceptance of the first Final Map. As proposed, the open space area is vulnerable to future proposals for alteration of the open space area to other uses, and therefore, the DEIR must analyze the potential impacts at full build-out should the City approve the change in zoning.

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B. The DEIR Fails to Analyze and Mitigate the Project's Significant Environmental Impacts.

CEQA requires that an EIR be detailed, complete, and reflect a good faith effort at full disclosure. Guidelines § 15151. The document should provide a sufficient degree of analysis to inform the public about the proposed project's adverse environmental impacts and to allow decision-makers to make intelligent judgments. *Id.* Consistent with this requirement, information regarding the project's impacts must be "painstakingly ferreted out." *Environmental Planning & Info. Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 357 (finding an EIR for a general plan amendment inadequate where the document did not make clear the effect on the physical environment).

Meaningful analysis of impacts effectuates one of CEQA's fundamental purposes: to "inform the public and responsible officials of the environmental consequences of their decisions before they are made." *Laurel Heights II*, 6 Cal.4th at 1123. To accomplish this purpose, an EIR must contain facts and analysis, not just an agency's bare conclusions. *Citizens of Goleta Valley*, 52 Cal.3d at 568. Nor may an agency defer its assessment of important environmental impacts until after the project is approved. *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 306-07. An EIR's conclusions must be supported by substantial evidence. *Laurel Heights I*, 47 Cal.3d at 409.

As documented below, the DEIR fails to identify, analyze, or support with substantial evidence its conclusions regarding the Project's significant environmental impacts. These deficiencies render the DEIR inadequate under CEQA.

1. The DEIR Fails to Analyze and Disclose Significant Aesthetic Impacts of the Project.

The proposed Project will alter and adversely impact the visual landscape of the site and the surrounding area by completely transforming this scenic, hilly area into a dense, residential one. As discussed above, the Project will cut and fill large swaths of hillside and excavate an enormous amount of soil: 1.4 million cubic yards. DEIR at 3.0-12. (Assuming a dump truck holds 10 cubic yards, the proposed excavation equates to 140,000 truckloads of soil.) The DEIR acknowledges that the Project would result in significant and unavoidable impacts relating to a the degradation of the existing visual character of the area. DEIR 2.0-6. Despite this assessment, the DEIR concludes that the Project's other aesthetic impacts will be less than significant because of certain landscaping and design features. However, landscaping and design features cannot reduce

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the significant topographic impacts of the Project to a level of insignificance. Furthermore, the DEIR's conclusion that aesthetic impacts will be insignificant flies in the face of established CEQA precedent.

Under CEQA, it is the state's policy to "[t]ake all action necessary to provide the people of this state with . . . enjoyment of *aesthetic*, natural, scenic, and historic environmental qualities." CEQA § 21001(b) (emphasis added). "A substantial negative effect of a project on view and other features of beauty could constitute a significant environmental impact under CEQA." *Ocean View Estates Homeowners Assn., Inc. v. Montecito Water District* (2004) 116 Cal.App.4th 396, 401. No special expertise is required to demonstrate that the Project will result in significant aesthetic impacts. *Ocean View Estates*, 116 Cal.App.4th at 402 ("Opinions that the [project] will not be aesthetically pleasing is not the special purview of experts."); *The Pocket Protectors v. City of Sacramento* (2005) 124 Cal.App.4th 903, 937 ("[N]o special expertise is required on this topic.").

As explained by the court in *Quail Botanical Gardens Foundation, Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1606, it is "self-evident" that replacing open space with a subdivision will have an adverse effect upon "views and the beauty of the setting." Instead of addressing and analyzing the Project's visual effects, the DEIR employs contorted logic to mask its clear impacts. For example, the DEIR acknowledges that the General Plan identifies views of the "rolling, grassy hills to the south," which characterize the site, as important visual resources for the City and that the development will be visible from area parks. DEIR at 5.1-8. The DEIR also acknowledges that the Project site "could be considered an element of broad scenic vistas of hills and open space visible from Kirker Pass Road, a designated scenic route in the General Plan. *Id.* The DEIR even states that the Project could have a substantial adverse effect on a scenic vista. *Id.* Surprisingly, the DEIR then concludes that impacts to scenic vistas would be less than significant because design guidelines included in Mitigation Measure AES-1 would mitigate these significant impacts. DEIR at 5.1-9.

Such a conclusion is misguided and unsupported by evidence. The guidelines and standards that the DEIR relies on address the colors and materials to be used in the development but in reality they do nothing to reduce the height, mass, or location of structures or to ensure that the development is less visible from public viewpoints. The DEIR fails to provide any specific information or analysis, as to how the proposed measure would mitigate significant impacts to existing views from parks and other public viewpoints. A neutral color palette will not camouflage this large subdivision.

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Moreover, the DEIR fails to provide evidence to support its conclusion that the Project's impacts to area scenic vistas would be less than significant. Specifically, the EIR fails to evaluate the Project's impacts to views from East Bay Regional Park District ("EBRPD") trails and from open space areas in Stoneman Park to the north. *See* DEIR Figure 5.1-3 indicating visual simulations performed only for views from Kirker Pass Road. The DEIR also fails to evaluate impacts to planned parklands to the south and southwest of the project site. As pointed out by during the scoping process, the EBRPD has acquired the "Thomas North" parcel to the south of the Project site and the "Land Waste Management" and "Affinito" parcels to the southwest. A revised EIR must be prepared to evaluate the Project's impacts to views from these parcels.

The Project will transform an undeveloped, rural area framed by rolling hills into a large residential subdivision. This change substantially degrades not only the existing visual character and quality of the site and its surroundings but the quality of scenic vistas enjoyed from area roadways, parks, and trails. These impacts are considered significant impact under CEQA. Guidelines, Appendix G(I)(c). Thus, the DEIR's conclusion that the Project's impact on scenic vistas would be less than significant cannot be sustained.

2. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Hydrology and Water Quantity.

The DEIR includes absolutely no discussion of the potential impacts to hydrology and water quality, having concluded in the Initial Study ("IS") that the Project's impacts in these areas would be less than significant. As explained in the attached Baseline Report, this conclusion is not supported by substantial evidence and, in fact, the Project would substantially alter site drainage and the stream channel that runs through the property. While the IS provides a general discussion of these potential impacts, it contains no supporting studies or data and relies entirely on future preparation of a Storm Water Pollution Prevention Plan ("SWPPP") and compliance with existing regulations to reduce the Projects impacts to a level of insignificance. As discussed in detail below, this approach does not comport with CEQA. In very steep terrain like this, it is virtually impossible for projects to comply with National Pollutant Discharge Elimination System ("NPDES") requirements, which is evidenced by the Project's proposed detention basins. Thus, relying on compliance with existing requirements is particularly unacceptable in this situation. In addition, steep terrain such as this makes remediation of unstable soils very challenging.

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(a) The DEIR Fails to Adequately Describe the Existing Hydrological Setting.

The DEIR/IS provides no information on the hydrology and water quality setting. Without describing the hydrology of the on-site drainage and that of Kirker Creek downstream, the reader of the DEIR/IS has no context within which to evaluate potential project impacts. Perhaps most important, the DEIR/IS does not provide any discussion of the hydrology of Kirker Creek and its susceptibility to flooding. The DEIR must be revised to include a Hydrology and Water Quality section that adequately describes the hydrologic setting.

(b) The Project Does Not Comply with Applicable Requirements Under the NPDES

The IS states that the project would treat stormwater runoff “as required by provision C.3 of the Contra Costa County municipal stormwater NPDES permit by directing all site runoff into three detention basins.” IS at 59. However, this statement appears to refer to an old (and superseded) NPDES permit. The current NPDES permit that the project would be required to comply with is the Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, NPDES Permit No. CAS612008, adopted October 14, 2009 and revised November 28, 2011 (“MRP”). Not only does the Initial Study refer to the wrong NPDES permit, it wrongly interprets what C.3 provisions would be required. Baseline Report at 3. The C.3 portion of the MRP, which refers to post-construction stormwater management for new development and redevelopment projects, requires Low Impact Development (“LID”). The Project as proposed includes centralized detention basins, which are not LID features.

The goal of LID is to reduce runoff and mimic a site’s predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source. Practices used to adhere to these LID principles include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes. LID also limits disturbance of natural water bodies and drainage systems; minimizes compaction of highly permeable soils; protects slopes and channels; and minimizes impacts from stormwater and urban runoff on the biological integrity of natural drainage systems and water bodies. Baseline Report at 3 and 4.

Here, the Project would result in massive grading, moving approximately 1.4 million cubic yards of soil. DEIR at 3.0-12. No LID designs or features appear to be

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incorporated or required. Instead, several large detention basins are proposed to collect the site's stormwater before discharging it into Kirker Creek. Incorporation of LID designs and features into the project would require extensive modifications to the grading plan and overall site plan. These design changes to the project should be made by the applicant and the revised project evaluated in a recirculated DEIR.

(c) The Project Would Result in Flooding and Erosion Impacts Downstream

Based on a review of available mapping and aerial photographs, the Baseline Report concludes that Kirker Creek appears to have reaches that are highly incised with oversteepened creek banks. Baseline Report at 4. This indicates that portions of the creek may be unstable. *Id.* There are areas in the City of Pittsburg (e.g., Brush Creek Drive, Canyon Way), where homes are located within 20 to 30 feet of the top of the creek bank. Any change to the hydrology of flows in Kirker Creek could result in hydromodification and cause increased erosion and creek bank failure, which may jeopardize existing structures. *Id.*

The DEIR/IS fails to provide any explanation as to how the detention basins would be operated to prevent "erosion of existing stream banks and flooding downstream along Kirker Creek," and it is not clear that they can be so operated. IS at 60. Simply delaying flows in detention basins is not an effective approach to preventing downstream hydromodification of Kirker Creek. Baseline Report at 4. The Project would result in a substantial amount of new impervious surfaces conveying increased flows to centralized basins. This would in turn increase total discharge volume to Kirker Creek. *Id.* Even moderate flows to the creek, if sustained for longer periods of time than would occur without the project, could cause significant downstream erosion. *Id.* This is a potentially significant impact that must be fully analyzed under CEQA.

In sum, the DEIR lacks sufficient evidentiary support for its conclusion that the Project's impacts on hydrology and water quality would be less than significant. A revised DEIR that comprehensively evaluates and mitigates the proposed Project's hydrology and water quality impacts must be prepared and recirculated.

3. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Biological Resources

The DEIR presents an incomplete—and hence inadequate—discussion of the Project's potential impacts to biological resources. As detailed below, the DEIR underestimates Project-related impacts to biological resources as a result of a series of

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errors, including: (1) faulty methodology; (2) the failure to describe accurately the environmental setting; (3) the failure to analyze the extent and severity of impacts to sensitive species and habitats; and (4) the failure to analyze the Project's cumulative effects. The DEIR's treatment of biological impacts does not meet CEQA's well established legal standard for impacts analysis. Given that analysis and mitigation of such impacts are at the heart of CEQA, the DEIR will not comply with the Act until these serious deficiencies are remedied.

(a) The DEIR Appears to Employ Faulty Methodology.

The DEIR employs faulty methodology and incorrect assumptions in its analysis of Project impacts to biological resources. It appears that the DEIR's analysis is not based on focused surveys tailored to determine the likelihood that particular species would be present. In fact, the DEIR never describes the methodology employed for site surveys. Aside from one sentence that indicates the surveys consisted of "driving and walking around the site" (DEIR Appendix 5.3 at pdf page 4), the DEIR provides no description of the survey methods at all. The DEIR should have included focused surveys for all special status with the potential to occur on site. These surveys should have included surveys for grassland birds, rare plant surveys, and, as discussed below, appropriately timed protocol level surveys for species likely to occur on-site.

The survey information as it stands does not provide an adequate basis for determinations about the individual and cumulative impacts of this Project on either special-status species or rare habitats. The DEIR's inadequate analysis of the species and habitats on the site results in an understatement of the Project's biological impacts.

(b) The DEIR Fails to Adequately Describe the Project's Biological Setting.

An EIR also "must include a description of the environment in the vicinity of the project, as it exists before the commencement of the project, from both a local and a regional perspective." Guidelines § 15125; *see also Environmental Planning and Info. Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 354. CEQA requires that special emphasis be placed on environmental resources that are rare or unique to that region and that would be affected by the Project. Guidelines § 15125(c). Here, the DEIR's discussion of environmental setting is sorely deficient.

The DEIR fails to provide a complete description of the Project's biological setting and, in some cases, presents conflicting information. For example, the DEIR states that the Project site does not include alkali soils; an important distinction because some

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special status plants occur solely in alkali soils. DEIR at 5.3-7. However, the DEIR also indicates that saltgrass (*Distichlis spicata*), a plant that is dependent on alkali soils, was observed on site. DEIR at Table 5.3-1.

In other cases, the DEIR simply presents erroneous information. For instance, the DEIR dismisses the potential occurrence of big tarplant stating that “the highly disturbed on-site grasslands do not provide suitable habitat . . .” DEIR at Table 5.3-2. However, this species is found in annual grasslands, usually on slopes like the ones that characterize the Project site. Personal Communication, Malcolm Sproul, Senior Biologist, Bay Area consulting firm, January 8, 2014.

In other instances, the DEIR omits crucial information altogether. The DEIR fails to evaluate grassland birds likely to occur on site and entirely ignores the grasshopper sparrow, a California species of special concern. *Id.* and DEIR Table 5.3-2 (excludes grasshopper sparrow).

The DEIR also fails to analyze the presence and number of other special status species that it acknowledges may be present on the site and in the Project area. For example, although the DEIR acknowledges that California tiger salamander (“CTS”), a species protected by the federal Endangered Species Act, has been documented in the Project vicinity (DEIR at 5.3-18), the DEIR is dismissive of the potential for this species to occur on site. DEIR at 5.3-3 (lists species for which suitable habitat is found on the Project site but excludes CTS). The DEIR states that because there is no suitable breeding habitat for CTS within or near the project site and that the nearest occurrence is 0.5 miles away, the species is not likely to occur on the site. DEIR Table 5.3-2 at page 5.3-13.

However, the DEIR fails to evaluate potential upland habitat on site that may be used by CTS. As explained in the attached report, “Movement Patterns and Migration Distances in An Upland Population of California Tiger Salamander” (Orloff, 2011), CTS disperse over distances far greater than 0.50 miles. Orloff Report, attached as Exhibit 2. Thus, the Project site, which is within a half mile of a known breeding site, is very likely to provide aestivation habitat for CTS. Personal Communication, Malcolm Sproul, Senior Biologist, Bay Area consulting firm, January 8, 2014; biography attached as Exhibit 3. Moreover, it appears that other ponds providing potentially suitable habitat may be present in close proximity to the Project site. *See* map attached as Exhibit 4 and Personal Communication, Malcolm Sproul, Senior Biologist, Bay Area consulting firm, January 8, 2014. Accordingly, the DEIR’s description of the biological setting (and the document’s impact analysis) must be revised to include consideration of this species. *Id.*

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Similarly, the DEIR acknowledges that burrowing owls are known to occur in the area, but dismisses their potential to occur onsite based on the fact that no owls were observed onsite and that the nearest occurrence of nesting burrowing owls is 2.5 miles west of the site. DEIR at Table 5.3-11. The DEIR's conclusion is not based on any evidence. In fact, burrowing owl have been observed nesting on the Thomas Home Ranch property located to the southwest of the Project site (between Nortonville Road and Kirker Pass Road) within the past year. Personal Communication, Malcolm Sproul, Senior Biologist, Bay Area consulting firm, January 8, 2014. Moreover, burrowing owl do not depend exclusively on ground squirrel burrows for nesting sites, as implied in the DEIR. DEIR at 5.3-11. Burrowing owls have been known to nest in shallow indentations such as those present in the rock outcroppings on site. DEIR at 5.3-1.

Moreover, the DEIR mischaracterizes the role of the Habitat Conservation Plan ("HCP") and its role in relation to environmental documentation for the project. First, the HCP is a conservation mechanism that includes a broad, programmatic review of resources throughout eastern Contra Costa County; it is not a project-specific, impact-analysis document. DEIR at 5.3-24. Thus, the information in the HCP cannot replace properly designed and implemented surveys of the project site to determine the biological resources there. Second, the DEIR states that the HCP's primary goal is to streamline review of development projects. DEIR at 5.3-24. This is incorrect. The HCP is intended to serve as a coordinated process for permitting and mitigating the incidental take of endangered species. It does not excuse the City from requiring site-specific analysis. Finally, the HCP is administered by the East Contra Costa County Habitat Conservancy ("Conservancy"). DEIR at 5.3-25. The Conservancy is not a land use agency and therefore is not tasked with making decisions about the appropriate location for siting land development. That responsibility falls to the City, which has the responsibility of completing site-specific analysis of the Project's significant impacts to special status species and habitat as part of the CEQA process. Therefore, the DEIR must be revised to include a thorough investigation of the site's existing biological setting and the Project's impacts on those resources.

The DEIR's perfunctory description of the sensitive species and habitats present in the Project area results in an incomplete description of the sensitive environmental setting of the Project. This failure to describe the Project setting violates CEQA. See *San Joaquin Raptor*, 27 Cal.App.4th at 724-25 (environmental document violates CEQA where it fails to completely describe wetlands on site and nearby wildlife preserve). The DEIR should have included surveys for these species as part of its assessment of biological resources. Accordingly, the DEIR's description of the biological setting must be revised to include consideration of these and other overlooked species.

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(c) The DEIR Fails to Adequately Analyze the Project's Direct Impacts to Sensitive Species.

The DEIR's failure to describe the existing setting severely undermines its analysis of Project impacts. Despite the DEIR's acknowledgement that the Project would adversely affect potential habitat for several special status, the DEIR fails to adequately analyze adverse impacts to these species. For example, the DEIR acknowledges that the Project site includes potential habitat for burrowing owl, a California Species of Special Concern ("CSC"); San Joaquin kit fox, a federally endangered species and a California Threatened species; and vernal pool fairy shrimp, a federally Threatened species. DEIR at 5.3-26 and 27. Yet, rather than conduct appropriate surveys to evaluate the presence/absence of these species and analyze the extent and severity of the Project's impacts, the DEIR simply applies a laundry list of measures required by the Habitat Conservation Plan for the Project area and concludes that all impacts will be mitigated to less than significant levels. *See, e.g.*, DEIR at 5.3-31 and 32. By failing to analyze the extent and severity of impacts to biological resources, the DEIR downplays the effects of the loss of open space on special status species. The end result is a document which is so crippled by its approach that decision makers and the public are left with no real idea as to the severity and extent of environmental impacts. *See, e.g., Berkeley Keep Jets Over the Bay Com. v. Bd. of Port Comrs.* (2001) 91 Cal.App.4th 1344, 1370-71; *Galante Vineyards v. Monterey Peninsula Water management Dist.* (1997) 60 Cal.App.4th 1109, 1123; *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 831 (a lead agency may not simply jump to the conclusion that impacts would be significant without disclosing to the public and decision makers information about how adverse the impacts would be).

Similarly the DEIR's analysis of impacts to raptors such as Swainson's hawk simply asserts that they would be affected by a reduction in nesting resources, ignoring altogether the impacts caused by loss of habitat. DEIR at 5.3-28. Urbanization has a profound effect on raptors because they require large areas to hunt and are disturbed by human activity near their nests. Moreover, the DEIR's sole mitigation proposal for raptors focuses exclusively on avoiding active nests. It ignores perch resources and the role that loss of habitat and urbanization have on raptors. In any event, the DEIR must quantify the Project's effects on raptors, and the efficacy of the proposed mitigation, so that the public and decision makers may reach their own conclusions. *Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 130.

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(d) Indirect Impacts on Wildlife

The DEIR ignores altogether the Project's indirect impacts on wildlife. Indirect impacts from low density residential development can be as devastating to wildlife as the direct loss of habitat. (*See generally* Exhibit 5 [Hansen, et al., Land Use Change in Rural America: Effects Of Exurban Development On Biodiversity: Patterns, Mechanisms, And Research Needs]). For example, toxic compounds from the residential activities could adversely impact wildlife that rely on Kirker Creek. The use of common fertilizers and pesticides associated with routine yard maintenance and landscaping can generate concentrations of pollutants that degrade water quality and harm wildlife.

It is also well established that noise—and even low ambient noise levels—from typical residential activities adversely impacts wildlife species, causing them to flee their habitats and even abandon nests. Wildlife can also be quite sensitive to glare from ambient night lighting. Also, cats, unless they are kept indoors, are skilled predators on wildlife. Cats can radically decrease the potential for bird species and small reptiles to survive in sensitive habitats adjacent to project sites. *See* “Domestic Cat Predation on Birds and Other Wildlife” attached as Exhibit 6. These indirect impacts would be significant and therefore must be analyzed in an EIR.

In short, the DEIR's analysis of impacts to biological resources dramatically understates the Project's potential to significantly affect sensitive species and sensitive habitats. To comply with CEQA, the City must prepare a revised DEIR fully analyzing the Project's potential impacts to these resources and identifying effective mitigation measures. Given the substantial revisions that are necessary, the City must recirculate the revised DEIR. Guidelines 15088.5(a)(4).

4. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Cultural and Historic Resources.

The Project is located on the site of a former historic ranch complex considered a significant historic resource under CEQA (*i.e.*, Thomas Ranch complex). *See* DEIR Appendix 1.0; IS at 41. According to a historic resources survey performed in 1995, the complex consisted of a house and a number of small barns in a style typical of the period from the late 1800's through the turn of the century. *Id.* The IS indicates that the historic buildings were demolished and the area leveled, but that the ranch complex was never inventoried as recommended in the 1995 study. IS at 42. It also indicates that historic and/or prehistoric archaeological deposits may be present on the site. *Id.*

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Nonetheless, while the DEIR acknowledges the likelihood of significant archaeological resources on the site, it fails to identify the extent of potential cultural resources, adequately analyze potential impacts to those resources, or adequately mitigate the project's potentially significant impacts to cultural resources. Instead, the DEIR relies on the IS analysis and incorporates the mitigation measures proposed in that document. DEIR at 2.0-19. These measures provide for monitoring during construction and data collection and recording should resources be discovered. Based on implementation of these measures, the DEIR concludes that resulting impacts would be less than significant.

However, the assertion that post-approval data collection will mitigate the project's impacts to known resources on the site to a less-than-significant level is not supported by substantial evidence, constitutes an inappropriate deferral of mitigation measures under *Sundstrom v. County of Mendocino*, 202 Cal.App.3d at 296, and is erroneous as a matter of law. In fact, "where a historic resource is to be demolished, documentation of the resources usually falls short of full mitigation."). See Discussion following Guidelines § 15126.4. Moreover, courts have explained that the mitigation of the effects of demolition of an historic resource (as defined by CEQA) through documentation of the resource and placement of commemorative markers is not adequate to reduce impacts to a level of insignificance. *League of Protection of Oakland's Architectural and Historic Resources v. City of Oakland* (1997) 52 Cal.App.4th 595.

Moreover, under CEQA, the preferred method of reducing impacts to cultural resources is avoidance. See *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal.App.4th 48, 86-87. The only feasible way to avoid cultural resources with a development project like this is to conduct surveys before final project design is approved; identify all known historic properties that will be affected by the project; and consider redesigning the project to avoid them.

Here, given that the site includes known significant historical resources, and especially given the fact that known historical resources were destroyed without proper evaluation or documentation, the City should require a third party consultant to perform trenching tests now, as part of the CEQA process, to assess whether the Project would impact significant resources and what Project modifications could be incorporated to avoid the resources. Until such additional investigation and analysis of potential impacts to cultural resources is prepared, the DEIR cannot be certified under CEQA and the Project must not be approved.

Finally, the cultural resources evaluations prepared by Holman and Associates (1995, 1999, and 2000) were not included as appendices to the DEIR. Although it is customary to exclude location maps and specific language related to the

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location of resources to protect potential resources on site, the DEIR omitted the studies altogether. Without these studies, it is impossible for the public and decision makers to evaluate the impacts the proposed project would have on cultural resources. Accordingly, for this and the other reasons discussed above, the DEIR's analysis of impacts to cultural resources is inadequate under CEQA.

5. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Public Services.

As the DEIR acknowledges, several schools within the Pittsburgh Unified School District are currently operating at or near capacity. DEIR at 5.6-3. The Project will generate up to 277 Kindergarten through Twelfth grade students. DEIR at 5.6-8. The DEIR discloses that the Project would generate the need for new school facilities to be constructed. The DEIR concludes that school impacts will be mitigated to a less-than-significant level, however, by payment of fees established by the school districts. DEIR at 5.6-9 (citing Gov't Code § 65996).

While it may be true that the payment of such fees is deemed mitigation under Government Code section 65996, this provision does not excuse the City from analyzing the impacts to the environment of sending 277 new students to schools that are already at or near capacity. Indeed, the DEIR's threshold of significance states that the Project could have a significant effect on the environment if it would: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios . . . for schools. DEIR at 5.6-7. With several schools already at capacity, the Project will necessarily require the construction of "new or physically altered" school facilities. Construction of these school facilities may have land use and planning impacts and, if sited on undeveloped open space lands, potential biological, agricultural, recreational, and other impacts as well. The DEIR must be revised to analyze these potential environmental impacts.

Moreover, the DEIR failed to consider cumulative impacts of school construction. The DEIR lists five Major Projects (DEIR at 5.0-4), most of which are residential projects, in its cumulative impacts analysis. In addition, the City of Pittsburgh's Project Pipeline List includes at least a dozen residential projects. Considering that the Pittsburgh Unified School District is already at or near capacity, the DEIR must analyze how this project, along with the related projects, will cumulatively affect school services in the District.

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6. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Public Safety.

The Project site has an existing high-pressure petroleum pipeline within the area proposed as a buffer. DEIR at 3.0-9. The Project proposes to site residences within 1,000 feet of the pipeline, yet the DEIR provides no analysis of related safety impacts. *Id.* Although leaks, ruptures, and explosions may not be common for underground pipelines, the impacts from pipeline failures when they do occur can be catastrophic. *See* "Pipelines Explained: How Safe are America's 2.5 Million Miles of Pipelines?" attached as Exhibit 7. As explained in that article, pipelines are prone to failure as they age and corrode. Given the Project's proposal to locate housing in close proximity to the pipeline, the DEIR should have provided an analysis of the condition of the pipeline and the likelihood of failure or accidents.

Instead, the DEIR includes a mitigation measure (carried over from the IS) that only requires the developer to disclose the location of the pipeline to prospective homebuyers. DEIR at 2.0-2.0. However, this measure does nothing to minimize risks to homeowners. Indeed, the DEIR fails to provide any evidence to support its conclusion that risks associated with potential rupture of the pipeline would be reduced to a less-than-significant level with implementation of the measure.

7. The DEIR's Analysis of Growth Inducing Impacts Is Incomplete and Flawed.

CEQA requires that an EIR include a "detailed statement" setting forth the growth-inducing impacts of a proposed project. CEQA § 21100(b)(5); *City of Antioch v. City Council of Pittsburg* (1986) 187 Cal. App. 3d 1325, 1337. The statement must "[d]iscuss the ways in which the proposed project could foster economic growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Guidelines §15126.2(d). It must also discuss how the project "may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively" or "remove obstacles to population growth." *Id.*

Here, the DEIR's analysis of growth-inducing impacts is legally inadequate. As with other issues, the document relies on speculation instead of evidence to support its conclusions. The DEIR's conclusion that the Project will have no growth-inducing impacts is not supported by substantial evidence.

The DEIR relies on the promise that the required facility upgrades necessary to serve the Project would only serve development on the main Project site to

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conclude that there is little chance that the Project will cause adjacent, undeveloped land to be developed, and thus that the Project will not induce significant growth. DEIR at 7.0-5. With a growing population in the Bay Area, extending infrastructure to an area currently outside the City Limit will remove one barrier that currently keeps pressure for development in the area in check.

The City's General Plan specifies a goal of efficient land use patterns which reduce environmental impacts and minimize the potential for residential and commercial sprawl. Approval and development of the Montreux Project would expand development and extend utility infrastructure beyond the City's existing service area, effectively removing an obstacle to future development approvals in the area. That new development has yet to be approved does not excuse the requirement to analyze a project's environmental or growth inducing impacts. Guidelines § 15126.2(d); *City of Davis v. Coleman* (9th Circuit 1975) 521 F.2d 661,675-76.

The DEIR fails to conduct such an analysis. As the *City of Davis* court directed "the purpose of an EIS/EIR is to evaluate the possibilities in light of current and contemplated plans and to produce an informed estimate of the environmental consequences." *Id.* at 676. Accordingly, the DEIR must be revised to identify the extent and location of new development facilitated by removing the obstacle of limited existing infrastructure and to analyze the environmental impacts of the growth.

If the City has contrary data demonstrating that the Project will not induce growth – and there is no indication in the DEIR that it does – it must reference it in the document. However, it may not lawfully rely on unsupported assumptions to summarily conclude that no induced growth will occur. CEQA § 21080(e)(2) ("Substantial evidence is not argument, speculation, unsubstantiated opinion or narrative").

8. The DEIR Fails to Provide an Adequate Analysis of the Project's Potentially Significant Cumulative Impacts.

CEQA requires lead agencies to disclose and analyze a project's "cumulative impacts," defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Guidelines § 15355. Cumulative impacts may result from a number of separate projects, and occur when "results from the incremental impact of the project [are] added to other closely related past, present, and reasonably foreseeable probable future projects," even if each project contributes only "individually minor" environmental effects. Guidelines §§ 15355(a)-(b). A lead agency must prepare an EIR if

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a project's possible impacts, though "individually limited," prove "cumulatively considerable." CEQA § 21083(b); Guidelines § 15064(i).

Extensive case authority highlights the importance of a thorough cumulative impacts analysis. In *San Bernardino Valley Audubon Society v. Metropolitan Water Dist. of Southern Cal.* (1999) 71 Cal.App.4th 382, 386, 399, for example, the court invalidated a negative declaration and required an EIR for the adoption of a habitat conservation plan and natural community conservation plan. The court specifically held that the negative declaration's "summary discussion of cumulative impacts is inadequate," and that "it is at least potentially possible that there will be incremental impacts. . . that will have a cumulative effect." See also *Kings County Farm Bureau*, 221 Cal.App.3d at 728-729 (EIR's treatment of cumulative impacts on water resources was inadequate where the document contained "no list of the projects considered, no information regarding their expected impacts on groundwater resources and no analysis of the cumulative impacts").

In contravention of the above authorities, the DEIR provides no analysis of the Project's cumulative impacts on biological resources, but simply concludes that, because the applicant will pay permit fees under the Habitat Conservation Plan for the area, cumulative impacts are less than significant. DEIR at 5.3-37. The DEIR thus completely ignores the cumulative effects of recent development approvals and potential future approvals in the City. For example, as discussed earlier in this letter, the City's Project Pipeline List indicates that the City has approved, or is in the process of approving, at least a dozen residential development projects constructing thousands of residential units. See Exhibit 7. The DEIR lists only five projects considered in the cumulative analysis. DEIR at 5.0-4. Other projects that should have been considered in a cumulative analysis include projects that have been approved but not yet constructed (Alves Ranch (364 units); Bancroft Gardens II (28 units); the San Marco Development (1,588 units); and Vista del Mar (518 units). See generally Exhibit 8. These development projects, together with the present subdivision, would have a cumulatively significant impact on open space and natural resources in the Project area. Notwithstanding such evidence, the DEIR fails to provide any analysis of this potentially significant impact.

In another particularly glaring omission, the DEIR also neglects to analyze cumulative impacts on hydrological resources. Specifically, the DEIR contains no analysis of the Project's impacts together with the effects of other development projects proposed within the Project area that may contribute to changes in hydrology in Kirker Creek. Another major project, the James Donlon Boulevard Extension, which is currently under review by the City and would include massive grading and alteration of local drainage patterns and hydrology within the Kirker Creek watershed, is not considered in

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the DEIR's hydrology analysis. The effects on water quality, flooding, and hydromodification from these two major projects, and others, on Kirker Creek must be analyzed in a revised DEIR.

9. The DEIR Fails to Adequately Analyze and Mitigate Alternatives to the Project.

The alternatives section, along with the mitigation section, is the core of an EIR. *Citizens of Goleta Valley*, 52 Cal.3d at 564. Every EIR must describe a range of alternatives to a proposed project, and to its location, that would feasibly attain the project's basic objectives while avoiding or substantially lessening the project's significant impacts. CEQA § 21100(b)(4); Guidelines § 15126(d). In preparing an EIR, the lead agency must ensure "that all reasonable alternatives to proposed projects are thoroughly assessed." *San Joaquin Raptor*, 27 Cal.App.4th at 717. An EIR's alternatives discussion must focus on alternatives that avoid or substantially lessen significant effects of the project. Guidelines § 15126.6(b); *Citizens of Goleta Valley*, 52 Cal.3d at 556 (EIR must consider alternatives that offer "substantial environmental advantages."). The range must be sufficient "to permit a reasonable choice of alternatives so far as environmental aspects are concerned." *San Bernardino Valley Audubon Soc'y v. County of San Bernardino* (1984) 155 Cal.App.3d 738, 750. The DEIR's discussion of alternatives fails to meet these standards.

Sound planning principles dictate that the City carefully consider alternatives in the present case because the proposed Project would require annexation of the Project site into the City limits and into service areas for water and sanitation districts and would result in admittedly significant impacts to air quality, visual resources, and public services. DEIR at 2.0-6, 2.0-8, 2.0-10, and 2.0-16. This DEIR's analysis of alternatives is insufficient under CEQA because the document fails to consider feasible alternatives that would reduce Project impacts. Guidelines § 15126.6(c); *Citizens of Goleta Valley*, 52 Cal.3d at 566.

As a preliminary matter, the DEIR's failure to disclose the extent and severity of the Project's broad-ranging impacts necessarily distorts the document's analysis of Project alternatives. As a result, the alternatives are evaluated against an inaccurate representation of the Project's impacts. Proper identification and analysis of alternatives is impossible until Project impacts are fully disclosed. Moreover, as discussed above, the document's analysis is incomplete and/or inaccurate so that it is simply not possible to conduct a comparative evaluation of the Project's and the alternatives' impacts.

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The DEIR also fails to describe an alternative location for the Project, stating that because 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, the ability of the developer to find and purchase an alternative site to develop the project is considered speculative. DEIR at 6.0-3. The DEIR goes on to state that "... 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." *Id.*

This approach fails to meet CEQA's requirements for the analysis of alternatives. It provides no information on the alternative sites that might be available or event the criteria for such a site search. Without this information and, if possible, a further identification of alternative sites, the DEIR is inadequate and cannot be certified under CEQA. Moreover, even if it is true that no alternative sites exist that could accommodate all of the Project in one location, a feasible alternative could break the Project up into two or more locations. Such an alternative could involve in-fill sites and would likely disperse some of the significant project impacts associated with the proposed Project. An alternative that examines dividing the Project among two or more locations should be included in a revised DEIR.

Contrary to CEQA, the DEIR also fails to explain why the proposed Project was selected over alternatives that are identified as environmentally superior. CEQA requires that the EIR explain why environmentally superior alternatives were rejected. Guidelines § 15126.6(d). As the California Supreme Court held in *Laurel Heights I*, 47 Cal.3d at 405, "[i]f the [lead agency] considered various alternatives and found them to be infeasible . . . those alternatives and the reasons they were rejected . . . must be discussed in the EIR with sufficient detail to enable meaningful participation and criticism by the public." The DEIR fails to include this analysis.

III. CONCLUSION

To cure the many defects identified in this letter, the DEIR must be revised and recirculated. These steps are necessary to provide the public and decision makers with an opportunity to gauge the true impacts of this significant, proposed development. Moreover, the Project itself must be revised to comply with the City's general plan. Only then could the City make the findings necessary to approve this subdivision.

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Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Life size

Winter King

C. J. Berg

Carmen J. Borg, AICP
Urban Planner

List of Exhibits

- | | |
|------------|--|
| Exhibit 1: | Bruce Abelli-Amen, Comments on Draft Environmental Impact Report and Initial Study, Baseline Environmental Consulting, Jan. 8, 2014. |
| Exhibit 2: | Susan Orloff, Movement Patters and Migration Distances in an Upland Population of California Tiger Salamander (<i>Ambystoma Californiense</i>), Ibis Environmental Inc., Apr. 1, 2011. |
| Exhibit 3: | Malcolm Sproul Biography, Retrieved Jan. 8, 2014. |
| Exhibit 4: | Potential Pond Site Image and Location, Retrieved on Jan. 8, 2014 from http://earth.google.com |
| Exhibit 5: | Andrew J. Hansen, et al, Effects of Exurban Development on Biodiversity: Patterns, Mechanisms, and Research Needs, Ecological Society of America, Dec. 1, 2005. |
| Exhibit 6: | Domestic Cat Predation on Birds and Other Wildlife, Cats Indoors and American Bird Conservancy. |
| Exhibit 7: | Lena Groeger, Pipelines Explained: How Safe are America's 2.5 Million Miles of Pipelines?, ProPublica, Nov. 15, 2012. |
| Exhibit 8: | City of Pittsburg, Project Pipeline List- Updated September 2013, Retrieved Jan. 8, 2014. |

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SILVER MOUNTAIN
WELLSBERRY CO.

Attachment 2



8 January 2014
13316-00

Ms. Carmen Borg
Shute, Mihaly, and Weinberger
396 Hayes Street
San Francisco, CA 94102

Subject: Montreux Residential Subdivision Draft Environmental Impact Report

Dear Ms. Borg:

At your request, BASELINE Environmental Consulting ("BASELINE") has reviewed the CEQA analysis of the hydrology and water quality issues included in the November 2013 Montreux Residential Subdivision Draft Environmental Impact Report ("DEIR") and appended March 2013 Montreux Residential Subdivision Project Initial Study ("Initial Study"). Specifically, we reviewed the Hydrology and Water Quality section of the Initial Study only, because the DEIR does not include any analysis of hydrology or water quality (this topic was scoped out of the DEIR). In order to provide a meaningful context, we also reviewed the Project Descriptions included in the Initial Study and DEIR. Our comments are presented below.

COMMENTS ON DEIR AND INITIAL STUDY

Project Description

The Project Description does not include adequate details of the design and function of the stormwater drainage system to allow the reader of the DEIR to understand this important project element. The description of the stormwater drainage features is limited to the location of the detention basins and a mention that the stormwater system would use inlets and piping. As stated in the Project Description (DEIR page 3.0-9), the project would include grading to construct stormwater detention basins:

Three stormwater detention basins are included in the preliminary grading plan, with two large basins located on the east side of the main project site (Parcels C and D) along Kirker Pass Road, and a third small basin with a 12 foot access road located on the off-site parcel to the northwest of the main project site. Construction of these basins would require grading to re-contour the eastern end of the southern ridgeline on the main project site, and the north-facing slope above the proposed off-site basin located on the off-site parcel. While the entire off-site parcel totals approximately 72 acres, only 16.8 acres would be graded in order to accommodate the new off-site basin (which has an actual footprint of 0.83 acre).

Based on information included on Figure 3.0-6 (DEIR page 3.0-10) the parcels containing the large detention basins would be 5.91 and 3.75 acres. The off-site detention basin would have a

5900 Hollis Street, Suite D, Emeryville, CA 94608 | P: (510) 420-8686 | F: (510) 420-1707 | www.baseline-env.com

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bottom area of 0.83 acres and approximately 16.8 acres of grading would be required to construct the off-site basin. In total, more than 26 acres of land would be graded to construct these three basins.

The project would convey runoff to the detention basins using drainage inlets and piping (DEIR page 3.0-9):

New storm drainage infrastructure, including drainage inlets and piping, would be installed in the proposed roadways on the main project site to connect developed areas to the stormwater detention basins.

The Project Description fails completely to describe where drainage features (inlets, piping, culverts, etc.) would be located and how these systems, including the detention basins, would be operated. The DEIR does not appear to include, nor does it reference, any hydrologic or hydraulic engineering that supports the drainage plan. The reader of the DEIR has no idea how the detention basins were sized or how they would be operated. The DEIR Project Description should be revised to include this information and appropriate hydrologic/hydraulic studies should be appended to the DEIR.

Hydrology and Water Quality Analysis

Hydrologic Setting. The DEIR/Initial Study provides no information on the hydrology and water quality setting. Without describing the hydrology of the on-site drainage and that of Kirker Creek downstream, the reader of the DEIR has no context within which to evaluate potential project impacts. The DEIR should be revised to include a Hydrology and Water Quality section that includes a detailed hydrologic setting.

Stormwater Quality and NPDES Compliance. The Hydrology and Water Quality section of the Initial Study indicates that (Initial Study page 59):

Postconstruction, the project would treat stormwater runoff from the new impervious surfaces created onsite, as required by provision C.3 of the Contra Costa County municipal stormwater NPDES permit by directing all site runoff into three detention basins 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. The detention and slow release would allow pollutants, especially sediment to settle in the detention basins and not be discharged into the receiving waters. Therefore the site runoff would not exceed any water quality standards. This impact is considered less than significant.

The paragraph above represents the sum total of the Initial Study/DEIR analysis and discussion of post-construction stormwater management issues. This paragraph not only fails to convey the scope of post-construction stormwater management issues and potential impacts related to the proposed project, it misrepresents NPDES requirements.

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The Initial Study states that the project would treat stormwater runoff "as required by provision C.3 of the Contra Costa County municipal stormwater NPDES permit by directing all site runoff into three detention basins." The actual NPDES permit that the project would be required to comply with is the Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, NPDES Permit No. CAS612008, adopted October 14, 2009 and revised November 28, 2011 ("MRP"). Not only does the Initial Study refer to the wrong NPDES permit, it wrongly interprets what C.3 provisions would be required. The C.3 portion of the MRP, which refers to post-construction stormwater management for new development and redevelopment projects, requires Low Impact Development ("LID").¹

The goal of LID is to reduce runoff and mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source. Practices used to adhere to these LID principles include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes. LID also limits disturbance of natural water bodies and drainage systems; minimizes compaction of highly permeable soils; protects slopes and channels; and minimizes impacts from stormwater and urban runoff on the biological integrity of natural drainage systems and water bodies. The project would include the following (Initial Study page 60):

The project includes alteration of site drainage and the alteration of the unnamed intermittent and ephemeral stream channel that runs through the project site.

Under the project, the existing "unnamed intermittent and ephemeral stream channel" would be eliminated and placed in an underground pipe (contrary to LID principles and MRP requirements).

The basic design of the project, which includes mass grading, destruction of natural drainages, extensive new impervious surfaces, no small-scale distributed stormwater treatment features, conventional gutter and pipe collections systems, and centralized detentions basins is completely contrary to LID principles and therefore would be in violation of the MRP. The Initial Study/DEIR fails completely to identify and mitigate the flaws in project design related to post-construction stormwater management.

Incorporation of LID designs and features into the project would require extensive modifications to the grading plan and overall site plan. These design changes to the project

¹ A stormwater management strategy aimed at maintaining or restoring the natural hydrologic functions of a site. LID design detains, treats, and infiltrates runoff by minimizing impervious area, using pervious pavements and green roofs, dispersing runoff to landscaped areas, and routing runoff to rain gardens, cisterns, swales, and other small-scale facilities distributed throughout a site (source: Contra Costa County C.3 Guidebook).

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should be made by the applicant and the revised project should be subject to CEQA review (which should include an EIR-level analysis of Hydrology and Water Quality).

Centralized detention basins are not LID features and should be eliminated from the stormwater quality management plan for the project. However, it is possible that some sort of detention may be required to mitigate the potential for downstream flooding of Kirker Creek.

Downstream Flooding and Erosion. The following paragraph is the only Initial Study/DEIR discussion provided related to potential downstream flooding (Initial Study page 60):

A majority of stormwater runoff on the site would be channeled to two detentions basins located along Kirker Pass Road, which would delay the flow of water downstream in the event of a storm, thus preventing erosion of existing stream banks and flooding downstream along Kirker Creek.

The Initial Study/DEIR does not provide any discussion of the hydrology of Kirker Creek and its susceptibility to flooding, and therefore it is impossible for the reader to know if downstream flooding is an important issue. Based on review of available mapping and aerial photographs, Kirker Creek appears to have reaches that are highly incised with oversteepened creek banks. This indicates that portions of the creek may be unstable. There are areas in the City of Pittsburg (e.g., Brush Creek Drive, Canyon Way), where homes are located within 20 to 30 feet of the top of the creek bank. Any change to the hydrology of flows in Kirker Creek could cause increased erosion and creek bank failure, which may jeopardize existing structures. This is a potentially significant impact which must be fully analyzed under CEQA.

The Initial Study fails to provide any explanation as to how the detention basins would be operated so that "erosion of existing stream banks and flooding downstream along Kirker Creek" would be prevented. The concept of "hydromodification"² is not even mentioned in the Initial Study/DEIR. Simply delaying flows in detention basins is not an effective approach to preventing downstream hydromodification of Kirker Creek. By introducing widespread new impervious surfaces and conveying the increased flows to centralized basins (which tend to become sealed and do not infiltrate much water), the project would increase total discharge volume to Kirker Creek (i.e., with an increased volume of runoff, the detention basins may be able to limit increases in peak discharges, but the duration of flows would almost certainly increase). Even moderate flows to the creek, if sustained for longer periods of time than would occur without the project, could cause significant downstream erosion. The Initial Study/DEIR fails completely to analyze and mitigate this potential impact.

In summary, the project proposes mass grading, elimination of existing natural drainage channels, and drastic changes to site hydrology and flow discharge characteristics. The Initial

² Hydromodification is generally defined as changes in channel form associated with alterations in flow and sediment due to past or proposed future land use alteration.

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Study/DEIR includes no description of the hydrologic setting, provides no substantive analysis of the hydrology or water quality effects of the project, and provides no substantial evidence for the findings of less than significant for all hydrology and water quality impacts. For a project of this magnitude, located just upstream from a potentially unstable creek system, a full EIR-level analysis of hydrology and water quality issues must be completed.

Cumulative Impacts. The Initial Study/DEIR completely fails to evaluate (or even mention) cumulative impacts related to hydrology and water quality. For example, another major project, the James Donlon Boulevard Extension, which would include massive grading and alteration of local drainage patterns and hydrology within the Kirker Creek watershed is not mentioned in the DEIR analysis. The effects and water quality, flooding, and hydromodification of these two major projects on Kirker Creek should be analyzed in the DEIR.

Should you have any questions or comments, please contact us at your convenience.

Sincerely,



Bruce Abelli-Amen
Senior Hydrogeologist
Cert. Hydrogeologist No. 96

BAA:km

556803.1

Attachment 3

California Red-Legged Frog (*Rana draytonii*) Movement and Habitat Use: Implications for Conservation

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ABSTRACT.—Nonbreeding habitats are critically important for *Rana draytonii*, especially for individuals that breed in temporary bodies of water. We radiotracked 123 frogs to evaluate seasonal habitat use. Individual frogs were continuously tracked for up to 16 months. Some individuals remained at breeding ponds all year, but 66% of female and 23% of male frogs moved to nonbreeding areas, even when the breeding site retained water. Frogs at our main study site moved 150 m (median), roughly the distance to the nearest suitable nonbreeding area. The greatest straight-line distance traveled was 1.4 km, although the presumed distance traveled was 2.8 km. Females were more likely than males to move from permanent ponds (38% of females, 16% of males), but among dispersing frogs, males and females did not differ in distance moved. Some frogs left breeding sites shortly after oviposition (median = 12 days for females, 42.5 days for males), but many individuals remained until the site was nearly dry. Fog provided moisture for dispersal or migration throughout the summer. Our data demonstrate that maintaining populations of pond-breeding amphibians requires that all essential habitat components be protected; these include (1) breeding habitat, (2) nonbreeding habitat, and (3) migration corridors. In addition, a buffer is needed around all three areas to ensure that outside activities do not degrade any of the three habitat components.

Rana draytonii (California Red-Legged Frog) was once an abundant frog throughout much of central and southern California and is believed to have inspired Mark Twain's fabled story "The Celebrated Jumping Frog of Calaveras County." Now this frog is rare in both the Sierra Nevada foothills and the southern portion of its range (Jennings and Hayes, 1994). In parts of the central Coast Range, there are still large, vigorous populations, some of which probably rival those present 200 years ago (Fellers, 2005). *Rana draytonii* was federally listed as a Threatened species on 24 June 1996, and the recovery plan states that it "... has been extirpated from 70 percent of its former range ... Potential threats to the species include elimination or degradation of habitat from land development and land use activities and habitat invasion by non-native aquatic species" (U.S. Fish and Wildlife Service, 2002:iv).

Rana draytonii use ponds or pools for breeding during the wet season (December through March) and ponds, riparian areas, or other aquatic habitats during the rest of the year. In Marin County, stock ponds are the most commonly used breeding sites. There is only one published report on migration or nonbreeding habitat requirements for this frog. Bulger et al. (2003) described movements of 56 *R. draytonii* in a coastal area about 100 km south of San Francisco. They found that 80–90% of the

frogs remained at one breeding site all year. Frogs radiotagged at nonbreeding sites often moved in a straight-line between breeding and upland habitats without apparent regard to intervening vegetation or topography. Frogs traveled overland up to 2,800 m, and Bulger et al. (2003) recommended a 100 m buffer zone around breeding sites.

The California Red-Legged Frog recovery plan outlines the necessary actions for recovery. One task is to "conduct research to better understand the ecology of the California Red-Legged Frog including the use of uplands, dispersal habits, and overland movements" (U.S. Fish and Wildlife Service, 2002:84). This is a concern not only for *R. draytonii*, but also for many endangered and nonendangered vertebrates that migrate between breeding and nonbreeding areas. This includes salamanders (*Ambystoma*; Madison, 1997; *Triturus*; Joly et al., 2001), frogs (*Rana*; Richter et al., 2001; Pope et al., 2000), snakes (*Farancia*; Gibbons et al., 1977), turtles (Burke and Gibbons, 1995; Bodie, 2001), and many species of passerine birds (Keast and Morton, 1980). Lamoureux and Madison (1999) made the point that studies need to examine amphibian habitat requirements at all times of the year not just during the breeding season. We designed our study to address this concern for *R. draytonii*.

MATERIALS AND METHODS

Study area.—Our study was conducted in Marin County, California, 45 km northwest of

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FIG. 1. Sites where California Red-Legged Frogs (*Rana draytonii*) were radiotagged at Point Reyes National Seashore and Golden Gate National Recreation Area, Marin County, California. Site descriptions are listed in Table 1.

San Francisco. All sites were within 6 km of the ocean and located at either Point Reyes National Seashore or Golden Gate National Recreation Area (Fig. 1). The local climate is Mediterranean, with an average annual rainfall of 100 cm that largely occurs between November and March. Mean monthly temperatures range from 8.6°C (December) to 16.6°C (August/September) at the headquarters of Point Reyes National Seashore in Olema Valley (National Park Service weather records). Most frogs ($N = 112$) were tagged in the Greater Olema Valley (Olema Valley and Pine Gulch Valley; 38°01'41"N, 122°46'50"E). To evaluate movement and habitat use in areas with contrasting habitats, nine frogs were tagged at Big Lagoon (37°51'36"N, 122°34'29"E), and two were tagged at Tomales Point (38°09'19"N, 122°54'43"E; Fig. 1).

Most of the Greater Olema Valley was characterized by a mixture of grazed and ungrazed grasslands interspersed with seasonal drainages with California bay (*Umbellularia californica*) and coast live oak (*Quercus agrifolia*). The west side of the valley was predominantly a Douglas fir forest (*Pseudotsuga menziesii*). Olema and Pine Gulch Creeks had well-defined riparian zones composed of California bay, red alder (*Alnus rubra*), willow (*Salix* spp.), big-leaf maple (*Acer macrophyllum*), and Douglas fir, with an understory dominated by blackberry (*Rubus discolor*), poison oak (*Toxicodendron diversilobum*), stinging nettles (*Urtica dioica*), and western sword fern (*Polystichum munitum*). Within the valley, there were 24 *R. draytonii* breeding sites. Fourteen of these were artificial

stock ponds, and the others were naturally occurring ponds or marshes. Aquatic vegetation was predominantly cattails (*Typha* spp.), pennywort (*Hydrocotyle verticillata*), and rushes (*Juncus* spp.). About half of the ponds were seasonal, whereas the others usually held water all year. Study sites within the Olema Valley were selected to represent a range of habitats and because there was a sufficiently large *R. draytonii* population at each of the study sites.

The Big Lagoon study site consisted of a cattail marsh with a seasonal creek (Green Gulch Creek) that flowed into it. The marsh had several small areas where water depth was 1.0–1.5 m during the winter, but most of the marsh was covered by < 0.25 m of water, even during the wet season. A levee on the north side separated the marsh from a permanent creek (Redwood Creek), but a set of culverts allowed water to enter the marsh during higher winter flows. Water retention in the marsh varied with rainfall but was also influenced by how much water the National Park Service allowed to pass through flood gates on the culverts. The Tomales Point study site was a nonbreeding site at a seasonal seep. The dominant vegetation was coyote brush (*Baccharis pilularis*), with a few wax myrtle (*Myrica californica*). The nearest breeding pond was 650 m away.

Field methods.—Frogs were caught at night either with a dip net or by hand. We marked each frog with a passive integrated transponder (PIT) tag (TX1400L, Biomark, Meridian, ID; www.biomark.com) for individual identification and recorded sex, snout-vent length (SVL), and mass. Each frog was radiotagged by attaching a transmitter (model BD-2G, Holohil Systems Ltd., Carp, Ontario, Canada; www.holohil.com) to a belt of aluminum beaded chain that was slipped over the frog's extended rear legs and up onto the waist (Rathbun and Murphey, 1996). The transmitters were either a dull green or light brown color. The aluminum belt was painted flat black to eliminate reflections. The smallest frog we radiotagged was 32 g, and the mass of the transmitter and belt was approximately 2.1 g (6% of the frog's mass). When possible, we recaptured frogs before the battery died (20-week life) and fitted a new transmitter. We tagged frogs during all months of the year except August, with most being tagged just prior to, or during, the December to March breeding season.

A total of 123 individual frogs was radiotagged (47 females, 76 males) between 5 November 1997 and 1 May 2003 at eight sites (Table 1). Twenty-three frogs were consecutively fitted with two transmitters, six frogs with three transmitters, and one frog wore six

TABLE 1. Sites where California Red-Legged Frogs (*Rana draytonii*) were fitted with radiotransmitters in Marin County, California. Figure 1 shows the geographic distribution of the sites.

Site name	Habitat	Number of frogs tagged		Days tracked	
		M	F	Median $\bar{x} \pm$ SD	Range
Greater Olema Valley					
CP	Permanent pond	44	31	86 89.6 \pm 56.0	2–229
MP	Seasonal pond	19	9	76 80.5 \pm 47.3	12–191
AD	Seasonal pond	2	4	127 139.0 \pm 75.0	63–253
BF	Seasonal pond	2	2	112 109 \pm 74.9	28–184
WD	Permanent pond	0	1	134	134
OT	Permanent pond	1	0	121	121
All sites	–	68	47	83 91.3 \pm 56.1	3–253
Big Lagoon					
BL	Permanent marsh	9	0	68 66.8 \pm 36.8	16–130
Tomaes Point					
TP	Seasonal seep and ditch	0	2	283	68–498

consecutive transmitters. Seventy-eight percent of all transmitters ($N = 166$) were recovered. Three frogs (two females, one male) lost their transmitters but were subsequently recaptured and outfitted with new transmitters 54, 244, and 493 days later. This yielded 126 telemetry histories. We generally located radiotagged frogs twice weekly; more often when the frogs were making regular movements. We recaptured frogs every 3–4 weeks to check for injuries and ensure proper fit of the transmitter belt. Frogs were radiotagged for 91 days (median) at the Olema Valley study sites and for 67 and 283 days at the Big Lagoon and Tomaes Point sites, respectively.

Frogs were located using a TR-2 receiver (Telonics, Mesa, AZ; www.telonics.com) or an R-1000 receiver (Communication Specialists, Inc., Orange, CA; www.com-spec.com) with a directional "H" or three-element yagi antenna. Fine scale location of transmitters was accomplished with a partially stripped coaxial cable inserted into a length of PVC pipe that was used as a probe (Fellers and Kleeman, 2003). Radio locations were only determined during the day.

Frog locations were plotted on a 7.5' USGS topographic map by noting proximity to a mapped feature or permanent local landmark (e.g., dead snag, fence corner). On a few occasions, locations were initially determined using a Garmin 12XL GPS unit (Garmin International Inc., Olathe, Kansas, www.garmin.com), but these locations were later visited and mapped on a topographic map using local

landmarks. Telemetry data were analyzed by plotting coordinates on digitized USGS topographic maps (1:24,000 scale) using Topo! software (National Geographic TOPO! Maps, San Francisco, California; maps.nationalgeographic.com/topo). Unless otherwise noted, movements represent straight-line distances between successive locations. For some frogs, we also calculated a longer distance moved based on locations between breeding and nonbreeding sites. For example, frogs found at several successively further distances along a riparian corridor were presumed to have followed the creek between sites. This typically resulted in a longer distance moved than would be obtained using a straight-line distance and is referred to as presumed distance. Statistical analysis was conducted using Statistix (Version 7, Analytical Software, Tallahassee, Florida; www.statistix.com/home.html). We used $\alpha = 0.05$ to evaluate statistical significance.

Olema Creek passed within 110 m of our main study site (CP) in Olema Valley (Fig. 1). To evaluate use of nonbreeding habitat, we conducted nocturnal surveys along all or part of a 4.8-km segment of Olema Creek where it flowed past our study area. One or two observers walked the creek while carefully searching both pools and stream banks for frogs. Observers used a combination of spotlights and binoculars to locate animals (Corben and Fellers, 2001). Radiotelemetry was not used as part of these nocturnal surveys. We believe that most of the frogs we located used the adjacent pond (CP) for breeding because (1) it

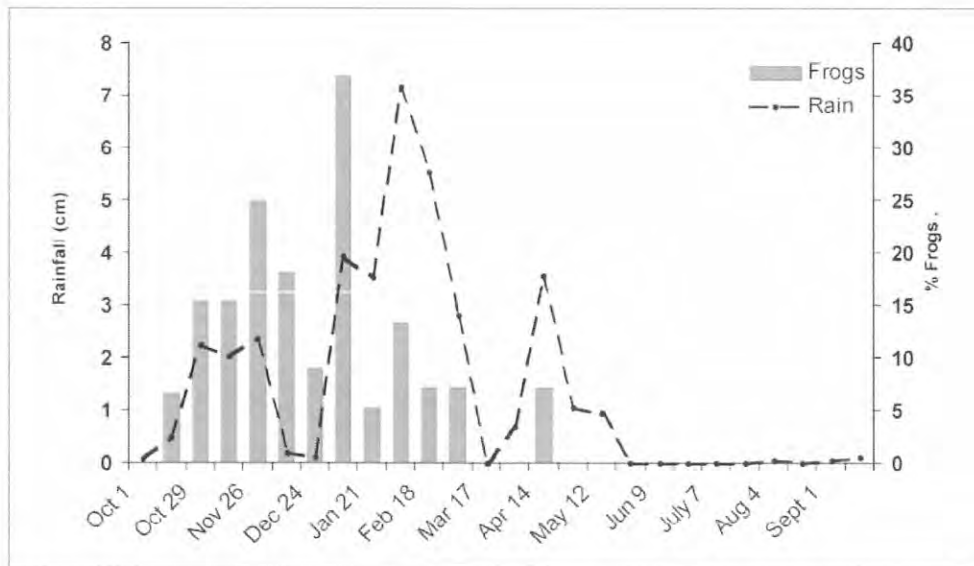


FIG. 2. Biweekly rainfall and the percent of radiotagged *Rana draytonii* that moved ≥ 30 m between October 1999 and September 2000.

was the closest breeding site and (2) some of the frogs found along the creek had been fitted with radiotransmitters at the pond.

RESULTS

Frogs made small-scale movements (< 30 m) throughout the year. Movements of < 30 m could be made without leaving the breeding sites; hence, they were considered local, non-dispersal. Movements ≥ 30 m generally coincided with winter rains, although some frogs did not move until their seasonal habitat was on the verge of completely drying. In general, frogs moved toward breeding ponds with the onset of heavy winter rains. Frogs departed from breeding ponds at varying times throughout the rainy season, with some frogs remaining at permanent ponds all year. Some frogs made large-scale movements during the dry season (May through October), as seasonal breeding sites dried. A regression of the percent of frogs that moved ≥ 30 m versus rain showed that more frogs moved with higher amounts of rain ($P = 0.006$). We show rainfall and movements for the 1999–2000 season (Fig. 2), the year we had the most frogs simultaneously radiotagged.

Frog movements in the greater Olema Valley.—One hundred fifteen frogs were tracked for a mean of 91 days each (range = 5–253, Table 1). Median distance moved from the breeding site was 0 m, but for the 36 frogs that moved ≥ 30 m, the median was 150 m (range =

30–1400 m, Table 2, Fig. 3). In many cases, frogs almost certainly moved more than the straight-line distance between sites. This was confirmed with individuals that were located in transit. Presumed distance moved for those frogs that moved ≥ 30 m was 185 m (median, range = 30–1400 m).

A higher proportion of radiotagged females moved ≥ 30 m than males (13 of 68 males, 23 of 47 females, $\chi^2 = 11.49$, $df = 1$, $P < 0.01$). For frogs that moved ≥ 30 m, distance traveled was not significantly different for males ($N = 13$) and females ($N = 23$; median = 210 vs. 140 m, respectively; Wilcoxon rank sum $T = 1.22$, $P = 0.22$). Because some frogs lost their transmitters or were killed by predators (see below), the median distance moved might be greater than what we measured. Of the 36 frogs that moved ≥ 30 m, 22 (11 males, 11 females) reached a destination where they remained for at least two weeks. For these frogs, median distance traveled was 175 m. The median for these males and females was not significantly different (210 vs. 120 m; Wilcoxon rank sum $T = 0.56$, $P = 0.58$), in part because of the large variability in distance traveled.

A higher proportion of females left breeding sites than males. At our main study site (CP), nine of 21 (43%) females left the breeding site, whereas only four of 25 (16%) males departed. Females left the breeding site sooner than males (1, 5, 5, 5, 12, 55, 60, 76, 92 days for females [median = 12]; 31, 38, 47, 69 days for males

TABLE 2. Distance moved for 110 California Red-Legged Frogs (*Rana draytonii*) with radiotransmitters at three study sites in Marin County, California. Sixteen frogs radiotagged at nonbreeding sites are not included in this tabulation.

Sex	Distance moved for frogs that moved ≥ 30 m						Frogs that moved < 30 m
	Minimum	Median	Maximum	Mean	SD	N	N
Olema Valley							
CP Males	200	240	490	293	135	4	31
CP Females	100	320	1400	421	416	10	14
MP Males	270	270	270	270	—	1	18
MP Females	150	150	150	150	0	2	7
AD Males	—	—	—	—	—	0	2
AD Females	30	80	90	70	28	4	0
BF Males	80	80	80	80	—	1	1
BF Females	40	95	150	95	78	2	0
WD Males	—	—	—	—	—	0	0
WD Females	—	—	—	—	—	0	1
OT Males	560	560	560	560	—	1	0
OT Females	—	—	—	—	—	0	0
Big Lagoon							
BL Males	30	105	390	158	136	6	3
BL Females	—	—	—	—	—	0	0
Tomales Point							
TP Males	—	—	—	—	—	0	0
TP Females	30	40	50	40	14	2	0

[median = 42.5]), but the sample size was small, and the difference was not significant ($T = 0.61$, $df = 11$, $P = 0.55$).

Some of the dispersing frogs moved well away from the breeding site. One female (10.7 cm SVL) left the pond at our main study area (CP), crossed Olema Creek (the primary nonbreeding area) and stopped at a pond 320 m from the breeding pond. Two females (10.9 and 10.1 cm SVL) moved from CP, across Olema Creek and eventually resided in marshes, 0.88 and 1.02 km from the breeding site. Another female (10.6 cm SVL) moved down Olema Creek and up a small tributary for a total distance of 2.8 km (see individual case histories below).

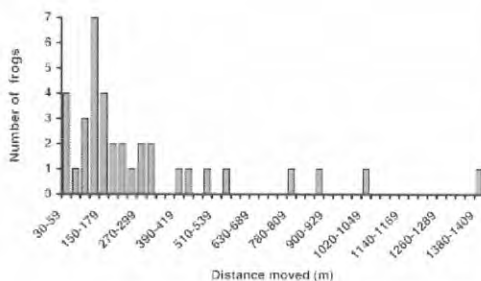


FIG. 3. Straight-line distance moved for all radiotagged Greater Olema Valley frogs that traveled ≥ 30 m. Median = 185 m, $N = 36$.

Fourteen of the breeding sites in the Greater Olema Valley were stock ponds surrounded by pastures. At these sites, all frogs that left the breeding site had to cross heavily grazed grassland to reach another pond or the riparian area. Frogs moved directly across these fields, typically traveling the most direct route to their destination. Movements of 100–200 m across open grasslands were common. With one exception, movements taking more than one night were along riparian corridors. One frog, however, spent five days sitting in a small clump of rushes in an open grassland (45 m from the breeding pond) before moving another 100 m to a small riparian area where it spent the next 50 days.

In two instances, we radiotagged females that appeared to have recently laid eggs (i.e., gaunt sides, conspicuously loose skin). Both frogs left the breeding pond within two days and moved to a seasonal marsh 800 m away. One frog took 32 days (5 December 1997 to 5 January 1998), whereas the other took five days (14–19 January 2000). A gravid female was fitted with a transmitter at a seasonal pond on 29 January 2001. By 8 February 2001, she had moved to an adjoining swale dominated by rushes. When captured on 28 February 2001, she had laid her eggs, as indicated by a sudden drop in mass. By 3 April 2001, she had moved 150 m to a riparian area where she remained until the transmitter was removed on 1 August 2001.

Frog movements at Big Lagoon.—The nine male frogs at this site moved a median distance of 70 m (0–390 m, Table 2). Frogs made small-scale movements (<30 m) throughout the time they were radiotagged (26 December 2002 through 3 June 2003). Most movements were between three of the deeper parts of the marsh, but one frog moved 390 m up Green Gulch Creek (when part of the marsh dried), to a seasonal creek that flowed into the marsh system. The other frogs moved to the only remaining pool at the west edge of the marsh, 50–75 m away. Most frogs did not use the riparian zone along the adjacent Redwood Creek. One individual spent four weeks there, and another frog moved to the riparian zone just before it lost its transmitter. We found frogs in the riparian area during only one nocturnal survey, although we regularly found them in the marsh or adjacent cattails.

Frog movements at Tomales Point.—The two female frogs radiotagged at this site (6.7 and 10.6 cm SVL) were relatively sedentary and apparently did not move to a breeding site. They had transmitters for an average of 283 days (68 and 498 days). Both frogs moved >30 m, with a mean of 65 m (Table 2). Although it might have been possible for the female that we tracked for 498 days to have moved to a breeding pond, laid eggs, and returned to her nonbreeding site without our noticing her absence, the gradual increase in mass throughout the time we tracked her indicated that this did not happen, and she apparently did not breed during the time we radiotracked her.

Use of riparian habitat.—On six of the 21 nocturnal stream surveys, there were ≥4 frogs per 100 m of stream, and one survey located seven frogs per 100 m (2 September 1999). Because radiotagged frogs known to be present (i.e., located during the same day by telemetry and also found along the creek on subsequent days) were frequently not seen during nocturnal surveys, the number of frogs along the creek was greater than what we observed, but it is not possible to determine by how much. For example, during a nocturnal survey on 5 July 2000, we observed one of the radiotagged frogs known to be along the creek, but we did not find two other radiotagged frogs whose presence had been confirmed earlier that day. Similarly, a nocturnal survey on 3 August 2000 did not detect either of two radiotagged frogs known to be present earlier that day; however, two untagged adults and nine subadults (<5.5 cm SVL) were observed. Nocturnal surveys also suggested that frogs tended to concentrate along portions of the creek nearest the breeding sites (Fig. 4).

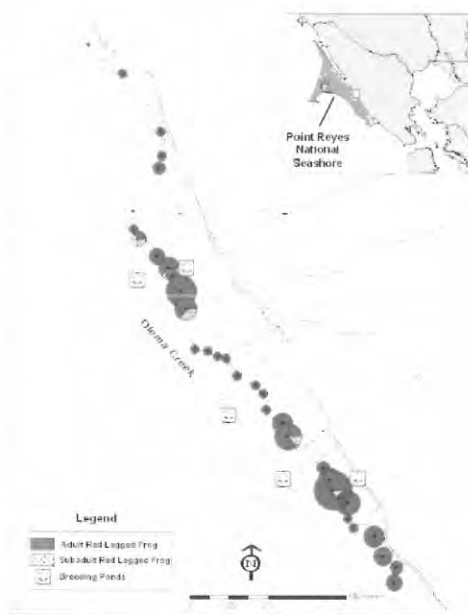


FIG. 4. Distribution of *Rana draytonii* along Olema Creek as detected during nocturnal surveys 4–6 October 1999. The distribution of frogs was similar during other surveys. Circles represent frogs, and size of each circle indicates relative number of frogs.

Diurnal behavior.—We conducted our radio-tracking during the day and were frequently able to confirm visually the exact location of frogs with transmitters. This allowed us to evaluate diurnal microhabitat use. It was not unusual to find California Red-Legged Frogs basking in full sun, immediately adjacent to the water. Although we observed this behavior primarily at breeding ponds, occasionally frogs were found in similar situations in nonbreeding riparian areas.

Frogs that were not basking used a variety of cover. In permanent ponds, they sat entirely underwater in the deeper portions of the pond (>0.75 m), usually in association with the emergent vegetation. At sites with deeper water, *R. draytonii* sat on the bank in close proximity to the water. In shallow, seasonal ponds (<0.4 m deep), frogs were usually under vegetation (e.g., rushes, blackberries, hedge nettles [*Stachys ajugoides*]) at the edge of the pond. In seeps or seasonal streams, frogs were found under blackberry thickets interspersed with poison oak, coyote brush, hedge nettles, stinging nettles, and mats of rushes. Along permanent streams, frogs were found in or near pools with a depth of >0.5 m and associated with structurally complex cover (e.g., root mass, logjam, or overhanging bank). When on stream

banks, frogs sat under dense vegetation as far as 2 m from the water's edge. Vegetation was predominantly western swordfern, blackberry, hedge nettle, and giant horsetail (*Equisetum telmateia*).

Predation.—We documented two predation events and had circumstantial evidence for three others. A Great Blue Heron (*Ardea herodias*) ate two radiotagged frogs sometime between 4 and 18 January 2000 (Fellers and Wood, 2004). Three other frogs appeared to have been killed by predators. The skin, bones, and transmitter of one frog were found at the base of a guano-stained fence post, along with a number of raptor pellets. Two frogs appeared to have been killed by mammalian predators, although we have no definitive proof. We found the skin, internal organs, PIT tag, and transmitter of a frog in a riparian corridor, and we found pieces of skin, internal organs, and the transmitter of another frog. One frog appeared to have been stepped on by a large, hoofed animal, probably one of the cows that grazed in the pasture. We found the anterior two-thirds of the frog in a pasture; the posterior portion of the frog had been crushed into the ground. Although we did not observe any predation during our nocturnal surveys along Olema Creek, we regularly observed raccoons (*Procyon lotor*), Black-Crowned Night Herons (*Nycticorax nycticorax*), river otters (*Lutra canadensis*), and nonnative rats (*Rattus* spp.). At breeding sites, we observed Great Blue Herons, but other potential predators probably visited the ponds and marshes at times.

Injuries from transmitters.—Twenty frogs had injuries from transmitter belts (17% of radio-tagged frogs). The most common injury consisted of small abrasions on the dorsum or, less frequently, a midventral abrasion. The wounds generally healed within two weeks if frogs were fitted with transmitter belts with one additional bead. Eleven of the injured frogs were reweighed at the time the wound was noticed, and all frogs had gained mass since their initial capture. We reweighed 23 uninjured frogs with transmitters; 18 (78%) gained mass after initial capture, two (9%) had no change, and three (13%) lost mass. The mean mass gain for these frogs was 21%, and mean mass loss was 8.5%. Overall, we do not believe that the minor injuries caused by the transmitter belt interfered with frog behaviour.

Individual case histories.—The frog that was radiotagged for the longest time had a transmitter for 16 months. When first caught on 12 May 1999, the female frog weighed 42.5 g and was 7.3 cm SVL. It grew steadily and was 77.7 g and 8.9 cm when last captured on 14 June 2000.

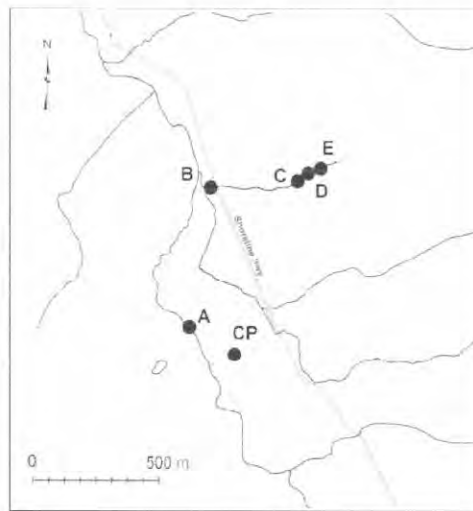


FIG. 5. Movements of a female radiotagged *Rana draytonii* that was captured at a breeding pond (CP) and subsequently moved to sites A–E. The frog was 10.5 cm (SVL) and was tagged during the breeding season (19 January 1999). The straight-line distance from CP to E was 1.4 km, but the presumed distance moved was 2.8 km.

The frog was caught in a puddle (1.0 × 0.3 m, 15 cm deep) that had formed in a rut created by a roadside seep along an abandoned dirt road on Tomales Point (site TP, Fig. 1). For 16 months, this frog made frequent, small (2–10 m) movements, within a 200-m² area surrounding the seep. The furthest the frog moved was 110 m. It used a variety of microhabitats: underwater in the puddle, underground in small mammal burrows, partially buried in duff beneath wax myrtle and coyote brush, and sitting in small clumps of grass. Although this frog was an adult female, it did not move to the nearest known breeding pond (650 m away) during the winter of 1999–2000. On 1 September 2000, the transmitter was found in the grass beneath a coyote brush, 6 m from where the frog had last been found. We could not determine whether the transmitter had fallen off or whether the frog had met a predator.

One frog moved at least 1.4 km. This was a female (10.5 cm SVL) tagged at a breeding pond (CP) during the breeding season (19 January 1999). On 23 January 1999, she was located under a fallen tree, 240 m away in Olema Creek. On 30 January 1999, she had moved a minimum of 650 m to a pool in a small tributary of Olema Creek (Fig. 5). It is quite likely that the frog followed Olema Creek to the tributary, which would have required a move-

ment of 1.0 km to reach that point. By 14 February 1999, the frog had moved either across a two-lane, paved country road or under the road through a culvert. She then moved up a small, seasonal drainage, 430 m from her previous location. The presumed distance traveled by this frog was 2.8 km. The frog stayed in this drainage and was often found under blackberry brambles and thickets of poison oak along the stream. The transmitter and remains of the frog were found on 14 June 1999, apparently the victim of avian predation (see Predation above).

DISCUSSION

The California Red-Legged Frog recovery plan emphasizes protection and recovery of breeding habitat (U.S. Fish and Wildlife Service, 2002), and most protection efforts have focused on breeding sites. One challenge in managing *R. draytonii* has been the paucity of data on habitat use beyond the breeding site, thus making it difficult to evaluate requirements for nonbreeding habitat and connecting migration corridors. Our study provides insights into *R. draytonii* movement and habitat use in a coastal environment and establishes a basis for making decisions about habitat protection.

Migration of *R. draytonii* from the breeding sites we studied was highly variable. Some frogs remained at breeding ponds all year, whereas others spent only a few days. Two-thirds of female frogs and 25% of male frogs moved from breeding areas. Bulger et al. (2003) found that 80–90% of *R. draytonii* remained at one breeding site all year. In our study, frogs at sites that held water only seasonally often lingered until the site was on the verge of drying completely. Because all our study sites were in an area where summer fog is the norm (E. J. Null, NOAA Technical Memorandum, NWS WR-126, 1995; Lundquist and Bourcy, 2000), frogs could move throughout much of the summer with little risk of desiccation. Once along the riparian corridor, frogs used a range of microhabitats that provided both cover and moisture, especially blackberry thickets, log-jams, and root tangles at the base of standing or fallen trees. Regular summer dispersal across open grassland is in contrast to what Rothermel and Semlitsch (2002) reported for juvenile *Ambystoma* and *Bufo* in Missouri where desiccation appeared to be a significant factor affecting amphibian dispersal across fields adjacent to their artificial pools.

There was a wide range of migration distances (30–1400 m, straight-line). Our main study pond was 110 m from a riparian zone that provided suitable nonbreeding habitat (CP,

Fig. 1). For frogs that moved at least 30 m from the pond, the median movement was 150 m. Relatively short movements from breeding sites was also suggested by the nocturnal surveys of riparian vegetation along Olema Creek (Fig. 4) where we found more frogs in areas adjacent to breeding sites. At Big Lagoon, where nonbreeding habitat was immediately adjacent to breeding sites in the marsh, the median distance moved was 68 m, and none of the frogs went more than 390 m. These short movements were similar to Columbia Spotted Frogs (*Rana luteiventris*); Pilliod et al. (2002) found no significant difference between males (\bar{x} = 367 m moved) and females (\bar{x} = 354 m). Bartelt et al. (2004) reported that male Western Toads (*Bufo boreas*) traveled shorter distances from breeding ponds than females (581 m \pm 98 and 1105 m \pm 272, respectively). Because there is relatively little data on these species, it is not possible to determine whether the differences are species-specific or dependent on the local landscape.

When frogs moved beyond the minimum distance to reach a suitable nonbreeding area, some followed riparian corridors, whereas others moved directly toward sites where they stayed through the nonbreeding season. Because most frogs moved from a breeding pond, across a grazed pasture, to a riparian area, they did not have the option of following a waterway during their initial movement. This is similar to Bulger et al. (2003), where frogs mostly moved in a straight line without apparent regard to intervening vegetation or topography. However, there were a few individuals in each study that moved primarily along a creek.

During our nocturnal surveys of Olema Creek, some frogs were well hidden by cover, whereas others sat fully exposed on top of logs or even on the sandy edge of the creek, places where California Red-Legged Frogs were rarely seen during the day. It is unclear why some individuals spent hours exposed to predation when good cover was only 1–2 m away. A frog in the open would have a wider field of view to detect and capture prey, perhaps partially mitigating the risk of predation. We documented predation by a Great Blue Heron, had evidence of predation by a raptor, and suspect that two other frogs succumbed to mammal predators. Additionally, we occasionally observed predators along Olema Creek including raccoons, Black-Crowned Night Herons, river otters, and nonnative rats (*Rattus* spp.). At a marsh that was not part of this study, we regularly observed night herons, and *R. draytonii* were so skittish that we have never been able to capture a single individual.

Based on their findings that 60% of the radiotagged frogs stayed within 30 m of their

breeding sites, Bulger et al. (2003) recommend a 100-m buffer with an array of suitable habitat elements around breeding sites. Although that might work well at their study area, we do not believe that a simple, symmetrical buffer is typically adequate. At our main study site, a 100-m buffer would not include any suitable nonbreeding habitat. Because the pond completely dries every 4–5 years, such a buffer would result in the elimination of the local population. By contrast, the Big Lagoon site has suitable nonbreeding habitat immediately adjacent to the marsh. At that site, maintaining the marsh habitat and the natural water levels would likely be adequate for long-term survival.

Three important conclusions from our study are that (1) most frogs move away from breeding sites, but only a few move farther than the nearest suitable nonbreeding habitat; (2) the distance moved is highly site-dependent, as influenced by the local landscape; and (3) land managers should not use average dispersal or migration distances (from our study, or any other) to make decisions about habitat requirements. A herpetologist familiar with *R. draytonii* ecology needs to assess the local habitat requirements.

Recommendations.—Maintaining populations of pond-breeding amphibians, such as *R. draytonii*, requires that all essential habitat components be protected. These include (1) breeding habitat, (2) nonbreeding habitat, and (3) migration corridors. In addition, a buffer is needed around all three areas to ensure that outside activities do not degrade any of the three habitat components.

For *R. draytonii*, nonbreeding habitats must have several characteristics: (1) sufficient moisture to allow amphibians to survive throughout the nonbreeding season (up to 11 months), (2) sufficient cover to moderate temperatures during the warmest and coldest times of the year, and (3) protection (e.g., deep pools in a stream or complex cover such as root masses or thick vegetation) from predators such as raptors (hawks and owls), herons, and small carnivores.

Breeding habitat has been well described (U.S. Fish and Wildlife Service, 2002; Stebbins 2003) and receives most of the management attention (US Fish and Wildlife Service, 2002). However, nonbreeding areas are equally important because some *R. draytonii* spend only a week or two at breeding sites, yet nonbreeding habitat is frequently ignored and is generally not well understood. Aside from our study, Bulger et al. (2003) are the only ones to publish details on the use of nonbreeding habitat by *R. draytonii*. Additional research on nonbreeding habitat is needed, especially in

other parts of range where *R. draytonii* occupy a diversity of ecotypes.

Migration corridors are frequently not considered in management planning for California Red-Legged Frogs. Our work and that of Bulger et al. (2003) indicate that *R. draytonii* migration corridors can be less “pristine” (e.g., closely grazed fields, plowed agricultural land) than the other two habitat components. Bulger et al. (2003) observed that *R. draytonii* did not avoid or prefer any landscape feature or vegetation type. They tracked frogs that crossed agricultural land, including recently tilled fields and areas with maturing crops. Our study site did not encompass such a diversity of habitats, but frogs readily traversed pastureland that surrounded the breeding sites. While conducting other research, we observed five frogs crossing a recently burned field as they moved toward a breeding pond during the first rain of the season (25 October 2004). Both our study and that of Bulger et al. were conducted at study sites near the Pacific Ocean where summer fog and high relative humidity reduce the risk of desiccation for dispersing amphibians (E. J. Null, NOAA Technical Memorandum, NSW, WR-126, 1995; Lundquist and Bourcy, 2000). Though desiccation was probably not a problem for frogs in our study, amphibians are often faced with a variety of hazards including roads (Gibbs, 1998; Vos and Chardon, 1998), degradation of habitat (Vos and Stumpel, 1995; Findlay and Houlahan, 1997; Gibbs, 1998), and predation (Gibbs, 1998), as well as desiccation (Rothermel and Semlitsch, 2002; Mazerolle and Desrochers, 2005).

Buffers are often described as the area that frogs use near breeding sites. Such usage combines migration corridors and nonbreeding habitat, as well as the adjacent area necessary to protect these areas. We believe that it is important to identify each habitat component separately and then include a buffer that is sufficiently large to maintain the integrity of each habitat type. Such a buffer cannot be defined as a standard distance but rather as an area sufficient to maintain the essential features of the amphibian habitat. Hence, a riparian area adjacent to a forest undergoing clear-cut logging would need a relatively large buffer to protect it from increased sedimentation and the increased temperature fluctuations that occur after logging. Less severe habitat modifications adjacent to amphibian habitat could be accommodated with a narrower buffer (deMaynadier and Hunter, 1995, 1999; Gibbs, 1998).

Buffers are typically described as a fixed-width boundary around breeding sites (Semlitsch and Bodie, 2003). However, the distribution of habitat components is rarely symmetrical

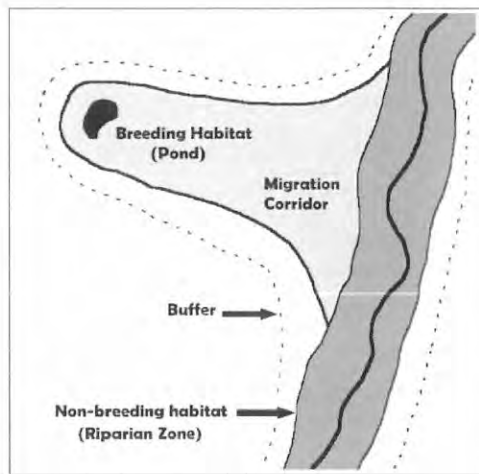


FIG. 6. Stylized diagram of typical *Rana draytonii* habitat showing the critical habitat components and the required asymmetrical buffer.

(e.g., a pond with frogs dispersing in all directions to surrounding nonbreeding area). At all of our study sites, frogs moved primarily in one direction, often toward the nearest riparian area, similar to what Rothermel and Semlitsch (2002) reported. As suggested by Regosin et al. (2005), protecting frog habitat in these situations requires an asymmetrical conservation area (Fig. 6). Because it is often not obvious from casual inspection what areas frogs are relying upon, delineating each habitat component and determining the size of a suitable buffer requires either an expert opinion from a field biologist with extensive experience with the species of interest or a field study to monitor radiotagged frogs.

The design of protected areas is often developed with the unstated assumption that only the most sedentary frogs can or need to be protected. The resulting systematic loss of individuals that move the farthest can have unexpected and unwanted effects (Gill, 1978; Berven and Grundzien, 1990). Long-distance dispersers are the individuals most likely to reach distant breeding sites and, hence, provide the genetic diversity that is important for survival of small populations. Additionally, those same dispersers are the individuals that would colonize sites where frogs have been lost because of random events that periodically extirpate local populations. By consistently selecting against frogs that disperse the greatest distances, the effective size of a metapopulation is reduced and the size of the effective breeding population is smaller; smaller breeding popula-

tions have a greater likelihood of extirpation (Gill, 1978; Sjogren, 1991).

Acknowledgments.—We thank S. Berendt, C. Corben, K. Frell, G. Guscio, and L. Wood for assistance with fieldwork. W. Perry prepared the maps. J. Fellers, G. Rathbun, and N. Scott offered useful comments on the manuscript. Fieldwork was funded by the U.S. Geological Survey, U.S. Fish and Wildlife Service, and the National Park Service. Collecting permits were provided by the National Park Service and the U.S. Fish and Wildlife Service. The Vedanta Society allowed us to radiotrack frogs on their property. This research was conducted under California Department of Fish and Game and U.S. Fish and Wildlife Service research collecting permits. The authors have complied with all applicable institutional Animal Care guidelines.

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Accepted: 20 January 2007

Attachment 4

MOVEMENT PATTERNS AND MIGRATION DISTANCES IN AN UPLAND POPULATION OF CALIFORNIA TIGER SALAMANDER (*AMBYSTOMA CALIFORNIENSE*)

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Abstract.—During five winter breeding seasons (October–April, 2000–2005), I investigated the migratory movements of an upland population of California Tiger Salamander (*Ambystoma californiense*) in Contra Costa County, California. I used a drift fence and pitfall trap array to partially enclose a proposed 27 ha housing project and capture migrating adult and juvenile salamanders. The study objective was to assess movement patterns and migration distances for upland life stages during an effort to translocate all captured salamanders and reduce their mortality from future development at the study site. I recorded substantial numbers of adult and juvenile *A. californiense* (90–417 annually) farther from breeding ponds than previously reported. The majority of salamanders were captured at least 800 m from the nearest breeding pond while a smaller number of salamanders were captured as far as 2.2 km from the nearest breeding pond. The study indicates that recent recommendations to protect 630 m of upland habitat adjacent to breeding ponds may leave large portions of upland life stages at risk. Adults appeared to exhibit fidelity to upland habitat, returning close to the initial point of capture. In situations where translocation is used to remove salamanders from upland habitats subject to development, results suggest it may take several years to successfully relocate a high proportion of individuals in the population.

Key Words.—*Ambystoma californiense*; buffer zones; California Tiger Salamander; conservation; pitfall trap; migration distance; terrestrial movements; upland ecology.

INTRODUCTION

Conserving terrestrial habitat surrounding wetlands is essential for maintaining populations of many pond-breeding amphibians (Semlitsch and Jensen 2001; Semlitsch 2002; Semlitsch and Bodie 2003). Upland habitat is critical for feeding, refuge, and migratory movements of juvenile and adult life stages (Semlitsch 1998; Semlitsch and Jensen 2001). Recent studies emphasize that amphibian population viability can be extremely sensitive to survivorship of upland life stages (Biek et al. 2002; Trenham and Shaffer 2005). Further, the importance of specific areas of upland habitat and preferences for a particular migratory route have been reported for several species of ambystomatid salamanders (Shoop 1968; Stenhouse 1985; Trenham and Cook 2008).

Despite research documenting the biological importance of terrestrial habitat for amphibians, the extent and location of appropriate areas required to sustain viable populations are poorly understood. Several recent studies estimated the area of terrestrial habitat needed to adequately protect amphibian populations, based on migration distances from multiple studies and species. Semlitsch (1998) estimated that a 164 m “buffer zone” would encompass 95% of most ambystomatid salamander populations (based on six species). Semlitsch and Bodie (2003) estimated that “core terrestrial habitat” for 13 species of salamanders

ranged from 117 to 218 m from the wetland. Rittenhouse and Semlitsch (2007) found that 95% of the adult breeding population for six species of salamanders occurs within 245 m of the wetland boundaries. However, because these studies were primarily of eastern species that typically inhabit forest or woodlands, the resulting recommendations may not be well suited to western *Ambystoma* species associated with grasslands. Although much remains to be learned regarding the appropriate size of buffer zones, it is clear that identifying and protecting upland habitat should be a management priority, especially for rare and endangered species (Marsh and Trenham 2001; Semlitsch 2007; Harper et al. 2008).

The California Tiger Salamander, *Ambystoma californiense*, is listed as a threatened species by the U.S. Fish and Wildlife Service (2004) and the state of California (California Fish and Game Commission 2010). The range of this species is restricted to grasslands and foothills of central California (Storer 1925). Adults spend the majority of their life cycle in small-mammal burrows in upland habitat (Loredo et al. 1996). With the onset of winter rains, adults emerge from underground terrestrial retreats and migrate to ponds for reproduction (Loredo and Van Vuren 1996). The importance of maintaining upland habitat adjacent to breeding ponds for *A. californiense* has only recently been emphasized (Trenham 2001; Trenham and Shaffer 2005). A more detailed under-

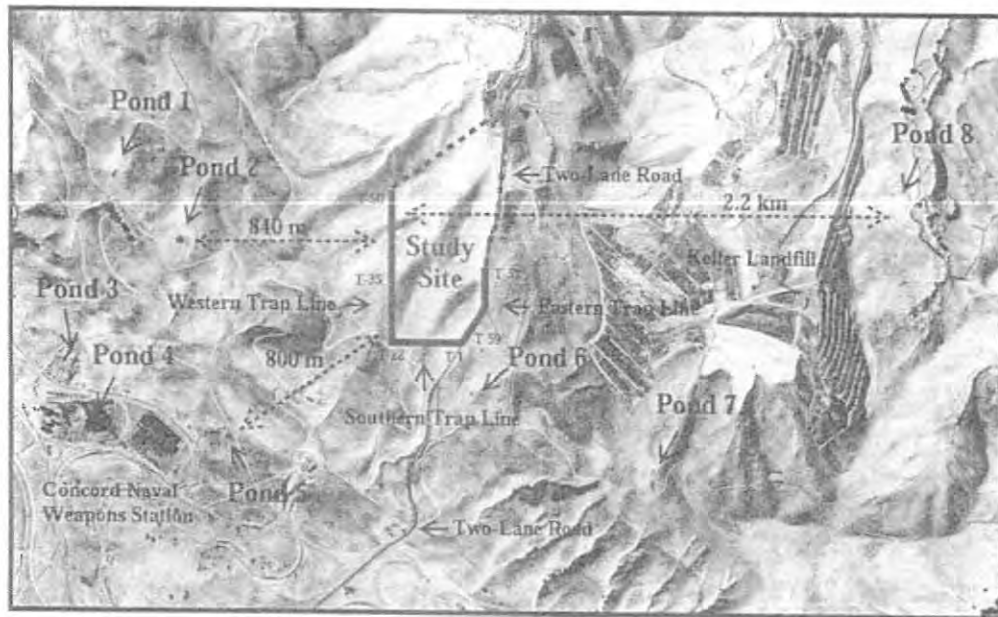


FIGURE 1. Aerial photograph showing the closest breeding ponds to the study site in Contra Costa County, California, USA (from <http://www.terra-server.com>, [Accessed 1 August 2002]). Bold red solid lines indicate trap line segments (western, southern, and eastern) along boundaries of the study site. T represents trap number, and dashed lines with arrows at both ends indicate distances from the western trap line to nearest breeding ponds. Ponds 1–5 are located on Concord Naval Weapons Station (CNWS) and Ponds 6–8 are located on a landfill adjacent to the study site.

standing of migratory movements and activity patterns in upland habitats is fundamental to managing this species (Trenham and Shaffer 2005).

This paper presents findings of a five-year study investigating the migratory movements of upland life stages of a population of *A. californiense* at a proposed housing development. The primary objectives of the study were (1) to characterize movement patterns and timing of movements during the breeding season, (2) to measure distances from capture locations to closest known breeding ponds, and (3) to test for relationships between the timing of migratory movements and environmental parameters. An additional objective of the study was to reduce direct mortality from future development at the study site by translocating all captured salamanders outside the study site and restricting reentry. Conservation strategies involving translocations are a common wildlife management tool (Griffith et al. 1989; Fischer and Lindenmayer 2000; Dodd 2005). Although the effectiveness of translocation strategies has been subject to controversy (e.g., Dodd and Seigel 1991; Seigel and Dodd 2002; Trenham and Marsh 2002), a recent review has shown improved success rates for some species of amphibians when a critical minimum number of individuals are translocated (Germano and

Bishop 2008). Relatively few translocation studies have been conducted on amphibians (Germano and Bishop 2008) or addressed human and wildlife conflicts (e.g., Cooke and Oldham 1995; Rathbun and Schneider 2001), and none have assessed the efficacy of translocating adult amphibians within upland habitat.

MATERIALS AND METHODS

Study site.—The proposed housing development is located on the northern edge of the San Joaquin Valley in northeastern Contra Costa County, California. The 27-ha area consists of grazed annual grasslands on rolling to steep hills (elevation range = 213–274 m; Fig. 1). Two primary drainages traverse the site but amphibian breeding ponds are not present. Lands surrounding the site are primarily grazed grasslands. The Concord Naval Weapons Station (CNWS) is located to the west and south of the site and a privately owned, active landfill is located to the east and southeast.

Eight breeding ponds are known to occur near the study site (Fig. 1). To the west and southwest, the closest ponds are on CNWS (Ponds 1–5) and are the primary breeding ponds on CNWS lands (Stitt and Downard 2000; Shawn Smallwood, pers. comm.). To

the east and southeast, the closest ponds are located on the adjacent landfill (Ponds 6–8). To the north, no known breeding ponds occur within 2.5 km. I examined aerial photographs from several years (1999, 2000, 2004, and 2005) and USGS topographic maps, and found no other potential breeding ponds closer to the study site. Before the trapping study began, I conducted four night surveys during winter rain events to determine if *A. californiense* was present at the study site. During these initial surveys, I observed four adults at burrow entrances of California Ground Squirrels (*Spermophilus beecheyi*) and thus commenced an intensive translocation effort.

Trapping techniques.—My field team and I (hereafter we) installed a drift fence and pitfall trap array along a partial perimeter (1.3 km) of the study site. The drift fence bordered the boundaries most likely to be used as movement corridors, and included the western, southern, and a portion of the eastern border of the study site (Fig. 1). We installed 118 pitfall traps (59 pairs of 7.5 L plastic buckets) located every 15 to 30 m along the inside and outside of the drift fence. We used a 0.9 m tall commercial quality silt fence buried 0.3 m underground, stretched taut, and secured by both wooden and steel fence posts. We placed elevated covers over the traps to provide shading and minimize predation, and placed a damp non-cellulose sponge in each trap to maintain moisture for captured salamanders. We replaced the drift fence and pitfall traps (i.e., trap line) each year of the study and repaired the fence line as needed to maintain its integrity as a barrier to movement.

Our surveys encompassed five winter breeding seasons, from October 2000 to April 2005 (hereafter, years 2000 to 2004). In 2001 and 2002, we increased the length of the trap line by installing nine pairs of pitfall traps along the eastern border of the study site. While the trap line encompassed over half the total perimeter of the proposed development, the entire area was not completely enclosed due to the large area of the site. We opened all traps at dusk on nights when the chance of rain was predicted to be 40% or greater and checked at dawn the following morning. Because amphibians are often active on the night after a heavy rain (Gibbons and Bennett 1974), we left the traps open on nights after a rain event (that exceeded 0.6 cm, even when no rain was predicted for that night. At all other times the traps were closed. We immediately translocated individuals captured inside the trap line to small mammal burrows 15 to 100 m outside the development. We kept individuals captured outside the trap line outside and translocated them in the same manner.

For each capture, we recorded date, trap number, trap line side (inside or outside), sex (adults only), reproductive condition (reproductive or non-reproductive), snout-vent length (SVL), total length, and age class (adult or juvenile). We identified individuals

as adults if they had at least one of the following characteristics: keeled tail, swollen vent (reproductive males), gravid condition (reproductive females), or large body length (≥ 75 mm SVL; Trenham et al. 2000). We identified juveniles based on small body length (usually < 75 mm SVL; Loredó and Van Vuren 1996) and the absence of adult characteristics. Males were distinguished from females by the presence of a keeled tail, swollen vent, or proportionally longer tail (Petranka 1998; Searcy and Shaffer 2008). We recorded adult-sized salamanders without other distinguishing characteristics as adults; these salamanders may have been subadults (≥ 1 year of age but not sexually mature) or salamanders returning from the ponds post breeding (i.e., non-reproductive). Because juvenile body lengths vary considerably (46–114 mm; Loredó and Van Vuren 1996) and can overlap adult sizes, we may have mistakenly classified some larger juveniles as adults in non-reproductive condition. In addition, we acquired two photographs of the dorsal surfaces of each captured salamander for individual identification.

Environmental variables.—In 2000 and 2001, I measured precipitation using a manual rain gauge located on site; the gauge was read and emptied when traps were opened at dusk and checked again at dawn the next morning. For the remainder of the study years, I used an automatic rain gauge (Hobo event logger, Onset Inc., Pocasset, MA, USA) to record hourly rain events (2.5 mm intervals). Air temperature was manually recorded on each morning traps were checked. I used additional data on hourly and yearly rainfall near the study site from California Department of Water Resources, California Data Exchange Center (available from <http://www.cdrec.water.ca.gov> [last accessed 21 September 2006]).

Analyses.—I pooled daily capture data by week, year, sex, age class, and location (inside/outside trap line and trap line segment) as measures of salamander activity. I used the location of captures to infer likely movement patterns (i.e., attempting to leave or enter the study site, and directionality). To evaluate movement patterns within a breeding season, I divided capture data into early season (presumably migrating to breed) and late season (presumably returning from breeding) based on the temporal distribution of captures for all five study years combined.

To standardize for the variability in trapping effort (i.e., different number of traps per line segment and nights of trapping each year), I calculated capture rates (number of captures per 100 trap nights) for analyses. Distance calculations were measured as presumed straight line travel. Within each study year, I compared dorsal patterns in photographs to determine the number of intra-annual recaptures. Individual identification

using photography has been employed successfully with amphibians that have unique patterns of coloration; unlike invasive marking techniques, this causes no harm to the animal (e.g., Donnelly et al. 1994; Doody 1995; Bailey 2004).

I used parametric statistics when data were normally distributed and non-parametric tests when data were not. To determine if recaptured individuals returned to a similar point from which they were initially trapped, the observed mean number of traps between initial and returning trap locations was compared with the expected mean number of traps under a uniformly random scenario (Shoop and Doty 1972). For this analysis, I pooled data from all five study years to obtain an adequate sample size and used only those individuals that were initially trapped early in the breeding season on the inside of the western trap line and then recaptured later in the season outside that same trap line segment (i.e., presumably returning to the study site after breeding). I used the western trap line data because it had the majority of returns and traps along this segment were evenly spaced providing the most accurate distance measurements between initial and returning trap locations.

I tested for annual and seasonal variation in capture numbers among all five study years. I used chi-square tests to determine if annual sex ratios differed significantly from an expected 1:1 ratio. I evaluated the association between seasonal rainfall (both early and late season) and the proportion of males and females captured both inside and outside the trap line using Pearson's correlation coefficient. I used the sign test to compare annual adult capture rates early in the season on the inside of the western trap line and capture rates later in the season outside that same trap line segment, and to compare annual rainfall between early and late seasons. I used Pearson's correlation coefficient to assess whether there was a negative association between translocation efforts and annual capture rates over time based on the proportions of inside versus outside captures, and to test for a relationship between annual on-site rainfall and annual capture rates.

I also analyzed within-year associations between environmental parameters and the number of *A. californiense* captured. To assess the influence of precipitation and temperature prior to capture, I used Spearman's rank correlation. This analysis used rainfall amounts 12 h prior to opening traps (i.e., day prior to capture), 12 h prior to checking traps (i.e., night of capture), and within 24 h prior to checking traps (total of day and night). In addition, I used Wilcoxon two-sample rank sum test to assess if rain at dusk on the night of capture or the night prior to opening the traps was associated with the number of captures. Precise measurements of rain using the automatic rain recorder (which allowed for analysis of rain amounts in intervals less than a 24-h period) were available only in 2002, 2003 and 2004. Of these three

TABLE 1. Adult and juvenile *Ambystoma californiense* captured inside and outside the trap line during five winter breeding seasons at the study site in Contra Costa County, California. Totals include recaptured individuals. Unique captures exclude recaptured individuals and are shown in parentheses.

Year	Adult Total No. (Unique No.)	Juvenile Total No. (Unique No.)	Adult & Juvenile Total No. (Unique No.)
2000–2001			
Inside trap line	59 (58)	3 (3)	62 (61)
Outside trap line	76 (37)	62 (47)	138 (84)
Totals	135 (95)	65 (50)	200 (145)
2001–2002			
Inside trap line	184 (182)	4 (3)	188 (185)
Outside trap line	215 (158)	14 (13)	229 (171)
Totals	399 (340)	18 (16)	417 (356)
2002–2003			
Inside trap line	63 (61)	3 (3)	66 (64)
Outside trap line	120 (96)	34 (33)	154 (129)
Totals	183 (157)	37 (36)	220 (193)
2003–2004			
Inside trap line	37 (36)	0 (0)	37 (36)
Outside trap line	52 (37)	1 (1)	53 (38)
Totals	89 (73)	1 (1)	90 (74)
2004–2005			
Inside trap line	23 (22)	0 (0)	23 (22)
Outside trap line	72 (61)	86 (81)	158 (142)
Totals	95 (83)	86 (81)	181 (164)

years, I chose 2002 for analysis because it was least affected by translocation efforts and barrier fencing.

I excluded recaptures from the analysis of some data sets (i.e., capture distribution, movement patterns, sex ratios, and annual reductions). However, except for sex ratios, these analyses did include those individuals first captured during the early season inside the trap line and then later recaptured outside the same trap line during the late season. For annual comparisons of capture numbers, I deleted data on additional traps installed in 2001 and 2002 from the analyses. For all statistical tests, results were considered significant at $\alpha = 0.05$.

RESULTS

Capture numbers and movement patterns.—The annual number of *A. californiense* captured varied from 90 to 417 salamanders over the five year study period (Table 1). Recaptured individuals represented between 9–28% of annual totals, with 96% of these individuals captured on the outside of the trap line. Eight recaptured individuals were captured on or translocated to the outside of the trap line and then later captured on the inside, but these eight represented less than 1% of the total captures. Adult recaptures returning to the study site (presumably after breeding) were found

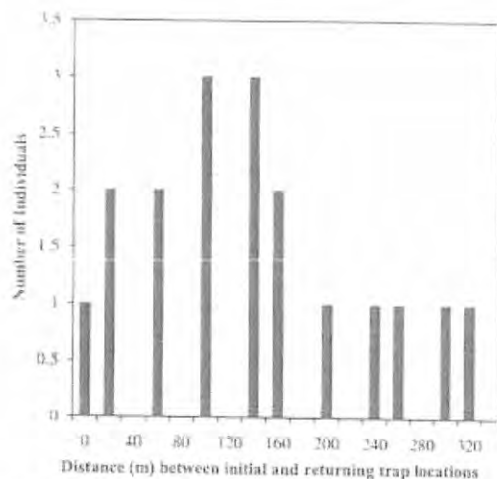


FIGURE 2. Frequency distribution of the distance between initial and returning trap locations for individual *Ambystoma californiense* for all five study years combined (2000–2005). Results include only those salamanders first trapped early during the breeding season inside the trap line and then recaptured outside the same trap line later in the season. Early season = late October to December 31; Late season = January 1 to end of March. Zero on the x-axis represents individuals that returned to the same trap location where they were initially captured.

significantly closer to where they were initially captured inside the trap line than would be expected by random ($Z = -2.92$, $P = 0.003$). Forty-four percent of adult recapture locations were within five traps (≤ 100 m) of the initial inside trap location (Fig. 2). Several individuals were recaptured more than once outside the western trap line, presumably attempting to reenter the site. One male returned to the site five times.

Capture rates from all five study years combined indicate that males and females migrated to the breeding ponds from late October to the end of December (early season) and returned to their upland habitat from the beginning of January to the end of March (late season) (Fig. 3). Annual sex ratios differed significantly from 1:1 in 2002, with females outnumbering males by 2:1 ($\chi^2 = 20.46$, $df = 1$, $P < 0.001$). By contrast males outnumbered females by 1.5:1 in 2000 ($\chi^2 = 3.80$, $df = 1$, $P = 0.051$). Sex ratios were near 1:1 in the other three study years (2001: $\chi^2 = 0.02$; 2003: $\chi^2 = 0.00$; and 2004: $\chi^2 = 0.11$; all $df = 1$, all $P > 0.70$). Among all study years, the proportion of each sex in the population captured early in the season on the inside of the trap line (Table 2) was associated with early season rainfall (negatively associated for males: $r = -0.808$; positively associated for females: $r = 0.808$; $P = 0.049$ for both). However, there was no significant association between the proportion of each sex captured early in the season outside the trap line and early rainfall (males: $r = -0.340$;

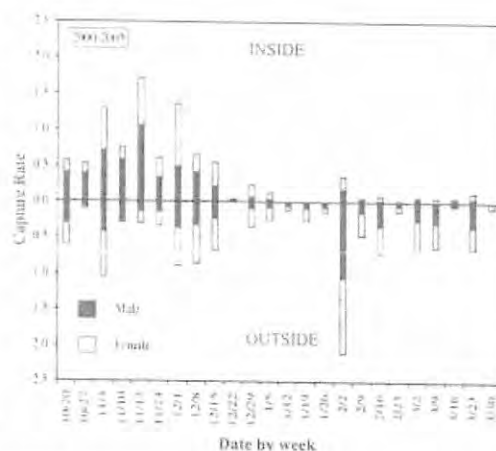


FIGURE 3. Weekly capture rates (no. per 100 trap nights) of male and female *Ambystoma californiense* inside and outside the trap line for all five study years combined (2000–2005). Early season = late October to December 31; Late season = January 1 to end of March. Dates on x-axis represent the beginning of each week. Recaptured individuals were excluded except for salamanders first captured during the early season inside the trap line and then recaptured outside the same trap line later in the season.

females: $r = 0.340$; $P = 0.288$ for both) or captured late in the season outside the trap line and late rainfall (males: $r = -0.494$; females: $r = 0.494$; $P = 0.198$ for both).

Within each survey year, the capture rates of adults and juveniles were generally highest along the western trap line (Fig. 4). Analysis of early season capture data, when most salamanders presumably migrated to the ponds, indicated highest adult capture rates on the inside of the western trap line (Table 3). By contrast, analysis of late season data, presumably when most salamanders returned from the ponds, indicated highest adult capture rates outside the western trap line (Table 3). Capture rates for juveniles were highest outside the western trap line primarily in the early season (Table 4). Among all study years, more adults were captured early in the season inside the western trap line than were captured later in the season outside that same trap line segment (sign test, $P = 0.031$). Early and late rainfall was not significantly different among years (sign test, $P = 0.50$).

Migration distances.—The shortest distances from inside the western trap line, where the majority of adults were captured in the early season, to the closest breeding ponds to the west were 800 to 840 m (Ponds 5 and 2 on CNWS, respectively; Fig. 1). A smaller number of adults captured early in the season on the outside of the western trap line may be migrating east (Table 3). The closest breeding pond from the western trap line to the east is Pond 8 at 2.2 km. A few adults captured early in

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TABLE 2. Proportions of male and female *Ambystoma californiense* captured during the early and late winter breeding seasons on the inside and outside of the trap line. Parentheses indicate the number of each sex captured and N = the total number of adults captured. Early season = late October to December 31; Late season = January 1 to end of March. Results exclude all recaptured individuals.

Season/ Trap Line Side	2000– 2001	2001– 2002	2002– 2003	2003– 2004	2004– 2005
Early/Inside					
Male	0.76 (41)	0.50 (86)	0.39 (23)	0.68 (23)	0.52 (11)
Female	0.24 (13)	0.50 (87)	0.61 (36)	0.32 (11)	0.48 (10)
N =	54	173	59	34	21
Early/Outside					
Male	0.42 (8)	0.55 (46)	0.28 (23)	0.43 (13)	0.41 (15)
Female	0.58 (11)	0.45 (38)	0.72 (58)	0.57 (17)	0.59 (22)
N =	19	84	81	30	37
Late/Outside					
Male	0.33 (6)	0.45 (52)	0.33 (11)	0.36 (5)	0.43 (12)
Female	0.66 (12)	0.55 (64)	0.66 (22)	0.64 (9)	0.57 (16)
N =	18	116	33	14	28

the season along the inside of the eastern trap line may have been traveling east as well. The closest known breeding pond is only 225 m from the southeast corner the study site (Pond 6). I captured relatively few adults along the inside of either the southern or eastern segments of the trap line in the early season.

Migratory movements and environmental parameters.—Based on trapping data adults began moving with the first night of substantial rain of the season (≥ 1 cm). Smaller amounts of nightly rain (≤ 0.5 cm) at the beginning of the breeding season did not appear to initiate movement. In all survey years, the earliest dates adults were captured ranged from 20 October (2004) to 11 November (2001). Most adult captures occurred between early November and mid-December with fewer more temporally dispersed captures later in the season. Juveniles began arriving at the boundaries of the study site each year within six nights of measurable rain. The earliest dates juveniles were captured ranged from 29 October (2000) to 22 November (2001).

Both the amount of rain within 12 h (night of capture) and 24 h prior to checking traps were positively correlated with number of *A. californiense* captured ($r = 0.626$ for night rain; $r = 0.603$ for 24 h; $P < 0.001$ for both). Rain 12 h prior to opening traps was also correlated with captures ($r = 0.375$, $P = 0.012$). In addition, rain at dusk (Wilcoxon $Z = 2.66$, $P < 0.005$) and temperature ($r = 0.363$, $P < 0.015$) were positively associated with number of captures. Rain the night prior to opening traps was not associated with number of captures (Wilcoxon $Z = 0.31$, $P = 0.378$).

TABLE 3. Capture rates of adult *Ambystoma californiense* (no. per 100 trap nights) along the western, southern, and eastern trap lines during the early and late winter breeding seasons of the five study years. Early season = late October to December 31; Late season = January 1 to end of March. Data represent captures inside/outside each trap line. Recaptured individuals were excluded except for salamanders first captured during the early season inside the trap line and then later recaptured outside the same trap line during the late season. Total number of adults captured is indicated by N.

Season/Trap Line	2000– 2001	2001– 2002	2002– 2003	2003– 2004	2004– 2005
Early Season, N =					
Western	8.6/2.5	28.4/6.7	9.8/12.3	4.4/2.1	3.5/4.5
Southern	1.0/1.0	4.8/5.9	1.9/3.4	1.0/3.1	0.5/2.7
Eastern	—	4.2/22.7	1.4/6.3	2.9/3.5	1.3/2.6
Late Season, N =					
Western	34	146	46	21	29
Southern	0.8/4.8	1.9/19.7	0.5/4.6	1.5/3.3	0.4/3.2
Southern	0.0/1.9	0.7/2.6	0.7/2.2	0.4/1.7	0.0/0.6
Eastern	—	5.3/1.5	0.0/2.9	0.0/0.0	0.0/0.0

Annual reduction in captures.—Over the five study years, the proportion of adults captured inside the trap line decreased ($r = -0.845$, $P = 0.036$) and adult capture rates were not associated with on-site rainfall for those five years (Fig. 5, $r = -0.753$, $P = 0.071$). In 2000 and 2001, the capture rate of adults was higher inside than outside the trap line (Fig. 5). However, during 2002–2004 the capture rate was higher outside than inside. By 2004 the ratio of adult captures inside the trap line (versus outside) was much lower (0.35) than in previous years (0.62–1.2).

DISCUSSION

Successful conservation for *Ambystoma californiense* requires protection of both breeding sites and adequate surrounding uplands (Petranks 1998; Semlitsch 1998). Knowledge of terrestrial movement patterns and migration distances is essential to establishing appropriate upland protection zones adjacent to breeding ponds. My study expands the current understanding of upland habitat use for *A. californiense* and should better inform management for this species. The most important findings of my study are that *A. californiense* appeared to exhibit fidelity to upland habitat locations and occurred in relatively large numbers farther from breeding ponds than previously reported.

Study limitations.—The present study has certain limitations that should be taken into account when interpreting my findings. The partial drift fence may have affected my results in the following ways: 1) capture rates may have over- or under-estimated the actual number of salamanders entering or leaving the study site, 2) distribution of captures was limited to

Orloff.—Movement patterns and migration distances of California Tiger Salamander

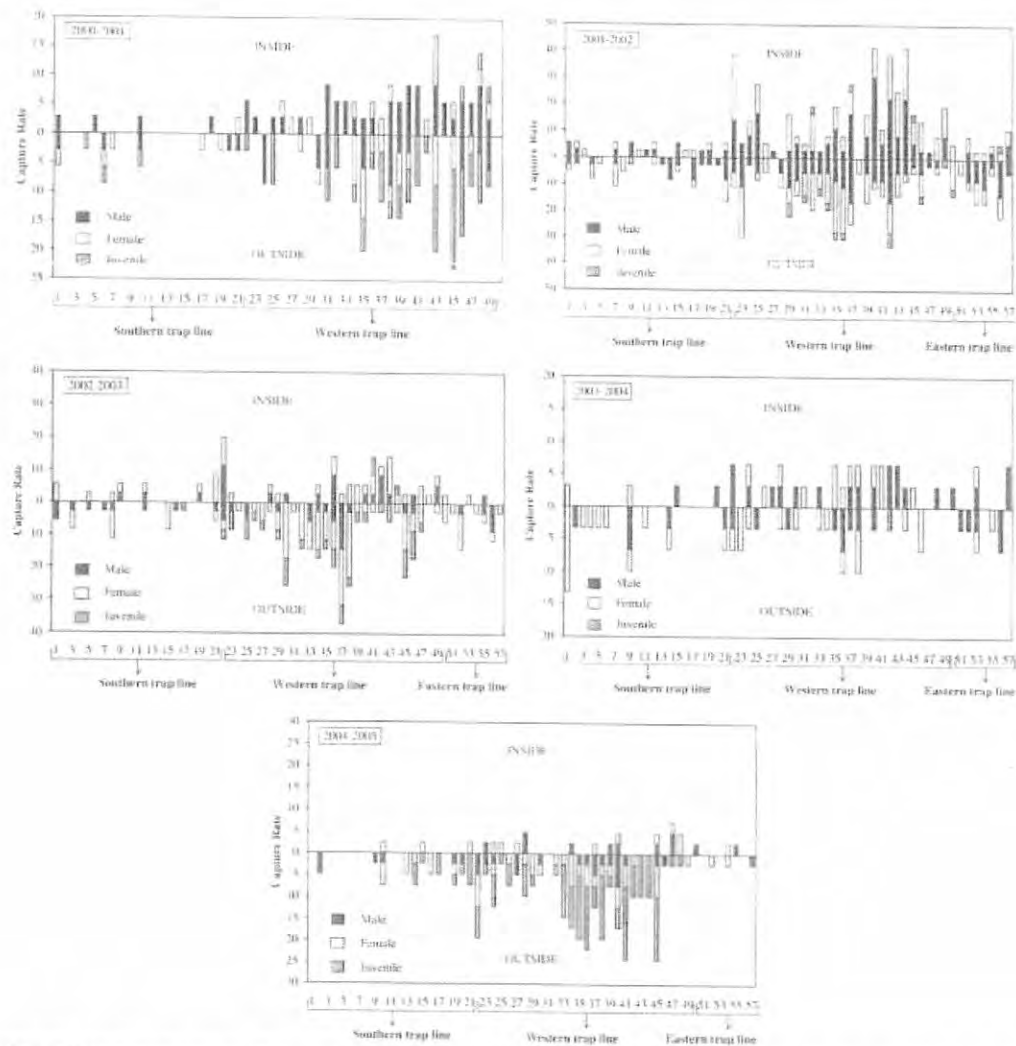


FIGURE 4. Capture rates (no. per 100 trap nights) of *Ambystoma californiense* inside and outside the trap line by sex, age class, and trap line for each of the five study years. Trap number for each trap line segment is indicated on the x-axis. Recaptured individuals were excluded except for salamanders first captured during the early season inside the trap line and then recaptured outside the same trap line later in the season.

certain sections of the study site, and 3) trespass rates for the study site could not be determined (i.e., when a salamander exits or enters a site without being captured). These limitations may have influenced my analysis of patterns of movement, sex ratios/proportions, and annual reductions in number of individuals captured.

In addition, translocating salamanders and restricting their entry into the study site may have altered the age class distribution for those remaining within the site. Studies of *A. californiense* and other *Ambystoma* species

have shown that age classes may differ in their use of habitat (Rothermel 2004; Trenham and Shaffer 2005) and vary in activity in response to environmental cues (Semlitsch 1983). This may have influenced my analysis of patterns of movement, and migratory movements with applicable data sets. Lastly, my findings are also limited by having only one study location. Although my results are directly applicable to this site, it may not be representative of other grassland areas that support *A. californiense*.

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TABLE 4. Capture rates of juvenile *A. californiense* (no. per 100 trap nights) along the western, southern, and eastern trap lines during the early and late winter breeding seasons of the five study years. Early season = late October to December 31; Late season = January 1 to end of March. Data represent captures inside/outside the trap lines. Recaptured individuals were excluded except for salamanders first captured during the early season inside the trap line and then later recaptured outside the same trap line during the late season. Total number of adults captured is indicated by N.

Season/Trap Line	2000–2001	2001–2002	2002–2003	2003–2004	2004–2005
Early Season, N =	36	14	29	1	45
Western	0.5/5.3	0.2/2.4	0.6/5.2	0.2/0.0	0.0/8.0
Southern	0.0/0.7	0.0/0.0	0.0/0.3	0.0/0.0	0.0/1.1
Eastern	—	0.3/0.0	0.0/0.0	0.0/0.0	0.0/0.0
Late Season, N =	14	2	7	0	36
Western	0.0/2.7	0.2/0.0	0.0/1.1	0.0/0.0	0.0/3.8
Southern	0.0/0.3	0.0/0.2	0.0/0.2	0.0/0.0	0.0/1.7
Eastern	—	0.0/0.0	0.0/0.0	0.0/0.0	0.0/0.0

Capture numbers and movement patterns.—Adults tended to return to a location close to where they were initially captured, which suggests fidelity to specific areas of upland habitat. Although several other studies have indicated *Ambystoma* species tend to follow the same nonrandom pathways as they move toward and away from breeding ponds (Stenhouse 1985; Phillips and Sexton 1989; Trenham and Cook 2008), these results were typically inferred from the distribution of captures around ponds, not from distant upland habitat capture data.

In all study years more adults were captured early in the season (presumably going to breed) than were captured later in the season along the same trap line segment (presumably returning from breeding). Rainfall amounts during the early and late seasons did not appear to account for this decrease in captures. The lower number of returning animals may be partly due to mortality, or salamanders straying off path when returning from their natal ponds or dispersing to different ponds (Trenham et al. 2001; Trenham and Cook 2008).

A higher proportion of migrating males than females has been correlated with low rainfall years in other studies of *A. californiense* (Loredo and Van Vuren 1996; Cook et al. 2006). My findings are consistent with this pattern. Apparently more females forego breeding in dry years than males (Loredo and Van Vuren 1996; Trenham et al. 2000). My results contrast with previous studies of *A. californiense* and other *Ambystoma* species that suggest a female bias at greater distances from breeding ponds (Regosin et al. 2003; Trenham and Cook 2008). The distances from the nearest breeding ponds in my study were considerably greater than these previous studies, yet my annual sex ratios were only female biased in one of the five study years.

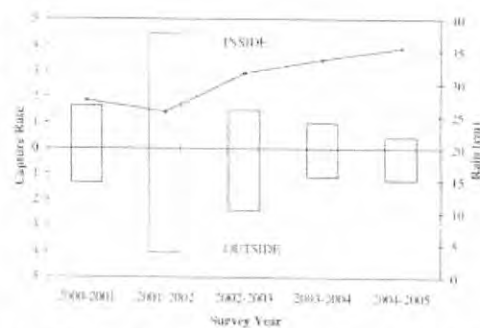


FIGURE 5. Annual capture rates (no. per 100 trap nights) of adult *Ambystoma californiense* inside and outside the trap line (bars) and on-site rainfall amounts (October–April; solid line) for the five study years. Recaptured individuals were excluded except for salamanders first captured during the early season inside the trap line and then recaptured outside the same trap line later in the season.

Migration distances.—I captured large numbers of *A. californiense* farther from breeding ponds than has been previously documented. In early studies of migration distances, maximum distance ranged from 130 m during one night of visually tracking (Loredo et al. 1996) to 248 m using radio tracking (Trenham 2001). However, these studies only examined movements during initial dispersal into the terrestrial habitat and thus may not be representative of the total distance adults may travel (Trenham and Shaffer 2005). In a more recent study using variable trap line distances from a pond, Trenham and Shaffer (2005) found that 50–95% of adults were trapped between 150 to 620 m from the pond, respectively. Continuing work at this site has documented a few individuals moving up to 1000 m from the most likely breeding pond (Peter Trenham, pers. comm.). *Ambystoma californiense* has also been observed up to 2.1 km from breeding ponds (U.S. Fish and Wildlife Service 2004); however, this was thought to be only a small number of individuals. Even in light of these studies showing a few individuals making longer distance movements, the large numbers of adults and juveniles I captured at least 800 m from the closest breeding ponds is noteworthy.

Current estimates that 95% of adult *A. californiense* occur within 620 m of the breeding pond (Trenham and Shaffer 2005) do not appear applicable to my study site. If this estimate were applied to my study site, which is greater than 620 m from the closest breeding ponds on CNWS, the large number of captures would represent less than 5% of the adult upland population. This would result in an exceedingly high extrapolated number of adults using the ponds on CNWS (~5,000 to 10,000 adults). However, Loredo and Van Vuren (1996) found an average of only 141 adults at their study pond on CNWS (Pond 5, Fig. 1), which is typical for other sites (Trenham et al. 2001; Cook et al. 2006). It is more likely that a greater percentage of the breeding population at

CNWS is moving farther away from the breeding ponds than previous research would have predicted.

Migratory movements and environmental parameters.—Movement patterns in my study area were influenced by the distribution of rainfall within the 24-h period prior to capture, with both rain at dusk and on the night of capture (12-h prior) strongly correlated to captures. Although several studies of *A. californiense* or other *Ambystoma* species also found adult migration to be positively associated with rainfall (Semlitsch 1983; Beneski et al. 1986; Trenham et al. 2000), these studies measured daily (24-h periods) or weekly rainfall, not rainfall within less than a 24-h period.

The majority of *A. californiense* adults were captured from early November to mid-December, which is earlier than other study sites where peak migration occurred in January in Monterey County (Trenham et al. 2000) or December and January in Sonoma and Contra Costa counties (Loredo and Van Vuren 1996; Cook et al. 2006). Unlike these other studies, which were conducted at study ponds and recorded only the date of arrival at those ponds, my data presumably represent the actual initiation of migration from upland emergence. Therefore, the discrepancy in peak migration periods may be because my study site was at least 800 m away from the closest probable breeding ponds, and it may have taken several rainy nights to reach the ponds.

Reduction in numbers.—My findings suggest that it takes multiple years of trapping and translocating animals to substantially reduce the number of adults within a project site. This is consistent with other research that has shown *A. californiense* typically spend up to four to five years in their upland burrows before they reach sexual maturity and migrate to breeding ponds for the first time (Trenham et al. 2000). The reduction in annual captures found over my five study years could have been affected by variables other than removal trapping. For example, rainfall has been shown to affect both the number of migrating adults and reproductive success among ambystomatids (e.g., Semlitsch 1983). However, my annual capture numbers were not correlated with on-site rainfall. In addition, I examined local annual rainfall data for the five years prior to my study and found no patterns that might have affected past reproductive success and subsequently influenced capture numbers during my study. It is important to note that because the drift fence was not a closed system, it was not possible to determine whether individuals captured inside or outside the trap line were resident to those sides of the study site.

The costs and benefits of amphibian translocation strategies have been debated and establishing criteria for success is difficult (Seigel and Dodd 2002; Trenham and Marsh 2002). Because my study only involved moving

animals to adjacent grassland habitat a short distance from the capture point (≤ 100 m), some of the more critical problems typically associated with translocation projects were not applicable, including the availability of suitable habitats, disease transmission, and genetic considerations (Dodd and Seigel 1991). However, because a portion of my translocated animals were recaptured presumably trying to return to the study site, they could have been subject to additional stress which reduced their survival (Matthews 2003; Germano and Bishop 2008). In addition, I do not know if the resources of the adjacent area were adequate to sustain an increase in population size (Petranka 1989).

Other options for managers to reduce the number of salamanders in a proposed construction area include passive relocation using wooden ramps with barrier fencing or excavating salamanders from their burrows. Although I have observed *A. californiense* using ramps to exit a project site, there are no published reports on the success of this passive relocation technique. Excavation is time consuming (Pittman 2005), difficult due to the complexity of burrow systems, and potentially hazardous to the salamanders.

Management implications.—My findings have several implications for future conservation and management of this species. First, the current suggested buffer zone of 630 m around breeding ponds for long-term preservation of individual *A. californiense* populations (Trenham and Shaffer 2005) may not protect a substantial portion of some upland populations. Second, the method proposed by Searcy and Shaffer (2008) for calculating mitigation value for *A. californiense*, which is based on the exponential decrease in salamander density with increased distance from breeding ponds, may not be applicable in all cases. Other factors could be influencing the density distribution around ponds, such as uneven distribution of resources and presence of other species (Rittenhouse and Semlitsch 2007; Searcy and Shaffer 2008). The results of my study underscore the need to consider other relevant biological factors in establishing buffer zones or mitigation credits. Third, trapping may be the most reliable means of predicting habitat value or detecting occurrence in uplands. I found that the number of salamanders observed during winter night surveys was not a reliable indication of population size. The limited number of salamanders I observed was probably due to few being above ground at the burrow entrances during the night surveys. Fourth, efforts to remove *A. californiense*, via trapping or passive relocation, from a proposed project site for only one year (to reduce impacts from development) may miss a large portion of the population. My findings suggest that multiple years are required to substantially reduce the abundance of adult life stages in upland habitat.

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Letter No. 11: Shute, Mihaly & Weinberger, LLP

Response 11-1

The City disagrees with the commenter's assertion that the Draft EIR was inadequate on the referenced discussions. See responses to Letter No. 10 above with regard to the project description (see Responses 10-17 and 10-18), elements of the development agreement (see Response 10-19), impacts to aesthetics (see Responses 10-22 and 10-23), historic (see Responses 10-45 and 10-46) and hydrologic (see Responses 10-24 through 10-27) resources, and the project's public services (see Responses 10-47 and 10-48), public safety (see Response 10-49) and growth inducing (see Response 10-50) effects.

Response 11-2

An analysis of the project's consistency with General Plan goals and policies concerning biological resources is provided in Responses 9-18, 9-19, 10-10, 11-4 and 11-5 in this Final EIR. As explained in these responses, the proposed project does not violate the City's General Plan. As discussed in Responses 11-14 through 11-19 below, the Recirculated Draft EIR presents an accurate description of the project site's biological setting and does not understate its importance as habitat for endangered, threatened, or sensitive species. As discussed in Responses 11-29 and 11-30 below, the project adequately analyzes the cumulative impacts of nearby and anticipated future development projects on these resources.

Response 11-3

As explained in detail in Responses 11-6 to 11-30 below, the Recirculated Draft EIR complies fully with CEQA. The Recirculated Draft EIR provides sufficient information to the public and the decision makers regarding the significant impacts of the proposed project and lists mitigation measures to avoid or reduce significant impacts. All of the mitigation measures set forth in the Recirculated Draft EIR are detailed and enforceable. Revision of the Recirculated Draft EIR is not required. The commenter may disagree with the Recirculated Draft EIR conclusions, but that does not make the document inadequate.

Response 11-4

A detailed analysis of the project's consistency with General Plan policies 4-P-14 and 4-P-15 is provided on pages 4.0-6 to 4.0-7 of the Draft EIR. See Response 10-10 in this Final EIR for a discussion of the project's consistency with General Plan goals 9-G-1 and 9-G-2, and Response 9-14 in this Final EIR for a discussion of the project's consistency with General Plan policy 9-P-15.

As discussed on page 62 and 63 of the Initial Study (see **Appendix 1.0** of the Draft EIR), Impact LUP-1 identifies the need to establish a permanent conservation mechanism on the greenwall area. Related Mitigation Measure LUP-1 requires that the southern portion of the project site to be permanently preserved, either 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). As a result, future development and/or the extension of urban utilities/services on or through this portion of the site would be permanently prevented as required by the General Plan.

Response 11-5

A detailed analysis of the project's consistency with the City of Pittsburg General Plan policies is provided on pages 4.0-1 to 4.0-8 of the Draft EIR. As explained in the Draft EIR, the Recirculated Draft EIR, and Responses 10-6 to 10-13 in this Final EIR, the proposed project does not conflict with General Plan policies for this area. Concerning consistency with PMC subdivision regulations in Chapter 17.20, the proposed project would not conflict with General Plan policies for the site or this area; the required consistency findings are supported by the record. In addition, as demonstrated in Figure 3.0-6 of the Draft EIR, this site is suitable for the proposed density of development in that the development area is clustered in the Y-shaped valley between two ridgelines, and avoids any General Plan designated open space or major or minor ridgeline. **Section 5.3, Biological Resources**, of the Recirculated Draft EIR, provides extensive descriptions of the biological setting for the site and area, including vegetation and habitat, wetlands, special-status plants, special-status wildlife, among others. The Recirculated Draft EIR then evaluates the project according to each of the thresholds of significance. For each of the potentially significant impacts to special-status plants, special-status wildlife, and wetlands, mitigation measures are provided that would reduce all significant impacts to sensitive biological resources that could occur on the project site to a less than significant level. The record clearly supports the findings referenced in the comment and the proposed project would not violate the California Planning and Zoning Law, the Subdivision Map Act, or local development policies and regulations.

Response 11-6

The Recirculated Draft EIR provides detailed discussions of the existing biological conditions of the project site (pages 5.3-2 to 5.3-42), project-level and cumulative impacts to biological resources from implementation of the project (pages 5.3-49 to 5.3-73), and required mitigation measures (pages 5.3-50 to 5.3-73). The Recirculated Draft EIR quantifies the loss of upland habitat (page 5.3-50) and the loss of wetland habitat (pages 5.3-65 to 5.3-66) and describes potential impacts to special-status plant and wildlife species. As discussed in the Recirculated Draft EIR (pages 5.3-49 to 5.3-50), impacts to special-status plant species include the potential loss of suitable habitat for big tarplant, round-leaved filaree, and adobe navarretia. As also discussed (pages 5.3-53 to 5.3-63), the following special-status wildlife species could be impacted by the project: California red-legged frog (CRF), California tiger salamander (CTS), Swainson's hawk, San Joaquin kit fox, vernal pool fairy shrimp, midvalley fairy shrimp, longhorn fairy shrimp, tadpole shrimp, golden eagle, burrowing owl, 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 Recirculated Draft EIR also provides a project-level analysis of impacts to jurisdictional wetland resources (pages 5.3-65 to 5.3-66), wildlife movement corridors (page 5.3-66 to 5.3-67), compliance with adopted Habitat Conservation Plans (pages 5.3-67), compliance with local policies and ordinances (pages 5.3-67 to 5.3-68), and indirect impacts to nearby sensitive biological resources (pages 5.3-68 to 5.3-72). In addition, the alternatives analysis (pages 6.0-3 to 6.0-29) describes ways in which potential project impacts may be avoided or minimized. Mitigation measures are provided to address all potentially significant impacts; many of these measures are incorporated from the adopted East Contra Costa County HCP/NCCP and thus have been vetted by natural resource regulatory agencies (e.g., United States Fish and Wildlife Service [USFWS], CDFW, USACE). In addition, the HCP/NCCP was subject to environmental review through an EIS/EIR. Therefore, the biological resources section of the Recirculated Draft EIR meets the requirements of CEQA and fully and accurately informs decision-makers and the public of the environmental consequences of the proposed project.

Response 11-7

Please see Response 11-6 above, which summarizes the project-level and detailed information provided in the Recirculated Draft EIR. The comment does not offer specific examples of information being withheld, and therefore, it is not possible to further respond to the comment. The Draft EIR and Recirculated Draft EIR include mitigation measures that the applicants would be required to implement and the implementation would be monitored pursuant to a MMRP which is included in the Final EIR.

Response 11-8

Please see Response 11-6 above, which summarizes the project-level and detailed information provided in the Recirculated Draft EIR. All of the impact and mitigation conclusions are based on facts and evidence presented in the environmental and regulatory setting, as well as the impact and mitigation discussions themselves.

Response 11-9

Please see Response 11-6 above, which summarizes the project-level and detailed information provided in the Recirculated Draft EIR. The comment addresses the adequacy of the identified impacts and related mitigation measures. Contrary to the commenters' assertion, the impact discussions detail the effects of the project on the resources. For example, Impact BIO-1 refers to direct, adverse effects (i.e., loss of plants) and to habitat modification from the proposed project. The first two paragraphs under Impact BIO-2 disclose that the project would remove CRF and CTS habitat, and that construction activities could harm individual frogs or salamanders. The third paragraph discloses that project tree removal and construction activities could result in loss or disturbance of active Swainson's hawk nests. The fourth paragraph

discloses the potential for kit fox habitat loss and the loss of individuals if present during construction. In short, the impact statements build on the information in the environmental setting and specifically describe how the project could affect the resource. Regarding the adequacy of the proposed mitigation measures, the Recirculated Draft EIR includes specific and feasible mitigation measures to address all identified significant impacts to biological resources. Where appropriate, the Recirculated Draft EIR incorporates mitigation measures from the East Contra Costa County HCP/NCCP. The HCP/NCCP conservation strategy was designed with the goal of mitigating the impacts on covered species and contributing to the recovery of these species in the inventory area. The mitigation measures contained in the HCP/NCCP have been designed with input from the natural resources regulatory agencies (USFWS, CDFW, USACE) and to meet the permitting requirements of these agencies. The Recirculated Draft EIR also addresses special-status wildlife species potentially occurring on the project but that are not covered by the HCP/NCCP (i.e., 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); specific and feasible mitigation measures were developed and identified to mitigate significant impacts to these species. These mitigation measures include standard procedures acceptable to the regulatory agencies to ensure that nesting birds, roosting bats, and American badger are not harmed by construction activities. The comment does not offer specific examples of the inadequacies of the proposed mitigation measures, and therefore, it is not possible to further respond to the comment.

The comment suggests that evidentiary support must be provided that the mitigation measures would be effective. As discussed above, where appropriate, the Recirculated Draft EIR incorporates mitigation measures from the East Contra Costa County HCP/NCCP. The mitigation measures contained in the HCP/NCCP have been designed with input from the natural resources regulatory agencies (USFWS, CDFW, USACE) and to meet the permitting requirements of these agencies. These measures have also been designed to contribute to achieving the HCP/NCCP's regional conservation goals. For these reasons, these measures are considered to be effective. The other mitigation measures include standard procedures acceptable to the regulatory agencies to ensure that nesting birds, roosting bats, and American badger are not harmed by construction activities. These standard measures are straight forward to implement and there is no reason to believe that they would not be effective. The Recirculated Draft EIR also includes measures to address potential indirect impacts to sensitive biological resources. Mitigation Measure BIO-7a addresses street and entrance lighting, and therefore, the measure can be implemented by incorporating the requirement into the lighting plan. Mitigation Measures BIO-7b through BIO-7d address a future condition when the project is constructed and occupied. Therefore, the most logical way to implement the measures is to require that they be part of the CC&Rs and/or deed disclosures. It is not possible to ensure 100 percent compliance of these measures by future residents of

the development. However, the measures are feasible and are not burdensome, and therefore, it is reasonable to anticipate that they can be implemented with a high degree of success.

Response 11-10

The surveys and analysis conducted in support of the biological resources section are described in the Recirculated Draft EIR (pages 5.3-1 to 5.3-2). These surveys were adequate to describe the biological conditions of the project site. The comment states "the Recirculated Draft EIR describes surveys that involved visiting "representative habitat locations" and "generally" mapping plant communities, suggesting that the City failed to perform thorough surveys for special status species." The survey methods referenced in the comment were used to map the onsite plant communities (Figure 5.3-2) and to describe the onsite vegetation communities (pages 5.3-7 to 5.3-10). The figure and associated vegetation descriptions are accurate and detailed, and therefore, the associated methodology utilized was effective.

The comment does not identify the specific surveys for special-status species that the City failed to perform. Therefore, it is only possible to provide a general response to that portion of the comment. Special-status plant surveys were conducted by Moore Biological Consultants on June 28, July 19, and September 29, 2010; November 1, 2011; June 5, 2012; and March 18, 2013. A jurisdictional wetlands delineation was also conducted according to the accepted protocol; the delineation was verified by the USACE on July 5, 2012 (SPN File Number 1999-243075).

Protocol surveys for CTS and CRF were not conducted because the survey protocols for these species are focused on surveying suitable aquatic habitat for these species, which habitat is not present on the project site. Although aquatic habitats that may provide potential breeding habitat for these species is present near the project site, these offsite aquatic features are not on the project applicants' property. Appropriately therefore, the analysis for the Recirculated Draft EIR focused on the suitability of onsite habitats for use by these species, and the EIR concluded that both species could use the upland habitat present on the project site (Recirculated Draft EIR pages 5.3-35 to 5.3-36).

As described in the Recirculated Draft EIR (page 5.3-39), protocol surveys for vernal pool branchiopods were not conducted given the marginal and limited habitat present. As stated in Recirculated Draft EIR (page 5.3-39) one feature on the project site provides potential habitat for vernal pool branchiopods (i.e., SW-1, 0.016 acre), and the Recirculated Draft EIR (page 5.3-58) identifies the loss of vernal pool branchiopods and associated habitats as a significant impact. The mitigation measure for this impact (Mitigation Measure BIO-2c) requires that surveys be conducted to determine presence/absence, or that presence be assumed and that the impact be mitigated as described in the measure. This mitigation measure is consistent with the requirements of the East Contra Costa County HCP/NCCP.

The comment references "incorrect assumptions about the project setting," but does not identify those incorrect assumptions. Therefore, it is not possible to respond to that portion of the comment.

Response 11-11

The Recirculated Draft EIR provides a detailed analysis of the potential occurrence of special-status plant species on the project site (pages 5.3-14 to 5.3-24). The provided analysis does not solely rely on the results of special-status plant surveys conducted by Moore Biological Consultant on June 28, July 19, and September 29, 2010; November 1, 2011; June 5, 2012; and March 18, 2013. In addition to the survey results, conclusions regarding the potential presence of special-status plant species on the project site take into consideration factors such as regional distribution and habitat quality (page 5.3-15). Taking all factors into consideration (i.e., survey results, survey timing, habitat quality, regional distribution), the Recirculated Draft EIR concludes that big tarplant, round-leaved filaree, and adobe navarretia could occur on the project site. The comment calls into question surveys conducted between October and January "during the driest winter on record" because conditions would exist that make it difficult to accurately identify plant species. The only survey conducted in October was a reconnaissance-level survey to record the dominant plant species, characterize the soils on the project site, and to generally map the on-site plant communities; the timing of this survey was appropriate to accomplish these tasks. The only other survey conducted during the period of October to January was a special-status plant survey conducted in November 2011; the conclusions reached in the Recirculated Draft EIR regarding the occurrence of special-status plant species is not dependent on that survey. The comment does not identify any disagreement with the findings of the Recirculated Draft EIR in regards to the presence of special-status plant species.

Response 11-12

The conclusion that the onsite seasonal wetlands do not pond for adequate duration or depth to support CTS is not solely based on observations of standing water by Moore Biological Consulting during the wet season. The conclusion also takes into consideration the size and depth of the features, as well as the vegetation (which is indicative of the ponding duration), and the breeding habitat requirements of CTS. As discussed in the East Contra Costa County HCP/NCCP (species accounts):

CTS is particularly sensitive to the duration of ponding in aquatic breeding sites. Because tiger salamanders have a long developmental period, the longest lasting seasonal ponds or vernal pools are the most suitable type of breeding habitat for this species; these pools are also typically the largest in size (Jennings and Hayes 1994). Because at least 10 weeks are required to complete metamorphosis (Feaver 1971), aquatic sites that are considered suitable for breeding should at least pond or retain water for a minimum of 10 weeks. Moreover, large vernal pool complexes, rather than isolated pools, probably offer the best quality habitat; these areas can support a mixture of core breeding sites and nearby refuge habitat (Shaffer et al. 1994, Jennings and Hayes 1994).

The seasonal wetland in the development area (SW-1) is small (0.016 acre), as is the seasonal seep (Seep-1, 0.061 acre). Cattails and other vegetation indicative of deep and prolonged ponding also do not occur in these wetlands. These factors indicate that the seasonal wetlands do not pond for adequate duration to provide CTS breeding habitat. Given the small size and depth of the pools, these unsuitable breeding conditions for CTS would also occur during a normal rainy season.

Response 11-13

See Response 11-6 and Responses 11-9 to 11-12 above, which describe the project-level and detailed information provided in the Recirculated Draft EIR and the adequacy of the surveys conducted.

Response 11-14

The Recirculated Draft EIR provides a discussion of the environment in the vicinity of the project (page 5.3-2 and 5.3-3). 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 occurrences of special-status species in the vicinity of the project are addressed in Tables 5.3-2 and 5.3-3. The location of the project relative to nearby undeveloped lands is shown in Figure 5.3-1 and the location of the project site relative to documented occurrences of special-status species within approximately 3 miles of the project site is shown in Figure 5.3-5. The comment states that the document "presents an inaccurate description of the environmental resources in the project area," but does not identify the alleged inaccuracies. Therefore, it is not possible to further respond to the comment.

Response 11-15

The discussion of the wildlife species referenced in the comment is the Common Wildlife section (pages 5.3-11 to 5.3-12). That discussion addresses only the occurrence of common wildlife species. As stated in the Recirculated Draft EIR (page 5.3-11), the 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. The occurrence of special-status wildlife species is presented in a separate section (Special-Status Wildlife Species, pages 5.3-24 to 5.3-42). Therefore, the statement referenced by the comment from the Common Wildlife section that "a limited variety of wildlife species were observed on the project site" does not conflict with the conclusions of the Special-Status Wildlife section. Please see Response 11-6 and Responses 11-9 to 11-12 above, which address the adequacy of the methodology and the accuracy of the description of existing biological conditions on and in the vicinity of the project site.

The City also notes that the property is adjacent to but not surrounded by open space areas. It is just south of the city limits and there are existing residential subdivisions to the north and northeast.

Response 11-16

The Recirculated Draft EIR (page 5.3-34) references the finding of a study by Zeiner et al. that on rainy nights CRF may leave the ponds and move up to 300 feet away. This description is included as support for a preceding statement in the same discussion that from late November to late April, adult CRF are typically found in or near the breeding ponds (Hayes and Jennings 1989, 1994; Jennings 1988). Contrary to the assertion by the commenter, the Zeiner study was not referenced in regards to CRF dispersal patterns and the Recirculated Draft EIR does not imply that CRF do not disperse greater than 300 feet. As discussed in the Recirculated Draft EIR (page 5.3-34), dispersal patterns are dependent on habitat availability and environmental conditions (Scott and Rathbun 1998). Further, the discussion notes that CRF “may also move significant distances if this habitat is not available or if they are dispersing to other ponds” and may move back to breeding ponds in late fall. The CRF discussion provides an accurate account of CRF dispersal distances nearer and further from breeding ponds depending on the time of year, weather and other conditions. No single selectively quoted sentence accurately describes the dispersal patterns; instead, the entire discussion must be considered. In fact, the CRF impact assumes that the entire disturbance area is potential dispersal and aestivation habitat and the Mitigation Measure BIO-1a requires mitigation fees based on the 123 acres of upland habitat that would be disturbed for the project (see Figure 5.3-3, Soils for the extent of the disturbance area). The Recirculated Draft EIR adequately and accurately describes CRF dispersal patterns and therefore, no revisions are required.

Response 11-17

The Recirculated Draft EIR states that there is aestivation habitat for CRF on the project site. As discussed in the Recirculated Draft EIR (page 5.3-35), the project site is located between documented occurrences of CRFs. Therefore, it is possible that individual frogs could disperse onto 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 aestivate within soil cracks, small mammal burrows, seeps, or other features during periods when the pond is dry. This use of upland habitat is correctly characterized as “temporary” because CRF would not occupy the habitat year-round. Given the above, the Recirculated Draft EIR (page 5.3-54) requires mitigation for the loss of potential CRF dispersal and aestivation habitat (i.e., the entire disturbance area). The use of the project site by CRF was evaluated by qualified biologists with experience with the species, and who have been approved by the USFWS to conduct protocol surveys for the species on numerous occasions. The analysis adequately describes CRF dispersal and aestivation habitat and mitigates for its potential loss accordingly.

Response 11-18

The findings of the study referenced by the commenter have been incorporated into the Final EIR (see **Chapter 2.0, Revisions of the 2013 Draft EIR and 2014 Recirculated Draft EIR**, of this Final EIR). However, the findings of the study do not change the validity of the Recirculated Draft EIR's impact conclusions regarding the potential use of the project site by CTS since the impact and mitigation assume all of the 123-acre development area is dispersal and aestivation habitat. As discussed in the Recirculated Draft EIR (page 5.3-36), 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 aestivation habitat occurs in proximity to a breeding pond. The Orloff study referenced by the commenter found that the majority of salamanders were captured at least 800 meters (approximately 0.5 mile) from the nearest breeding pond while a smaller number of salamanders were captured as far as 2.2 km (1.37 miles) from the nearest breeding pond. This finding does not conflict with the Recirculated Draft EIR's description that the dispersal distance is generally less than 1.24 miles. Additionally, the Recirculated Draft EIR (page 5.3-36) concludes that CTS could disperse onto and aestivate on the project site from the ponds located 0.5 mile and 1 mile to the east, and that if the off-site pond (approximately 100 feet from the project site) supports breeding CTS, then salamanders using that pond could aestivate on portions of the project site. Therefore, the Recirculated Draft EIR correctly concludes that the proposed project would remove habitat that could be used by dispersing and aestivating CTS, and that the loss of this habitat and potential harm to individual CTS is a significant impact. The Recirculated Draft EIR (page 5.3-55) requires mitigation for the loss of potential CTS dispersal and aestivation habitat.

Response 11-19

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. These surveys were sufficient to establish the absence of most special-status plant species from the project site. As discussed in the Recirculated Draft EIR (pages 5.3-21 and 5.3-24), despite conducting rare plant surveys, it was conservatively concluded that the potential for big tarplant, round-leaved filaree, and adobe navarretia to occur on the project site had not been completely ruled out. However, 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. To address the low potential that these species are present within the area to be disturbed by project construction, the Recirculated Draft EIR (pages 5.3-50 to 5.3-53) requires several mitigation measures, which are discussed below.

- Mitigation Measure BIO-1a requires compliance with the East Contra Costa County HCP/NCCP through the payment of fees, or dedication of land through an in-lieu of fee agreement. In the unlikely event that any of these species occur on the project site, compliance with the HCP/NCCP

would address the loss of big tarplant, round-leaved filaree, and/or adobe navarretia. At the time of writing this EIR, the HCP/NCCP take limits for big tarplant, round-leaved filaree, and adobe navarretia have not been breached.

- While Mitigation Measure BIO-1a would reduce potential impacts to big tarplant, round-leaved filaree, and adobe navarretia to a less than significant level, the Recirculated Draft EIR very conservatively also requires Mitigation Measure BIO-1b and Mitigation Measure BIO-1c. Mitigation Measure BIO-1b requires that additional rare plant surveys be conducted for big tarplant, round-leaved filaree, and adobe navarretia. While occurrence of these species onsite is unlikely, the intent of this measure (as described in Mitigation Measure BIO-1c) is to provide the East Contra Costa County HCP/NCCP Implementing Entity the option to salvage any population(s) present in accordance with HCP/NCCP Conservation Measure 3.10 (Plant Salvage when Impacts are Unavoidable).

The Recirculated Draft EIR (pages 5.3-14 to 5.3-24) contains a detailed discussion of the potential occurrence of special-status plants on the project site and rare plant surveys have already been conducted and potential impacts identified as appropriate. The additional rare plant survey would be required in addition to complying with applicable provisions of the East Contra Costa County HCP/NCCP to mitigate the loss of covered special-status plant species and the additional requirement affords the HCP/NCCP Implementing Entity the option to salvage any population(s) present.

Response 11-20

The biological resources section of the Recirculated Draft EIR provides a project-level, detailed analysis of the nature and magnitude of impacts to biological resources from implementation of the proposed project (pages 5.3-49 to 5.3-73). Through the background information, known occurrences in project vicinity, occurrences on project site, and actual impact discussions, the Recirculated Draft EIR adequately details the extent of potential impacts, which range from loss of habitat across the entire development area for specified species, to effects from removal of trees and potential disturbance to nesting birds.

Response 11-21

The City of Pittsburg (and the project site) is located within the area covered by the East Contra Costa County HCP/NCCP. Therefore, the project has the option to seek coverage under the HCP/NCCP for covered species. The HCP/NCCP is a comprehensive, multi-jurisdictional plan that provides for regional species conservation and habitat planning while allowing the local land use agency to better manage anticipated growth and development. The HCP/NCCP provides a coordinated process for permitting and mitigating the take of covered species as an alternative to the project-by-project approach. As noted on page 5.3-48 of the Recirculated Draft EIR, the HCP/NCCP provides a mechanism to identify affected species and habitats covered by the Plan and adequately mitigate potential impacts to these resources. Collecting mitigation fees provides funds to establish new preserves suitable for protection of the affected

resources. Therefore, payment of mitigation fees under the HCP/NCCP is adequate to mitigate impacts on covered species.

The Recirculated Draft EIR provides a project-level, detailed analysis of impacts to biological resources from implementation of the project (pages 5.3-49 to 5.3-73). The Recirculated Draft EIR then incorporates mitigation measures from the East Contra Costa County HCP/NCCP, which is consistent with the HCP/NCCP's intent of providing a coordinated approach for mitigating impacts on covered species and habitat that facilitates regional species and habitat preservation. Impacts to biological resources from implementation of the HCP/NCCP were evaluated in the East Contra Costa County HCP/NCCP EIS/EIR; the document concludes that the mitigation measures contained in the HCP/NCCP adequately address impacts to covered species at the regional level. The Recirculated Draft EIR mitigation measures that are incorporated from the HCP/NCCP contribute to the regional preservation of covered species, and as envisioned by the HCP/NCCP, provide a coordinated process for permitting and mitigating the take of covered species as an alternative to the project-by-project approach. For species that are not covered by the HCP/NCCP and/or are species for which the HCP/NCCP requires avoidance and minimization, the Recirculated Draft EIR sets forth species specific avoidance and other mitigation measures. These mitigation measures include standard procedures acceptable to the regulatory agencies to ensure that nesting birds (including burrowing owl), San Joaquin kit fox, vernal pool invertebrates, roosting bats, and American badger are not harmed by construction activities, and are adequate to reduce related impacts to a less than significant level. Therefore the Recirculated Draft EIR relies on fees where appropriate under the HCP/NCCP, but does not rely on payment of fees alone as mitigation for impacts to biological resources.

Response 11-22

The biological resources section of the Recirculated Draft EIR relies in part on the analysis in the East Contra Costa County HCP/NCCP, to describe the conservation measures that the proposed project would implement for covered species. It also provides project-level, detailed discussions of the existing biological conditions of the project site (pages 5.3-2 to 5.3-42), anticipated impacts to biological resources from implementation of the project (pages 5.3-49 to 5.3-73), and the mitigation measures that would be implemented (pages 5.3-50 to 5.3-73). The biological resources section of the Recirculated Draft EIR meets the requirements of CEQA and fully and accurately informs decision-makers, and the public, of the environmental consequences of the proposed project.

As discussed in the environmental setting of **Section 5.3, Biological Resources**, of the Recirculated Draft EIR (pages 5.3-7, 5.3-14 to 5.3-24), many special-status plant species known from the project region are associated with clay soils. The locations of the different soil types on the project site, including areas of

clay soil, are shown in Figure 5.3-3 of the Recirculated Draft EIR. The figure clearly shows the relationship of the clay soils to the development area, referred to as the Disturbance Footprint boundary. As shown, a majority of the project site, including clay and other soils, would be disturbed. The clay soils occur most frequently in the approximate center third of the site, which is also where most of the residential development is clustered, as shown in Figure 3.0-6 of the Draft EIR. This configuration, in turn, is proposed to avoid the designated open space areas on the north and south portions of the site (see Figures 3.0-4 and 3.0-5). The Recirculated Draft EIR (pages 5.3-49 to 5.3-53) provides a detailed analysis of potential impacts to special-status plants, including those species associated with clay soils. Mitigation measures are set forth that would reduce impacts to special-status plant species to a less than significant level.

Response 11-23

The mitigation measures set forth in the Recirculated Draft EIR are adequate to reduce identified impacts to a less than significant level. The comment references Mitigation Measure BIO-1a, which addresses impacts to wetlands. The comment states that the measure relies on East Contra Costa County HCP/NCCP fees alone and no evidence is presented that this type of mitigation would reduce impacts to a less than significant level. As discussed in the Recirculated Draft EIR (page 5.3-66), this fee shall be paid to mitigate for loss of 0.121 acre of wetland habitat, including waters of the U.S. and expected waters of the state. As discussed in the HCP/NCCP (6-33 to 6-34), "the intent of the Plan is to concentrate mitigation for filled aquatic features in areas away from urban development and within large preserves that are linked to existing protected areas. Larger preserves would be more effective for protecting, enhancing, and restoring wetlands. The analysis conducted in this Plan assumes that small, isolated wetlands would not be avoided on projects within the urban development area." The required wetland fees would contribute towards the Plan's goal of restoring 320 to 354 acres of aquatic habitat, as well as the acquisition of wetland habitats. Given the above, the required wetland mitigation fee would offset the project's impact to wetlands through the restoration, creation, and preservation of wetlands in the project region. This is consistent with the *State CEQA Guidelines* Section 15370 definition of "mitigation," which includes restoring the affected environment and compensating for the impact through replacement or substitute resources, among other things. Further, this approach is similar to the commonly accepted mitigation practice of purchasing wetland credits at a wetland mitigation bank. Therefore, the proposed wetland mitigation would reduce the project's impacts to wetlands to a less than significant level.

The comment also states that the Recirculated Draft EIR admits that with respect to certain protected species, the "HCP/NCCP does not include or recommend any avoidance or minimization measures" (page 5.3-54). This portion of the comment appears directed to the mitigation requirements for CRF and CTS. The Recirculated Draft EIR (pages 5.3-54 and 5.3-55) states that with respect to CRF and CTS, the

East Contra Costa County HCP/NCCP anticipates and compensates for the loss of some individuals of these species 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 these 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 fees, or dedication of land through an in-lieu of fee agreement, 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. The potential use of the project site by CTS and CRF is analyzed in the Recirculated Draft EIR (pages 5.3-26, 5.3-34 to 5.3-36) and a site-specific impact analysis is provided (pages 5.3-54 and 5.3-55). The proposed mitigation measures for these two species are consistent with the HCP/NCCP requirements, the *State CEQA Guidelines* definition of mitigation, and would compensate for the project-related loss of potential habitat and contribute to the preservation of viable regional populations of these species in the project region. Therefore, the Recirculated Draft EIR appropriately concludes that with mitigation, impacts to these species would be less than significant.

Response 11-24

The comment references page 6-6 of the East Contra Costa County HCP/NCCP (Section 6.3 Surveys for Covered Activities). The statement quoted in the comment ("Some avoidance and minimization is still required at the project level...") is part of the following larger discussion:

Activities covered by an HCP must minimize and mitigate effects on covered species to the maximum extent practicable. To some degree, this requirement has been partially met already through careful design of the permit area and the Preserve System. Some avoidance and minimization is still required at the project level to fully meet this requirement; surveys are an important component.

The discussion goes on to explain that three types of surveys may be required by the East Contra Costa County HCP/NCCP prior to or during implementation of covered activities: planning surveys, preconstruction surveys, and construction monitoring. At a minimum, a planning survey is always required. The discussion then specifically identifies under what circumstances and for which HCP/NCCP covered species preconstruction surveys or construction monitoring is required. Therefore, the sentence referenced in the comment addresses the HCP/NCCP's requirement that preconstruction surveys and/or construction monitoring may also be required, and does not imply that the HCP/NCCP requires project applicants to supplement the requirements of the HCP/NCCP with additional avoidance and minimization measures. For covered species and habitats, the mitigation measures in the Recirculated Draft EIR comply with the requirements of the HCP/NCCP, including any preconstruction surveys and/or construction monitoring requirements. The City also notes the commenter's opinion that

avoidance and minimization are “understood” as best practice; the CEQA definition of mitigation includes avoidance and minimization, but also includes compensation, offsets, and other activities as well (see *State CEQA Guidelines* Section 15370).

Response 11-25

The nature of impacts and mitigations can vary according to the species. For covered species and habitats, the mitigation measures in the Recirculated Draft EIR comply with the requirements of the East Contra Costa County HCP/NCCP, including any preconstruction surveys and/or construction monitoring requirements. As discussed in Chapter 6 of the HCP/NCCP, the survey requirements differ for each covered species. For example, the HCP/NCCP (and consequently the Recirculated Draft EIR) requires a preconstruction survey for San Joaquin kit fox, while the HCP/NCCP (and the Recirculated Draft EIR) does not require preconstruction surveys for CRF or CTS. Therefore, the approach to mitigation is consistent with the requirements of the HCP/NCCP. The inconsistency mentioned by the commenter is no more than the different requirements for different species. The Recirculated Draft EIR also addresses special-status wildlife species potentially occurring on the project but that are not covered by the HCP/NCCP (i.e., 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); specific and feasible mitigation measures were developed and identified to mitigate significant impacts to these species. These mitigation measures include standard procedures acceptable to the regulatory agencies to ensure that nesting birds, roosting bats, and American badger are not harmed by construction activities.

Response 11-26

The assumption of 4 units per acre referenced by the commenter in Exhibit B of the East Contra Costa County HCP/NCCP Signed Implementing Agreement was used by the East Contra Costa County Habitat Conservancy to provide an estimated cost per housing unit for each of the HCP/NCCP fee zones and was not intended to set a limit on the number of dwelling units allowed per acre within the HCP/NCCP area (Kopchik 2015). As stated in Exhibit B – Note 3 of the agreement, development fees would be charged on a per acre basis and not on a per unit basis. As stated in Mitigation Measure BIO-1a, the proposed project would pay fees that would cover the development of 123 acres of upland habitat and 0.003 acres of Waters of the US which is the amount of land that the proposed project would disturb. These fees are adequate mitigation to cover project specific impacts.

Response 11-27

See Response 10-17 in this Final EIR for information regarding the project’s engineered stormwater system and how it has been designed to comply with Provision C.3 of the San Francisco Bay MRP and to

avoid downstream hydromodification (see also Responses 10-25 to 10-27 regarding hydrology). As discussed on pages 5.3-65 to 5.3-66 of the Recirculated Draft EIR, only 0.121 acres of wetlands on the project site would be filled by the proposed project, which includes EC-1 (0.003 acre), SW-1 (0.016 acre), Seep-1 (0.061 acre), and IOW-1, 2 and 3 (totaling 0.042 acre). A majority of these waters are located in isolated basins. Only a 0.003-acre ephemeral creek (EC-1) located at the easternmost edge of the main project site that would be filled by the proposed project has a hydrological connection to Kirker Creek to the east. This small segment contains water on a limited basis and is accounted for in the design of the project's engineered stormwater system which is designed to avoid hydromodification downstream along Kirker Creek. Payment of wetlands fees under the East Contra Costa County HCP/NCCP program pursuant to Mitigation Measure BIO-1a provides funds for wetlands restoration, creation and management, and is adequate and appropriate mitigation where wetlands would be filled as a project is implemented.

Response 11-28

As discussed in the Recirculated Draft EIR, the majority of the project boundary is not close to any areas that contain sensitive biological habitat that could be indirectly affected. The potential for indirect impacts is limited to a small area to the northwest of the project site where a few residential lots would be close to an off-site stock pond that might be a breeding site for CTS or CRF. The related discussion reviews three categories of potential indirect impacts along the project/wildland interface. The mitigation measures referenced in the comment address indirect impacts on biological resources that could occur once the project is built and occupied. Uncontrolled nighttime lighting near wildlife routes and the offsite breeding pond could affect wildlife species. Therefore Mitigation Measure BIO-7a limits street and entrance lighting near the project edge and would be enforced through building and site plan review to make sure the controls are incorporated into the project lighting plan. Mitigation Measure BIO-7b requires residential lighting controls through binding CC&Rs, which is the usual way to control activities of subdivision residents. Similarly, binding CC&Rs would limit resident planting of invasive species through Mitigation Measure BIO-7c. Mitigation Measure BIO-7d reflects the impact discussion that wildland predators are likely to control the population of domestic animals that stray beyond the development and directly advises future residents. The required deed restrictions would be made available to all property owners, providing them the opportunity to keep their pets controlled. Once the project is constructed and occupied, the most logical way to implement the measures to control resident activity is to require that they be part of the CC&R and/or deed disclosures. The measures are targeted to the particular impact, and are feasible and not burdensome, and therefore, it is reasonable to anticipate that they can be implemented with a high degree of success.

Response 11-29

As discussed in Recirculated Draft EIR (page 5.3-66), 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. The Recirculated Draft EIR (page 5.3-72) also states that 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 BIO-1a. These two statements do not conflict with each other, as the first statement refers to the development of the project site, while the second statement refers to the project's mitigation through contribution to the preservation of offsite habitat within the HCP/NCCP preserve system through the payment of HCP/NCCP Development and Wetland Mitigation fees. The compensatory preservation of offsite habitat is a common and well-accepted form of CEQA mitigation, and is well within the CEQA definition of "mitigation" (see *State CEQA Guidelines* Section 15370).

Response 11-30

The Recirculated Draft EIR provides an analysis of the potential cumulative impacts of the proposed project along with other past, present and reasonably foreseeable future development based on the analysis in the General Plan EIR and the East Contra Costa County HCP/NCCP EIS/EIR. See Response 10-51 in this Final EIR for a discussion of cumulative impacts to biological resources.

Kristin Pollot

From: Joanne Fanucchi [jfanucchi9@gmail.com]
Sent: Thursday, December 19, 2013 6:53 PM
To: Kristin Pollot
Subject: seeno development on kirker pass

if this project is allowed to go through, you will be complicit in turning middle Pittsburg into a urban, inner city.

Money has been poured into downtown for years to get it up and going. Now, instead of planning improvements to the rest of the existing city, you are expanding it and catering to a fictitious "high-end" population that you think exists.

What about improving the neighborhoods that need sidewalks without huge cracks so our children can ride their trykes safely? What about street lights? What about doing something productive with the abandoned buildings? Like providing the homeless with shelter?

Yes, this high end thinking is largely what got us into this economic disaster, known as the great recession.

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Joanne Fanucchi, MS.TCM, L.Ac.
1222 Contra Costa Blvd
Concord, Ca. 94523
925-497-4759
www.AcupunctureAndHerbsForYou.net

Letter No 12: Fanucchi, Joanne

Response 12-1

This comment concerns the merits of the proposed project and does not raise any specific issues about the adequacy or accuracy of the Draft EIR's analysis of environmental impacts.

Kristin Pollot

From: Joanne Fanucchi [jfanucchi9@gmail.com]
Sent: Thursday, January 22, 2015 8:02 AM
To: Kristin Pollot
Subject: montreux

i was sent a package with the updated information on this project and asked to comment on the updated info only. problem is, i never received the original info.

anyway, i am opposed to the whole thing. if anyone thinks i have the time to sit down, translate and read this nonsense they are wrong and nuts.

My comments will turn no tide, will make no blind man see. but for the record, it is an unwise move on the part of the city. why attract "high end" (an outdated term if there ever was one) people, when they're going to go down the hill into clayton or walnut creek to spend their money but will drain pittsburg resources. it's a shameful, behind the times idea based on some fantasy that you can turn pittsburg into anything but what it is, which is certainly not "upscale".

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Letter No 13: Fanucchi, Joanne

Response 13-1

This comment concerns the merits of the proposed project and does not raise any specific issues about the adequacy or accuracy of the Recirculated Draft EIR's analysis of environmental impacts.

Kristin Pollot

From: Nishimura Yasushi [walkonwildside@hotmail.com]
Sent: Wednesday, January 08, 2014 2:32 AM
To: Kristin Pollot
Subject: Objection regarding Montreux Residential Subdivision

Dear, Ms. Kristin Pollot at City of Pittsburg

I am writing to object the the proposed Montreux Residential Subdivision project.

We already have heavy traffic volume on Railroad Ave and Buchanan Rd especialy in rush hours.
I do not know city take control of recent traffic volume information although, we ca see some files in late 90's
to begining 2006.

Since we are going to have new Bart station on Railroad Ave in Pittsburg and Hillcrest in Antioch, we can guess much heavier traffic on Railroad Ave, Buchanan Rd and E Leland Ave area easily.

So, those reasons I strongly oppose the project unless city provide reasonable traffic managemet plan.

Sincerely,

Yasushi Nishimura
171 Encinal Place
Pittsburg, CA 94565

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Letter No 14: Nishimura, Yasushi

Response 14-1

The impacts of the traffic generated by the proposed project on local roadways are addressed in **Section 5.7, Transportation/Circulation**, of the Draft EIR. As discussed on pages 5.7-20 to 5.7-33 in this section, all study intersections, which include intersections on Railroad Avenue and Buchanan Road, would operate in accordance with level of service standards contained in the City of Pittsburg General Plan with implementation of the project under baseline or near-term and cumulative conditions.

As discussed on page 5.7-7 in **Section 5.7, Transportation/Circulation**, of the Draft EIR, existing traffic volumes for intersections 8, 9, and 10, which are located in the City of Concord, were taken from the *Concord Community Reuse Plan Final EIR*, which was certified in January 2010. The traffic counts for these intersections are included as an appendix to the traffic study prepared for the Reuse Plan, which is included as an appendix to the EIR. The EIR is available for review at the City of Concord Community and Economic Development Department. Traffic volumes at the remaining intersections, which are all located in the City of Pittsburg, were established by conducting traffic counts at these intersections between November 2012 and March 2013. These counts are available for review at the City of Pittsburg Planning Department.

Traffic generated by the future new BART station on Railroad Avenue was taken into consideration under the cumulative scenario presented in **Section 5.7, Transportation/Circulation**, of the Draft EIR, of the Draft EIR and includes an analysis of impacts to intersections on Railroad Avenue, Buchanan Road, and Leland Avenue. The new BART station was not taken into consideration under the baseline or near-term scenario because the station is not included in the first phase of the 10-mile-long eBART extension from the Pittsburg-Bay Point station to Hillcrest Avenue in Antioch.

Kristin Pollot

From: fumie matsuoka [fumie381@gmail.com]
Sent: Wednesday, January 08, 2014 2:57 AM
To: Kristin Pollot
Subject: Opposition to Montreux Residential Subdivision Project

Hello, Ms Kristin Pollot

I had a letter regarding project plan for 356 residential home on the west side of Kirker Pass Road.

However, I strongly object to the proposed Montreux Residential Subdivision Project for following reasons.

1. In crease more traffic on Major streets and HWY 4.
 Railroad Avenue: It's already congested and takes 12 to 15 minutes to drive 3miles toward to Hwy.
 Buchanan Road: it has only 2 lanes (one for in each direction) and traffic is already very heavy.
2. Air Quality concern
 Air quality be concerned not during long construction period, also more traffic-related air pollution will be expected due to increasing population.
3. Geological safety concern
 Land subsidence and landslide may occur in surround existing residential area due to grading / cut of hillslopes and fills. I fear structural and flooding damage to nearby homes.
4. Destroy a beautiful Hill area.
5. Overlooked windows and loss of privacy.

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Again, I strongly object the proposed plan for those reasons.

Sincerely yours,

Fumie Matsuoka
 171 Encinal Place
 Pittsburg, CA 94565

Letter No 15:

Matsuoka, Fumie

Response 15-1

The impact of the traffic generated by the proposed project on local roadways is addressed in **Section 5.7, Transportation/Circulation**, of the Draft EIR. As discussed on pages 5.7-20 to 5.7-33 in that section, all study intersections, which include intersections on Railroad Avenue and Buchanan Road, would operate in accordance with level of service standards contained in the City of Pittsburg General Plan with implementation of the project under baseline or near-term and cumulative conditions.

Response 15-2

An analysis of traffic-related air pollutant emissions is provided in **Section 5.2, Air Quality**, of the Draft EIR. As discussed on pages 5.2-21 to 5.2-22 in that section, the total operational emissions, which include the automobile emissions due to the increased population associated with the proposed project, would not exceed the significance thresholds established by the Bay Area Air Quality Management District for any of the air pollutants that are of concern.

Response 15-3

As shown on Figure 3.0-6 of the Draft EIR, no grading of the northern slopes of the northern ridgeline are proposed as part of the project. As those slopes would not be altered, existing residences to the north of the project site would not be subjected to an increase in geological risks such as land subsidence and landslides. In addition, existing residences would not be subjected to an increased risk of flooding as the hydrology of the hillside adjacent to the existing neighborhood to the north would not be altered. Furthermore, as shown in Figures 3.0-6 and 3.0-7 in the Draft EIR, a majority of the developed site would drain to two stormwater detention basins on the eastern edge of the project site while a small portion of the developed site on the northwest edge of the project site would drain to the offsite stormwater detention basin to the northwest. According to the Stormwater Control Plans prepared for the project site (see **Appendix 3.0** of the Final EIR), the selection, sizing, and preliminary design of the project's detention basins meet the requirements of provision C.3 of the San Francisco Bay MRP. As a result, stormwater runoff discharged from the project site would not exceed pre-project rates and durations, and therefore no flooding would occur downstream of the project site (e.g., along Kirker Creek).

Response 15-4

The impacts of the proposed project on scenic vistas and the visual character of the area are addressed in **Section 5.1, Aesthetics**, of the Draft EIR. As discussed on pages 5.1-10 to 5.1-17 in that section, while the proposed project would not significantly affect scenic vistas, it would substantially alter the project site, thus substantially degrading the existing natural character of the site and surroundings. While mitigation is proposed to reduce the severity of this effect, the impact is considered significant and unavoidable.

Response 15-5

The loss of privacy is not an environmental concern. Nonetheless, as described on page 5.1-16 of the Draft EIR, the proposed residential uses would be located to the south of the northern ridgeline which separates the project site from the residential neighborhood to the north. As shown on Figure 3.0-6 in the Draft EIR, the ridge would continue to be higher than the new homes on the project site. With the exception of about 3 to 5 homes at the end of Dijon Court (in the northeastern portion of the project site), all other homes on the project site would not have a direct line of sight to existing residential uses to the north. The 3 to 5 homes at the end of Dijon Court would be at least 300 feet away from the existing nearby homes in Woodland Hills. Therefore a loss of privacy is not anticipated.

Kristin Pollot

From: fumie matsuoka [fumie381@gmail.com]
Sent: Friday, February 06, 2015 3:13 AM
To: Kristin Pollot
Subject: Comment Regarding Montreux Residential Subdivision

Yasushi Nishimura
Fumie Matsuoka
171 Encinal Pl,
Pittsburg, CA 94565
(925)252-9241

Dear, Ms. Kristin Pollot at City of Pittsburg
Regarding; Montreux Residential Development.

I, Yasushi Nishimura and wife Fumie Matsuoka strongly oppose this Montreux Residential project/development on two reasons mainly.

At first, City of Pittsburg Total Suspended Particles (TSP) level is getting worse every year according to U.S. Environmental Protection Agency (EPA) data.
Then, this development must cause major pollution problem to broad area incrementally.

Especially, from spring to summer we have 30 miles per hour of high wind throughout all day everyday from top of hill where from this project area located.

Since I have severe asthma, anymore pollution would be life threatening matter for me, children and elder people.

Due to recent drought caused by global weather change, more frequent fire will be common surrounding area of this project site due to high wind factor too.

As fire mess up air quality dramatically, City of Pittsburg air quality would be major problem.
Also it is major problem that fire department is too far from project site.

Other reason for opposition is traffic matter.

We have very heavy traffic in Railroad Ave. and Buchanan Rd. already.
Even if alternative way such as new Buchanan Rd had made, problem will not be improved due to existing high volume traffic and population growth to the overcrowded area.

In addition, more traffic cause much more air pollution too.

In conclusion, Yasushi Nishimura and Fumie Matsuoka expect this Montreux Residential project /development will be cancelled due to having far-reaching ramification.

Sincerely yours,

Yasushi Nishimura & Fumie Matsuoka

Letter No 16:

Nishimura, Yasushi & Matsuoka, Fumie

Response 16-1

As discussed on pages 5.2-19 to 5.2-28 of the Draft EIR, regional emissions of respirable particulate matter less than 10 microns in diameter (PM10) and fine particulate matter less than 2.5 microns in diameter (PM2.5) from vehicles during construction and operation of the proposed project would not exceed the significance thresholds established by the Bay Area Air Quality Management District (BAAQMD). However, due to the scale of construction and earthmoving activities on the project site, the concentrations of PM2.5 at nearby residences during construction of the proposed project could exceed significance thresholds established by BAAQMD. Project construction activities would be required to implement BAAQMD measures to control for fugitive dust. The implementation of these control measures would greatly reduce fugitive dust emissions; however, these measures would not be enough to reduce the impact to a less than significant level.

Response 16-2

An analysis of the project's impacts on fire protection services is provided in **Section 5.6, Public Services**, of the Draft EIR. As discussed on pages 5.6-10 to 5.6-11 in this section, several mitigation measures are proposed that would reduce fire risk on the project site. For example, Mitigation Measure PS-1b requires the applicants to prepare and submit to the CCCFPD for approval a fire protection plan for the proposed project while Mitigation Measure PS-1e requires that the applicants provide a minimum fire flow on-site of 1,500 gallons per minute. With these measures in place, the risk of a fire on the project site moving offsite and starting a wildland fire that would contribute to poor air quality in the Pittsburg area is low.

Response 16-3

See Response 15-1 in this Final EIR for a discussion impacts to local roadways due to project traffic. The impact of the traffic generated by the proposed project on local roadways is addressed in **Section 5.7, Transportation/Circulation**, of the Draft EIR. As discussed on pages 5.7-20 to 5.7-33 in this section, all study intersections, which include intersections on Railroad Avenue and Buchanan Road, would operate in accordance with level of service standards contained in the City of Pittsburg General Plan with implementation of the project under baseline or near-term and cumulative¹ conditions.

Response 16-4

See Response 15-2 in this Final EIR for a discussion of impacts due of traffic-related air emissions. An analysis of traffic-related air pollutant emissions is provided in **Section 5.2, Air Quality**, of the Draft EIR. As discussed on pages 5.2-21 to 5.2-22 in that section, the total operational emissions, which include the

¹ Please note that the cumulative analysis included scenarios with and without the JDBE project.

automobile emissions due to the increased population associated with the proposed project, would not exceed the significance thresholds established by the BAAQMD for any of the air pollutants that are of concern.

Montreux EIR Public Comment Meeting January 7, 2014

Staff in Attendance: Kristin Pollot, Dana Hoggatt, Paul Stephenson (Impact Sciences)

Other Attendees: Nancy Parent (City Council), Bruce Ohlson (Planning Commission), Eve Mitchell,
Richard Muench (Reich Construction), Juan Pablo Galvan (Save Mt. Diablo)

Public Comments:

1. Juan Pablo Galvan:
 - a. Project seems to be inconsistent with General Plan policies generally relating to open space and hillside development.
 - b. Concerned about the availability for fire and police to adequately serve the site.
 - c. Concerned about the existing capacity at PUSD schools and whether or not they can accommodate the growth from the project.
 - d. Concerned about how mass grading will impact to viewsheds.
 - e. Grading of the easterly portion of the southern ridgeline seems specifically inconsistent with General Plan policies.
 - f. Cumulative impacts related to the bypass do not seem to have been fully analyzed.
2. Bruce Ohlson:
 - a. Would like to see bike lanes included in the design of Montreux Drive.
 - b. Wants to ensure that the development is connected to existing sidewalk system and includes bike lanes extended to the limit lines at each signaled intersection.
 - c. Wants to ensure bike lanes will be included along the project frontage and at both of the project entrances.

1

2

Letter No 17: Public Comment Meeting

Response 17-1

See **Chapter 4.0, Plans and Policies**, of the Draft EIR, and Responses 9-5 to 9-21 of this Final EIR for a discussion of the consistency of the proposed project with policies relating to open space and hillside development listed in the City of Pittsburg General Plan.

See **Chapter 5.6, Public Services**, of the Draft EIR, and Responses 9-33 and 9-34 of this Final EIR for a discussion of about the availability for fire and police to serve the project site and mitigation measures set forth in the Draft EIR to address the project's potentially significant impact related to fire service.

See **Chapter 5.6, Public Services**, of the Draft EIR, and Response 9-35 of this Final EIR for a discussion about the existing capacity of local schools and the project's impact on schools.

See **Chapter 5.1, Aesthetics**, of the Draft EIR, and Responses 9-22 to 9-27 of this Final EIR for a discussion about how the grading required to construct the proposed project would impact viewsheds.

See Response 9-6 of this Final EIR for a discussion of the consistency of the grading plan with General Plan Policies with respect to the southern ridgeline on the project site.

See Responses 9-29 and 9-30 of this Final EIR for a discussion of cumulative impacts associated with the JD BE project.

Response 17-2

The segment of Kirker Pass Road adjacent to the project site is designated as a Class II bicycle facility² in the Contra Costa County General Plan and would retain that designation after implementation of the proposed project. In addition, as required by Mitigation Measure TRA-1, the applicants would be required to construct a sidewalk along the west side of Kirker Pass Road, or some other alternative pedestrian access route, connecting the main project site to the nearest existing sidewalk to the north. For these reasons, the proposed project would have adequate bicycle access with existing development to the north.

No bicycle lanes are planned along Montreux Drive at this time. However, that does not prevent bicycle lanes from being added to the project later on in the design review process. If bicycle lanes are added to Montreux Drive they would most likely be Class II facilities which would require the painting of striped lines along the roadway which would not result in any significant impact on the environment.

² Class II bicycle facilities are on-street bike lanes that are separated from vehicle traffic by a painted stripe.

3.3 REFERENCES

- City of Pittsburg. 2001. *City of Pittsburg General Plan Final Environmental Impact Report*, SCH No. 1999072109.
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- Kinder Morgan. 2015. *Pipeline Safety*. http://www.kindermorgan.com/pages/ehs/pipeline_safety/
- Kopchik, John. 2015. Fire Inspector, East Contra Costa County Habitat Conservancy. Personal communication via electronic mail with Paul Stephenson, Impact Sciences, July 27.
- Palacios, Enrique. 2014. Deputy Superintendent, Pittsburg Unified School District. Personal communication via telephone with Paul Stephenson, Impact Sciences, February 12.
- Parsons, Louis. 2015. Vice President of Development, Discovery Builders, Inc. Personal communication via email with Paul Stephenson, Impact Sciences, March 19.
- Pipeline and Hazardous Materials Safety Administration (PHMSA). 2015. *Pipeline Basics*. <http://primis.phmsa.dot.gov/comm/PipelineBasics.htm?nocache=8995>.

4.0 REPORT PREPARATION

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Kristin Pollot, AICP, Planning Manager

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Josh Phillips, Principal Biologist

APPENDIX 3.0

Stormwater Control Plans

STORMWATER CONTROL PLAN

For

MONTREUX EAST

PORTION OF SUB 8279

September 20, 2012

Owner:

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Owner's Representative:

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JN 200601

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C.3 Area Breakdown Insert	INSERT @ End of Report
Stormwater Control Plan Exhibit.....	INSERT @ End of Report

Appendix

HMP Compliance [if applicable].....	N/A
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This Stormwater Control Plan was prepared using the template dated February 15, 2012.

I. PROJECT DATA

Table 1. Project Data

Project Name/Number	Montreux – East – Sub 8279 - Ptn JN 200601
Application Submittal Date	
Project Location	West side of Kirker Pass Rd, approximately 2,700' south of the Buchanan Rd/Kirker Pass Rd intersection in Pittsburg, CA APN: 089-020-009,011,014,015 - PTN
Name of Developer	Altec Homes, Inc.
Project Phase No.	1
Project Type and Description	Single Family Residential
Project Watershed	Kirker Creek
Total Project Site Area (acres)	78.35 ac (3,412,896 sf)
Total Area of Land Disturbed (acres)	78.35 ac
Total New Impervious Surface Area (sq. ft.)	1,702,897 (1,652,897 onsite + 50,000 offsite widening and entry roads)
Total Replaced Impervious Surface Area	0
Total Pre-Project Impervious Surface Area	0
Total Post-Project Impervious Surface Area	1,702,897
50% Rule[*]	Doesn't Apply
Project Density	2.48 du/acre (tentative map)
Applicable Special Project Categories [Complete even if all treatment is LID]	None
Percent LID and non LID treatment	100% LID / 0% non LID
HMP Compliance [†]	Option 2 [Per Guidebook Table 1-2 on p. 9]

[*50% rule applies if:

Total Replaced Impervious Surface Area > 0.5 x Pre-Project Impervious Surface Area]

[HIMP applies if:

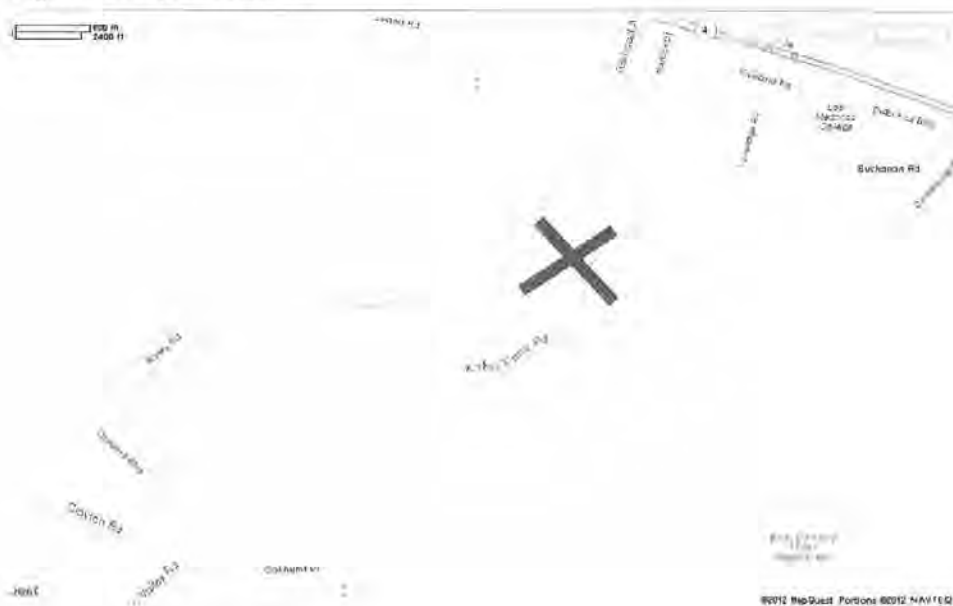
(Total New Impervious Surface Area + Total Replaced Impervious Surface Area) \geq 1 acre]

II. SETTING

II.A Project Location and Description

Montreux Subdivision 8279 is divided by a watershed boundary line that separates the eastern 90% of the project from the western 10% of the project. The eastern 90% is referred to as Montreux East and will create 322 single family homes (including a pump station lot) on the eastern portion of the subdivision which is located on the south west of Kirker Pass Rd., approximately 2,700 feet south of the intersection of Kirker Pass Rd. and Buchanan Rd. in Pittsburg, California. (See Figure 1). The project is bounded on the east by Kirker Pass Rd., on the north by the Woodland Hills development, and on the south and west by undeveloped lands. The developed area of Montreux East will be approximately 80 acres.

Figure 1. Project Location



II.B. Existing Site Features and Conditions

The site ultimately flows in an easterly direction towards Kirker Pass Rd. Most flows will discharge to the existing 48" culvert that drains westerly across Kirker Pass Rd. High elevations of 600 feet on the west, 750 feet on the south and 650 feet on the north all generally fall downward to Kirker Pass Rd. which has elevations varying from 270 feet to 310 feet along the project frontage. Onsite hillsides reach slopes up to 2 (horizontal) to 1 (vertical). A soils report with borings will be prepared in the future to be used for construction drawings. No groundwater is anticipated to be encountered near the surface. The property is currently vacant. A wetland area exists and its delineation has been approved by the Army Corps of Engineers. The wetland area will be filled in accordance with the Corps' requirements. No seeps or springs have been observed to date on the site. The Contra Costa County General Soil Map indicates the onsite soils to be Altamont-Diablo-Fontana complex being mostly clay and silty clay loam, with a NRCS Hydrologic Soil Group "D" rating.

II.C. Opportunities and Constraints for Stormwater Control

A site constraint is impermeable soils (soil group D), which makes disposal of runoff to deep infiltration unfeasible. An additional site constraint is the high density land use (7,000+ sf lots).

A site opportunity is the location of a storm drain culvert flowing westerly beneath Kirker Pass Rd. near the project main entry. Nearly all site drainage discharges at this site low point, making it a natural location for the proposed bio retention area.

III. LOW IMPACT DEVELOPMENT DESIGN STRATEGIES

III.A. Optimization of Site Layout

III.A.1. Limitation of development envelope

The two story houses to be constructed require less building footprint area.

III.A.2. Preservation of natural drainage features

No natural drainage features are to be preserved.

III.A.3. Setbacks from creeks, wetlands, and riparian habitats

There are no creeks on the site. The wetlands area is intended to be filled.

III.A.4. Minimization of imperviousness

Impervious paving is decreased as follows:

1. Street widths are reduced from 40' to 36' wherever allowed.
2. Private drives with parking on one side and no sidewalks are proposed in several locations

III.A.5. Use of drainage as a design element

Located at the eastern edge of the site (downstream low point), a large bio retention area will be constructed to not only provide treatment and hydro modification for storm drain runoff, but flood control detention will also be accomplished.

III.B. Use of Permeable Pavements

Conventional asphalt is used throughout the site for the roadway pavement and conventional concrete is used for standard curb and gutter and sidewalk areas. Porous pavement does not work with the site due to the impermeability of the underlying type D soils and is also not cost effective.

III.C. Dispersal of Runoff to Pervious Areas

Self retaining areas and areas draining to self retaining areas has not been utilized in this design because of the dense onsite development. Instead, all storm drainage is collected and conveyed to the single onsite bio retention basin for treatment and hydro modification at one easily maintained location.

III.D. Feasibility Assessment of Harvesting and Use for Treatment and Flow-Control

III.D.1. Permeability of Site Soils

Site soils, being group "D", will not have a saturated hydraulic permeability of 1.6 inches/hour or greater. Therefore, a determination of the infeasibility of harvesting and use has been made.

III.D.2. Potential Opportunities for Harvesting and Use

The typical lot size of 7,090± will yield typical roof sizes of much less than 10,000 square feet, thereby making harvesting and reuse for toilets and urinals unfeasible. Capture & reuse for onsite landscaping, as shown on Table 2 below, is also impractical due to the dense development and small amount of irrigated area as compared to impervious area.

III.D.3. Harvesting and Use Feasibility Calculations

Table 2. Harvesting and Use Feasibility

A	B	C	D	E	F	G	H	I	J
Building or other Impervious Area Description (sq ft)	Square feet of impervious surface	Acres	Uses and User Units	Toilet and Urinal Water Usage (gal/day) (8.6 gal/day/res)	Water Use per Acre (gal/day/acre)	Required demand (gal/day/acre).	Is Projected Use > Required Demand? (Column F > Column G?)	Can runoff be piped to an irrigated area 2.5x the impervious area (Column B)?	Is there any other consistent, reliable demand for the quantity in Column G?
Typical 7,090 lot	2,836[1] roof only	.06	2.8 res/ per du	24.1[2]	402	5,900	no	no 4,040 sf <7,090 sf req'd[3]	no
Total for site	1,652,897 [6]	37.95	2.8 res/ per du	7,760[7]	204	5,900	no	no 1,588,077 sf <4,132,243 sf [8]	no

[1]roof/porch sizes: 40% max coverage allowed for proposed R6 zoning (6,000 sf minimum lot sizes) per Pittsburgh property development regulations. Using the average lot size of 7,090 sf, the maximum coverage would be 2,836 sf (40% x 7,090 sf).

[2]24.1 gpd/du = 2.8 res/du*8.6 gpd/res

[3]4040 (pervious area)= 7,090(lot area) – 3,050(total lot imp area per Table 8 – see Insert @ end of report) and 2.5*2,836=7,090 min pervious area required

[6]total impervious area (roof, concrete, asphalt) for entire site – see Insert @ end of report

[7]7,760 = 24.1 gpd/lot * (322 lots)

[8] $1,588,077$ (total pervious area for entire site – see Insert @ end of report) and $2.5 \times 1,652,897 = 4,132,243$ min pervious area required for total site

III.E. Integrated Management Practices

Any procedure or device, such as a bio retention planter area, that is designed to minimize the quantity of pollutants that enter the storm drain system, is referred to as a BMP. A facility (BMP) that provides small-scale treatment, retention, and/or detention and is integrated into site layout, landscaping and drainage design is referred to as an IMP. Runoff from roofs, asphalt pavement, concrete curbs, walks, patios and driveways will be collected and conveyed to the bio retention planter area located at the western edge of the site. The bio retention area consists of two pond areas, with the same bottom elevation, interconnected by a drainage culvert to allow both basins to work together as one single bio retention area.

As indicated by the grades shown on the preliminary grading plan, surface flows, will be graded to drain to the storm drain system within the streets and then discharged to the bio retention planter at the western edge of the site.

The outflow orifice to the bio retention area will slowly meter flow to the detention basin outflow structure located within the northern pond of the bio retention area. The outflow structure is connected to the existing 48" culvert beneath Kirker Pass Rd. which then discharges the drainage to the existing creek on the east side of Kirker Pass Rd. Storms larger than the C.3 10 year design storm will exit the planter area via the overflow outlet structure and discharge to said 48" culvert. A 20 foot wide maintenance access road is provided to both ponds as shown on the tentative map. The bio retention planter area BMP has adequate hydraulic head to allow drainage into, and overflow away from the planter area without need for pumps.

Runoff from all onsite impervious areas will undergo treatment and hydro modification and the following should be noted:

- The bio retention planter area is designed to accommodate runoff for treatment and hydro modification for the Montreux East site as specified in the C.3 manual and is slightly larger than required. Therefore, runoff from somewhat more intense storms will also be treated and hydro modified. "Clean" water from the south will be routed around the bio retention areas and discharge directly to the existing 48" culvert on Kirker Pass Rd. "Clean" water from the north will be carried beneath the northern pond of the bio retention area and connect to the overflow structure at that pond. Preliminary calculations for flood control detention are prepared under a separate document and are not considered a part of this stormwater control plan.

Due to its size, the project requires treatment and source control measures as well as hydro modification.

The attached Stormwater Control Plan exhibit shows the bio retention planter area BMP and the corresponding areas of the site that drain to this BMP.

The sizes of each tributary drainage area for the bio retention planter is listed in Table 4 as well on the C.3 calculator spread sheet located in the back of this report.

III.F. General Treatment IMP Characteristics

Planter Area.

The bio retention planter will be designed and constructed according to the following criteria, adapted from the *Contra Costa Clean Water Program Stormwater C.3 Guidebook, Sixth Edition*:

Volume and depth of surface reservoir meets or exceeds minimum.

18" depth "loamy sand" soil mix with minimum long-term percolation rate of 5"/hour.

Area of soil mix meets or exceeds minimum.

Volume of subsurface storage meets or exceeds minimum.

Perforated pipe (PVC SDR 35 or approved equivalent) under drain bedded near the top of the in Caltrans "Class 2 perm" with holes facing downward. Connection and sufficient head to storm drain or discharge point (except in "A" or "B" soils).

In "C" and "D" native soils, under drain is connected via an appropriately sized orifice or other flow-limiting device.

Under drain has a clean-out port consisting of a vertical, rigid, non-perforated PVC pipe, with a minimum diameter of 6 inches and a watertight cap, or approved equivalent.

No filter fabric to be used.

Overflow connected to a downstream storm drain or approved discharge point.

Emergency spillage will be safely conveyed overland via emergency overflow spillways to the project access roads and ultimately to Kirker Pass Rd.

Plantings are suitable to the climate, exposure, and a well-drained soil, and occasional inundation during large storm events.

Irrigation system with connection to water supply, on a separate zone.

Vaults, utility boxes, and light standards are located outside the minimum soil mix surface area.

III.G. Specific Characteristics of Each IMP Tributary Area

Drainage entering the planter will be accomplished as described in Section III.E, above. The discharge pipe at the northern pond will drain to the existing 48" culvert beneath Kirker Pass Rd. The overflow drainage will be safely conveyed via the overflow drainage structure to the same 48" culvert. The main design issue for the planter will be to place appropriate dissipaters within the planter to prevent erosion from incoming storm drain pipes. The incoming flow locations and cobble dissipater locations will be shown on the final plans.

Specific descriptions of each drainage area follow:

Planter PL2. Runoff from the rooftops, pavement and landscape areas will be directed to planter (PL2) located at the northeast portion of the site. PL2 is an irregular shaped landscaped area (comprised of two interconnected ponds on either side of the main project access road to the site) of approximately 171,922 square feet at elevation 293.0.

IV. DOCUMENTATION OF DRAINAGE DESIGN

IV.A. Descriptions of each Drainage Management Area

IV.A.1. Table of Drainage Management Areas (see C.3 Area Breakdown Insert)

<u>DMA Name</u>	<u>Surface Type</u>	<u>Area (square feet)</u>
IMP2	Pavement & Rooftops	1,652,897

L2	Landscape & Slopes	1,588,077
PL2	Bio Retention Planter	171,922 (elev 293.0)
	SUBTOTAL	3,412,896
<u>Untreated Area</u>	<u>Surface Type</u>	<u>Area (square feet)</u>
NT2	Kirker Pass & access road frontage	147,362
<u>Upstream Area</u>	<u>Surface Type</u>	<u>Area (square feet)</u>
CW2	Clean water to bypass bio retention area	3,058,754
	SUBTOTAL	6,619,012

IV.A.2. Drainage Management Area Descriptions

IMP2, totaling 1,652,897square feet, consists of pavement and rooftop area. IMP2 drains to PL2, being an irregular shaped bio retention planter area consisting of two connected ponds, located at the eastern edge of the developed site.

L2, totaling 1,588,077square feet, consists of landscape area and slopes. L2 drains to PL2, being an irregular shaped bio retention planter area consisting of two connected ponds, located at the eastern edge of the developed site.

PL2, totaling 171,922 square feet (at elev 293), consists of an irregular shaped bio retention planter area consisting of two connected ponds, located at the eastern edge of the developed site.

NT2, totaling 147,362 square feet of the Kirker Pass frontage and a portion of the project entry streets cannot be intercepted and drained to the bio retention planter area PL2 as they are lower than the bio retention area. This insignificant amount of untreated area will drain to the curb and gutter on Kirker Pass Rd.

CW2, totaling 3,058,754 square feet, consists of “clean” hillside drainage along the north and south edges of the project, which will be drained around the project, in a separate storm drain system, and eventually discharge to the existing 48” culvert beneath Kirker Pass Rd. near the project entrance. This drainage will bypass bio retention area PL2 and will connect either directly to the PL2 outlet structure, or to the existing 48” culvert. No additional cleaning or hydro modification will occur to these waters.

IV.B. TABULATION AND SIZING CALCULATIONS

IV.B.1. Information Summary for IMP Design

Total Project Area (Square Feet)	3,412,896 plus 147,362 untreated area plus 3,058,754 clean water to be rerouted around the project.
Mean Annual Precipitation	16”
IMPs Designed For:	treatment + flow control

IV.B.2. Self-Treating Areas

This does not apply.

IV.B.3. Self-Retaining Areas

This does not apply.

IV.B.4. Areas Draining to Self-Retaining Areas

This does not apply.

IV.B.5. Areas Draining to IMPs

(See C.3 calculator @ end of this report)

IV.B.6. Areas Draining to Non-LID Treatment [“Special Projects” only—See Table 4-14, p. 60]

This does not apply.

V. SOURCE CONTROL MEASURES

V.A. Site activities and potential sources of pollutants

This single family residential project will create few potential sources of stormwater pollutants. Sources to be controlled are:

- Vehicle washing.
- Potential dumping of wash water or other liquids into storm drain inlets.
- Need for future indoor or structural pest control.
- Fertilizers and pesticides used in home yard and garden maintenance.

The following Source Control Table lists potential pollutant sources on the development site and the corresponding source control measures specified in the *Stormwater C.3 Guidebook, Sixth Edition*, Appendix D.

All areas where these activities occur will drain to the bio retention planter PL2. To further reduce the potential for pollutants to enter runoff, permanent and operational BMPs will be implemented as described in V.B. below.

V.B. Source Control Table

Table 3. Sources and Source Control BMPs

Potential Source	Permanent BMPs	Operational BMPs
On-site storm drain	All accessible on-site inlets will be	Markings will be periodically repainted or

Potential Source	Permanent BMPs	Operational BMPs
inlets	marked with the words "No Dumping! Flows to Bay"	replaced. Inlets and pipes conveying stormwater to BMPs will be inspected and maintained as part of BMP Operation and Maintenance Plan.
Need for future indoor and structural pest control.		Integrated Pest Management (IPM) information will be provided to new homeowners.
Landscape/outdoor pesticide use	Final landscape plans will: Be designed to minimize irrigation and runoff and to minimize use of fertilizers and pesticides that can contribute to stormwater pollution. Specify plantings within the planter that are tolerant of saturated soil conditions. Include pest-resistant plants. Include plantings appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency and plant interactions.	Landscape will be maintained using minimum or no pesticides. IPM information will be provided to new homeowners.
Vehicle washing	Driveways and parking areas drain to the bio retention area	Distribute stormwater pollution prevention information to homeowners.

V.C. Features, Materials, and Methods of Construction of Source Control BMPs

No special features, materials or construction methods are required for the source control BMPs listed above.

VI. STORMWATER FACILITY MAINTENANCE

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

Commitment to Execute any Necessary Agreements.

Altec Homes, Inc. agrees to provide any necessary easements or rights of entry to the City of Pittsburg for access and inspection of stormwater BMPs and to make provision of easements or rights of entry a condition of sale.

Statement Accepting Responsibility for Operation and Maintenance until Responsibility is Transferred.

Altec Homes, Inc. agrees to operate and maintain the stormwater BMPs constructed in connection with the project unless any other private entity to be responsible for maintenance, execution of Codes, Covenants, and Responsibilities is formed or other agreement that runs with the land and requires future owners to provide and pay for maintenance of stormwater BMPs, and execution of a Stormwater Management Facilities Operation and Maintenance Agreement and Right of Entry in the form provided by the City.

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

Bio retention Areas

These facilities remove pollutants primarily by filtering runoff slowly through an active layer of soil. Routine maintenance is needed to ensure that flow is unobstructed, that erosion is prevented, and that soils are held together by plant roots and are biologically active. Typical maintenance consists of the following:

Inspect inlets for channels, exposure of soils, or other evidence of erosion. Clear any obstructions and remove any accumulation of sediment. Examine rock or other material used as a splash pad and replenish if necessary.

Inspect outlets for erosion or plugging.

Inspect side slopes for evidence of instability or erosion and correct as necessary.

Observe soil at the bottom of the swale or filter for uniform percolation throughout. If portions of the swale or filter do not drain within 48 hours after the end of a storm, the soil should be tilled and replanted. Remove any debris or accumulations of sediment.

Examine the vegetation to ensure that it is healthy and dense enough to provide filtering and to protect soils from erosion. Replenish mulch as necessary, remove fallen leaves and debris, prune large shrubs or trees, and mow turf areas. When mowing, remove no more than 1/3 height of grasses. Confirm that irrigation is adequate and not excessive. Replace dead plants and remove noxious and invasive vegetation.

Abate any potential vectors by filling holes in the ground in and around the swale and by insuring that there are no areas where water stands longer than 48 hours following a storm. If mosquito larvae are present and persistent, contact the Contra Costa Mosquito and Vector Control District for information and advice. Mosquito larvicides should be applied only when absolutely necessary and then only by a licensed individual or contractor.

VII. CONSTRUCTION PLAN C.3 CHECKLIST

<i>Stormwater Control Plan Page #</i>	<i>BMP Description</i>	<i>See Plan Sheet #s</i>
Table IV.A.1, Exhibit, Sections III.F. and	Drainage from the roof, pavement and landscaping, as delineated, graded and paved to direct drainage to planter PL2. PL2 sized and designed as stated in Sections III.F. and III.G., including erosion protection via placement of cobbles.	

III.G.		
--------	--	--

VIII. CERTIFICATIONS

The selection, sizing, and preliminary design of stormwater treatment and other control measures in this plan meet the requirements of Regional Water Quality Control Board Order R2-2009-0074 and Order R2-2011-0083.

Project Name: Montreux - East Side - JN 200601**Project Type:** Treatment and Flow Control**Location:** Kirker Pass Rd - Pittsburg**APN:** 089-020-009,011,014,015**Drainage Area:** 3412896 sf**Mean Annual Precipitation:** 16 in

IV. Areas Draining to IMPs

IMP Name: PL2 (Soil Type: D)

IMP Type: Bioretention Facility**Soil Type:** D

DMA Name	DMA Area (sq ft)	Post-Project Surface Type	DMA Runoff Factor	DMA Area x Runoff Factor	IMP Sizing			
IMP2	1,652,897	Conventional Roof	1.00	1,652,897	IMP Sizing Factor	Rain Adjustment Factor	Minimum Area or Volume	Proposed Area or Volume
L2	1,588,077	Landscape	0.70	1,111,654				
Total				2,764,551				
Area				0.050				
Surface Volume				0.042	1.185	137,568	143,268	
Subsurface Volume				0.055	1.185	180,149	189,114	
Maximum Underdrain Flow (cfs)								4.34
Orifice Diameter (in)								13.42

Software Tool Warnings

No warnings to report.Report generated on 9/19/2012 12:00:00 AM by the [Contra Costa Clean Water Program](#) IMP Sizing Tool software (version 1.3.1.0).

C.3 Area Breakdown Insert

Montreux Subdivision 8279
East Watershed – 322 Lots Total
(this includes the pump station lot)

BASIS: Mean Annual Precipitation = 16 inches

Type D soil

Treatment and hydro modification required

2,282,861 lots

287,316 slopes (E8 thru E11 minus C.3 bottom @ elev 293)

670,797 roads (26,524 tank site & access road [areaE7] + 644,273 onsite roads)

171,922 bio retention area PL2 (@ elevation 293)

3,412,896 total onsite area

3,058,754 offsite clean water (areas E1 thru E3) to pass thru site

147,362 untreated area (areas E4 thru E5) on Kirker Pass Rd and a portion of the
project entry/exit roads

6,619,012 total project area

A. Offsite "Clean" Water CW2:

"Clean" water from 3,058,754 sf of upstream offsite tributary area (E1=1,130,564 sf, E2=1,446,999 sf, E3=481,191 sf) will be carried around and through the site, bypassing the bio retention area and finally discharging at the downstream end of the detention basin outfall structure

No Treatment or Hydro modification is required

B. Untreated Area NT2:

147,362 sf on Kirker Pass Rd and a portion of the project entry/exit roads (E4=83,028 sf, E5=64,334 sf) are unable to be treated as they drain downstream of the C.3 bio retention area. This area is only 2% of the total project area and is considered insignificant.

C. Onsite Area Breakdown:

Basis for lot calculations is as follows:

1. Typical average lot = 7,090 sf (2,282,861 sf lot area/322 lots).

2. Typical impervious surface area for 7,090 sf lot = 3,050 sf per Contra Costa County "Table 8 – Average Impervious Surface Amounts"

Impervious area:

$$\begin{array}{rcl} \text{Impervious lot area} & = & 322 \text{ lots} \times 3,050 \text{ sf/lot} & = & 982,100 \text{ sf} \\ \text{Roads \& water tank site area} & = & & = & 670,797 \text{ sf} \\ & & \text{Total Impervious Area (IMP2)*} & & 1,652,897 \text{ sf} \end{array}$$

Pervious area:

$$\begin{array}{l} \text{Pervious lot area} = 2,282,861 \text{ sf (total lot area)} - 982,100 \text{ (impervious lot area)} + \\ 287,316 \text{ slopes} = 1,588,077 \text{ sf} \end{array}$$

$$\text{Total Pervious Area (L2)} \quad 1,588,077 \text{ sf}$$

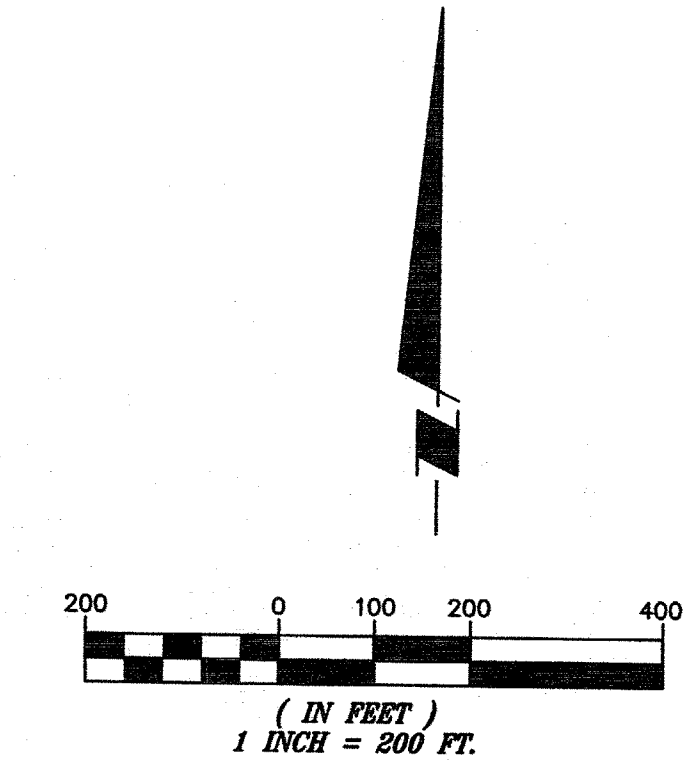
Notes:

* Total impervious area IMP2 is a composite of all roof, concrete and asphalt surfaces.

Table 8 – Average Impervious Surface Amounts

<u>Land Use</u>	<u>Impervious Surface Area</u>	
	<u>Street Area Not Included</u>	<u>Street Area Included</u>
<u>Commercial/Industrial/Downtown Offices:</u>		
<u>Offices (Medium):</u>	41,120 sf/acre	44,170 sf/acre
<u>Offices (Light):</u>	35,240 sf/acre	39,380 sf/acre
	29,490 sf/acre	33,240 sf/acre
<u>Multi-Family Residential (Including Mobile Home Parks):</u>		
Less than 2,500 sf of land/unit	32,400 sf/acre	32,400 sf/acre
2,500 to 2,999 sf of land/unit	1,920 sf/unit	1,920 sf/unit
3,000 to 3,999 sf of land/unit	2,200 sf/unit	2,200 sf/unit
4,000 to 4,999 sf of land/unit	2,560 sf/unit	2,560 sf/unit
5,000 to 5,999 sf of land/unit	2,930 sf/unit	2,930 sf/unit
6,000 to 6,999 sf of land/unit	3,290 sf/unit	3,290 sf/unit
7,000 to 7,999 sf of land/unit	3,640 sf/unit	3,640 sf/unit
8,000+ sf of land/unit	3,820 sf/unit	3,820 sf/unit
<u>Single Family Residential:</u>		
4,000 to 4,999 sf of land/unit	2,690 sf/unit	4,310 sf/unit
5,000 to 5,999 sf of land/unit	2,810 sf/unit	4,490 sf/unit
6,000 to 6,999 sf of land/unit	2,930 sf/unit	4,670 sf/unit
7,000 to 7,999 sf of land/unit	3,050 sf/unit	4,850 sf/unit
8,000 to 9,999 sf of land/unit	3,230 sf/unit	5,110 sf/unit
10,000 to 13,999 sf of land/unit	3,590 sf/unit	5,630 sf/unit
14,000 to 19,999 sf of land/unit	4,190 sf/unit	6,480 sf/unit
20,000 to 29,999 sf of land/unit	5,180 sf/unit	7,770 sf/unit
30,000 to 39,999 sf of land/unit	6,430 sf/unit	9,280 sf/unit
40,000 +	7,710 sf/unit	10,690 sf/unit

Use 3,050 sf/lot for single family housing



LEGEND

- TRIBUTARY BOUNDARY AFTER DEVELOPMENT —————
- TRIBUTARY BOUNDARY PRIOR TO DEVELOPMENT - - - - -

NOTE:
SEE C.3 AREA BREAKDOWN INSERT AT END OF REPORTS FOR MONTREUX EAST & MONTREUX WEST AREA EXPLANATIONS.

E 6160000

	SUBDIVISION 8279		MONTREUX	
	C.3 MONTREUX EAST & WEST			
	CITY OF PITTSBURG		CONTRA COSTA COUNTY CALIFORNIA	
	Isakson & Assoc. Inc. civil engineering land surveying 2255 Ygnacio Valley Road, Suite C, Walnut Creek, CA. 94598 Phone: (925) 937-9333			
DATE: 9-20-12	DESIGNED BY: DOI	DRAWN BY: STAFF	CHECKED BY: DOI	JOB NO. 200601
				1 OF 1

STORMWATER CONTROL PLAN

For

MONTREUX WEST

PORTION OF SUB 8279

September 20, 2012

Owner:

**Altec Homes, Inc.
4061 Port Chicago Highway
Concord, CA 94520
PH: (925) 682-6419**

Owner's Representative:

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JN 200601

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Attachments

C.3 Calculator Results.....	INSERT @ End of Report
C.3 Area Breakdown Insert	INSERT @ End of Report
Stormwater Control Plan Exhibit.....	INSERT @ End of Report

Appendix

HMP Compliance [if applicable].....	N/A
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This Stormwater Control Plan was prepared using the template dated February 15, 2012.

I. PROJECT DATA

Table 1. Project Data

Project Name/Number	Montreux – West – Sub 8279 - Ptn JN 200601
Application Submittal Date	
Project Location	West side of Kirker Pass Rd, approximately 2,700' south of the Buchanan Rd/Kirker Pass Rd intersection in Pittsburg, CA APN: 089-020-009,011,014,015 - PTN
Name of Developer	Altec Homes, Inc.
Project Phase No.	1
Project Type and Description	Single Family Residential
Project Watershed	Kirker Creek
Total Project Site Area (acres)	12.73 ac (554,679 sf)
Total Area of Land Disturbed (acres)	12.73 ac
Total New Impervious Surface Area (sq. ft.)	194,858 (171,858 onsite + 23,000 offsite storm drain access road (12' wide))
Total Replaced Impervious Surface Area	0
Total Pre-Project Impervious Surface Area	0
Total Post-Project Impervious Surface Area	194,858
50% Rule[*]	Doesn't Apply
Project Density	2.48 du/acre (tentative map)
Applicable Special Project Categories [Complete even if all treatment is LID]	None
Percent LID and non LID treatment	100% LID / 0% non LID
HMP Compliance [†]	Option 2 [Per Guidebook Table 1-2 on p. 9]

[*50% rule applies if:

Total Replaced Impervious Surface Area > 0.5 x Pre-Project Impervious Surface Area]

(Total New Impervious Surface Area + Total Replaced Impervious Surface Area) \geq 1 acre]

II.A Project Location and Description

Figure 1. Project Location



The Montreux West site flows in a northwesterly direction towards the existing ravine just west of the site. The ravine then flows northerly to intersection of Castlewood Dr. and Kingswood Dr. in the Woodland Hills development. All developed flows will be collected and conveyed via an offsite storm drain line to the bio retention basin located approximately 400 feet north of the site. The high elevation of the site is 650 feet, where the future water tank will be located. The low elevation of the site is 340 feet and is located at the northwest corner of the site. Onsite hillsides reach slopes up to 2 (horizontal) to 1 (vertical). A soils report with borings will be prepared in the future to be used for construction drawings. No groundwater is anticipated to be encountered near the surface. The property is currently vacant. A wetland area exists and its delineation has been approved by the Army Corps of Engineers. The wetland area will be filled in accordance with the Corps' requirements. No seeps or springs have been observed to date on the site. The Contra Costa County General Soil Map

indicates the onsite soils to be Altamont-Diablo-Fontana complex being mostly clay and silty clay loam, with a NRCS Hydrologic Soil Group "D" rating.

II.C. Opportunities and Constraints for Stormwater Control

A site constraint is impermeable soils (soil group D), which makes disposal of runoff to deep infiltration unfeasible. An additional site constraint is the high density land use (7,000+/- sf lots).

A site opportunity is the availability of access to adjacent lands to the north where the bio retention basin can be placed (offsite).

III. LOW IMPACT DEVELOPMENT DESIGN STRATEGIES

III.A. Optimization of Site Layout

III.A.1. Limitation of development envelope

The two story houses to be constructed require less building footprint area.

III.A.2. Preservation of natural drainage features

No natural drainage features are to be preserved.

III.A.3. Setbacks from creeks, wetlands, and riparian habitats

There are no creeks on the site. The wetlands area is intended to be filled.

III.A.4. Minimization of imperviousness

Impervious paving is decreased as follows:

1. Street widths are reduced from 40' to 36' wherever allowed.

III.A.5. Use of drainage as a design element

The bio retention area (located offsite and 400' to the north of the site) will be constructed to not only provide treatment and hydro modification for storm drain runoff, but flood control detention will also be accomplished.

III.B. Use of Permeable Pavements

Conventional asphalt is used throughout the site for the roadway pavement and conventional concrete is used for standard curb and gutter and sidewalk areas. Porous pavement does not work with the site due to the impermeability of the underlying type D soils and is also not cost effective.

III.C. Dispersal of Runoff to Pervious Areas

Self retaining areas and areas draining to self retaining areas has not been utilized in this design because of the dense onsite development. Instead, all storm drainage is collected and conveyed to the single onsite bio retention basin for treatment and hydro modification at one easily maintained location.

III.D. Feasibility Assessment of Harvesting and Use for Treatment and Flow-Control

III.D.1. Permeability of Site Soils

Site soils, being group "D", will not have a saturated hydraulic permeability of 1.6 inches/hour or greater. Therefore, a determination of the infeasibility of harvesting and use has been made.

III.D.2. Potential Opportunities for Harvesting and Use

The typical lot size of 6,773± will yield typical roof sizes of much less than 10,000 square feet, thereby making harvesting and reuse for toilets and urinals unfeasible. Capture & reuse for onsite landscaping, as shown on Table 2 below, is also impractical due to the dense development and small amount of irrigated area as compared to impervious area.

III.D.3. Harvesting and Use Feasibility Calculations

Table 2. Harvesting and Use Feasibility

A	B	C	D	E	F	G	H	I	J
Building or other Impervious Area Description (sq ft)	Square feet of impervious surface	Acres	Uses and User Units	Toilet and Urinal Water Usage (gal/day) (8.6 gal/day/res)	Water Use per Acre (gal/day/acre)	Required demand (gal/day/acre).	Is Projected Use > Required Demand? (Column F > Column G?)	Can runoff be piped to an irrigated area 2.5x the impervious area (Column B)?	Is there any other consistent, reliable demand for the quantity in Column G?
Typical 6,773 lot	2,709 [1] roof only	.06	2.8 res/ per du	24.1[2]	402	5,900	no	no 3,843 sf <6,773 sf req'd[3]	no
Total for site	171,858 [6]	3.95	2.8 res/ per du	844[7]	214	5,900	no	no 346,872 sf <429,645 sf [8]	no

[1] roof/porch sizes: 40% max coverage allowed for proposed R6 zoning (6,000 sf minimum lot sizes) per Pittsburg property development regulations. Using the average lot size of 7,090 sf, the maximum coverage would be 2,709 sf (40% x 6,773 sf).

[2] 24.1 gpd/du = 2.8 res/du * 8.6 gpd/res

[3] 3,843 (pervious area) = 6,773 (lot area) – 2,930 (total lot imp area per Table 8 – see Insert @ end of report) and 2.5 * 2,709 = 6,773 min pervious area required

[6] total impervious area (roof, concrete, asphalt) for entire site – see Insert @ end of report

[7] 844 = 24.1 gpd/lot * (35 lots)

[8] 346,872 (total pervious area for entire site – see Insert @ end of report) and 2.5 * 171,858 = 429,645 min pervious area required for total site

Any procedure or device, such as a bio retention planter area, that is designed to minimize the quantity of pollutants that enter the storm drain system, is referred to as a BMP. A facility (BMP) that provides small-scale treatment, retention, and/or detention and is integrated into site layout, landscaping and drainage design is referred to as an IMP. Runoff from roofs, asphalt pavement, concrete curbs, walks, patios and driveways will be collected and conveyed to the bio retention planter area located 400 feet north of the site.

The outflow orifice to the bio retention area will slowly meter flow to the detention basin outflow structure located within the bio retention area. After passing through the outflow structure, drainage will be carried in a new storm drain line that will discharge the drainage to the existing 54" storm drain located approximately 1,000 feet to the north near the intersection of Kingswood Dr. and Castlewood Dr. Storms larger than the C.3 10 year design storm will exit the planter area via the overflow outlet structure and discharge to said new storm drain line. A 20 foot wide maintenance access road is provided to the pond as shown on the tentative map. The bio retention planter area BMP has adequate hydraulic head to allow drainage into, and overflow away from the planter area without need for pumps.

- The bio retention planter area is designed to accommodate runoff for treatment and hydro modification for the Montreux West site as specified in the C.3 manual and is slightly larger than required. Therefore, runoff from somewhat more intense storms will also be treated and hydro modified. "Clean" water from the south and the east will be routed around the bio retention area and discharged directly to the existing ravine (for waters to the south) or to the new storm drain line (for waters to the east). Preliminary calculations for flood control detention are prepared under a separate document and are not considered a part of this stormwater control plan.

The attached Stormwater Control Plan exhibit shows the bio retention planter area BMP and the corresponding areas of the site that drain to this BMP.

III.F. General Treatment IMP Characteristics

The bio retention planter will be designed and constructed according to the following criteria, adapted from the *Contra Costa Clean Water Program Stormwater C.3 Guidebook, Sixth Edition*:

Volume of subsurface storage meets or exceeds minimum.

Perforated pipe (PVC SDR 35 or approved equivalent) under drain bedded near the top of the in Caltrans "Class 2 perm" with holes facing downward. Connection and sufficient head to storm drain or discharge point (except in "A" or "B" soils).

In "C" and "D" native soils, under drain is connected via an appropriately sized orifice or other flow-limiting device.

Under drain has a clean-out port consisting of a vertical, rigid, non-perforated PVC pipe, with a minimum diameter of 6 inches and a watertight cap, or approved equivalent.

No filter fabric to be used.

Overflow connected to a downstream storm drain or approved discharge point.

Emergency spillage will be safely conveyed overland via emergency overflow spillway to the access road to be constructed over the new storm drain line.

Plantings are suitable to the climate, exposure, and a well-drained soil, and occasional inundation during large storm events.

Irrigation system with connection to water supply, on a separate zone.

Vaults, utility boxes, and light standards are located outside the minimum soil mix surface area.

III.G. Specific Characteristics of Each IMP Tributary Area

Drainage entering the planter will be accomplished as described in Section III.E, above. The discharge pipe at the northern end of the pond will drain to the new storm drain line to be constructed. The overflow drainage will be safely conveyed via the overflow drainage structure to the same newly constructed storm drain line culvert. The main design issue for the planter will be to place an appropriate dissipater within the planter to prevent erosion from incoming storm drain pipe. The incoming flow location and cobble dissipater location will be shown on the final plans.

Specific descriptions of each drainage area follow:

Planter PL1. Runoff from the rooftops, pavement and landscape areas will be directed to planter (PL1) located at the northeast portion of the site. PL1 is an irregular shaped landscaped area of approximately 35,949 square feet at elevation 365.

IV. DOCUMENTATION OF DRAINAGE DESIGN

IV.A. Descriptions of each Drainage Management Area

IV.A.1. Table of Drainage Management Areas (see C.3 Area Breakdown Insert)

<u>DMA Name</u>	<u>Surface Type</u>	<u>Area (square feet)</u>
IMP1	Pavement & Rooftops	171,858
L1	Landscape & Slopes	346,872
PL1	Bio Retention Planter	35,949 (elev 365)
	SUBTOTAL	554,679
<u>Upstream Area</u>	<u>Surface Type</u>	<u>Area (square feet)</u>
CW1	Clean water to bypass bio retention area	201,072

SUBTOTAL

755,751

IV.A.2. Drainage Management Area Descriptions

IMP1, totaling 171,858 square feet, consists of pavement and rooftop area. IMP1 drains to PL1, being an irregular shaped bio retention planter area , located approximately 400 feet to the north of the site.

L1, totaling 346,872 square feet, consists of landscape area and slopes. L1 drains to PL1, being an irregular shaped bio retention planter area , located approximately 400 feet to the north of the site.

PL1, totaling 35,949 square feet (at elev 365), consists of an irregular shaped bio retention planter area , located approximately 400 feet to the north of the site.

CW1, totaling 201,072 square feet, consists of “clean” hillside drainage along the east and south edges of the project, which will be drained around the project, and eventually find its way to the existing ravine to the west or to the new storm drain line to be constructed. The waters will eventually discharge to the existing 54” culvert at the northerly end of the ravine (near the intersection of Kingswood Dr. and Castlewood Dr. This drainage will bypass bio retention area PL1. No additional cleaning or hydro modification will occur to these waters.

IV.B. TABULATION AND SIZING CALCULATIONS

IV.B.1. Information Summary for IMP Design

Total Project Area (Square Feet)	554,679 plus 201,072 clean water to be rerouted around the project.
Mean Annual Precipitation	16”
IMPs Designed For:	treatment + flow control

IV.B.2. Self-Treating Areas

This does not apply.

IV.B.3. Self-Retaining Areas

This does not apply.

IV.B.4. Areas Draining to Self-Retaining Areas

This does not apply.

IV.B.5. Areas Draining to IMPs

(See C.3 calculator @ end of this report)

IV.B.6. Areas Draining to Non-LID Treatment ["Special Projects" only—See Table 4-14, p. 60]

This does not apply.

V. SOURCE CONTROL MEASURES

V.A. Site activities and potential sources of pollutants

This single family residential project will create few potential sources of stormwater pollutants. Sources to be controlled are:

Vehicle washing.

Potential dumping of wash water or other liquids into storm drain inlets.

Need for future indoor or structural pest control.

Fertilizers and pesticides used in home yard and garden maintenance.

The following Source Control Table lists potential pollutant sources on the development site and the corresponding source control measures specified in the *Stormwater C.3 Guidebook, Sixth Edition*, Appendix D.

All areas where these activities occur will drain to the bio retention planter PL1. To further reduce the potential for pollutants to enter runoff, permanent and operational BMPs will be implemented as described in V.B. below.

V.B. Source Control Table

Table 3. Sources and Source Control BMPs

Potential Source	Permanent BMPs	Operational BMPs
On-site storm drain inlets	All accessible on-site inlets will be marked with the words "No Dumping! Flows to Bay"	Markings will be periodically repainted or replaced. Inlets and pipes conveying stormwater to BMPs will be inspected and maintained as part of BMP Operation and Maintenance Plan.
Need for future indoor and structural pest control.		Integrated Pest Management (IPM) information will be provided to new homeowners.
Landscape/outdoor pesticide use	Final landscape plans will: Be designed to minimize irrigation and runoff and to minimize use of fertilizers and pesticides that can	Landscape will be maintained using minimum or no pesticides. IPM information will be provided to new

Potential Source	Permanent BMPs	Operational BMPs
	<p>contribute to stormwater pollution.</p> <p>Specify plantings within the planter that are tolerant of saturated soil conditions.</p> <p>Include pest-resistant plants.</p> <p>Include plantings appropriate to site</p> <p>soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency and plant interactions.</p>	homeowners.
Vehicle washing	Driveways and parking areas drain to the bio retention area	Distribute stormwater pollution prevention information to homeowners.

V.C. Features, Materials, and Methods of Construction of Source Control BMPs

No special features, materials or construction methods are required for the source control BMPs listed above.

VI. STORMWATER FACILITY MAINTENANCE

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

Commitment to Execute any Necessary Agreements.

Altec Homes, Inc. agrees to provide any necessary easements or rights of entry to the City of Pittsburgh for access and inspection of stormwater BMPs and to make provision of easements or rights of entry a condition of sale.

Statement Accepting Responsibility for Operation and Maintenance until Responsibility is Transferred.

Altec Homes, Inc. agrees to operate and maintain the stormwater BMPs constructed in connection with the project unless any other private entity to be responsible for maintenance, execution of Codes, Covenants, and Responsibilities is formed or other agreement that runs with the land and requires future owners to provide and pay for maintenance of stormwater BMPs, and execution of a Stormwater Management Facilities Operation and Maintenance Agreement and Right of Entry in the form provided by the City.

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

Bio retention Areas

These facilities remove pollutants primarily by filtering runoff slowly through an active layer of soil. Routine maintenance is needed to ensure that flow is unobstructed, that erosion is prevented, and that soils are held together by plant roots and are biologically active. Typical maintenance consists of the following:

Inspect inlets for channels, exposure of soils, or other evidence of erosion. Clear any obstructions and remove any accumulation of sediment. Examine rock or other material used as a splash pad and replenish if necessary.

Inspect outlets for erosion or plugging.

Inspect side slopes for evidence of instability or erosion and correct as necessary.

Observe soil at the bottom of the swale or filter for uniform percolation throughout. If portions of the swale or filter do not drain within 48 hours after the end of a storm, the soil should be tilled and replanted. Remove any debris or accumulations of sediment.

Examine the vegetation to ensure that it is healthy and dense enough to provide filtering and to protect soils from erosion. Replenish mulch as necessary, remove fallen leaves and debris, prune large shrubs or trees, and mow turf areas. When mowing, remove no more than 1/3 height of grasses. Confirm that irrigation is adequate and not excessive. Replace dead plants and remove noxious and invasive vegetation.

Abate any potential vectors by filling holes in the ground in and around the swale and by insuring that there are no areas where water stands longer than 48 hours following a storm. If mosquito larvae are present and persistent, contact the Contra Costa Mosquito and Vector Control District for information and advice. Mosquito larvicides should be applied only when absolutely necessary and then only by a licensed individual or contractor.

VII. CONSTRUCTION PLAN C.3 CHECKLIST

*Stormwater
Control Plan
Page #*

BMP Description

*See
Plan
Sheet
#s*

Table IV.A.1, Exhibit, Sections III.F. and III.G.	Drainage from the roof, pavement and landscaping, as delineated, graded and paved to direct drainage to planter PL1. PL1 sized and designed as stated in Sections III.F. and III.G., including erosion protection via placement of cobbles.	
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VIII. CERTIFICATIONS

The selection, sizing, and preliminary design of stormwater treatment and other control measures in this plan meet the requirements of Regional Water Quality Control Board Order R2-2009-0074 and Order R2-2011-0083.

Project Name: Montreux - West Side - JN 200601**Project Type:** Treatment and Flow Control**Location:** Kirker Pass Rd - Pittsburg**APN:** 089-020-009,011,014,015**Drainage Area:** 554679 sf**Mean Annual Precipitation:** 16 in

IV. Areas Draining to IMPs

IMP Name: PL1 (Soil Type: D)

IMP Type: Bioretention Facility

Soil Type: D

DMA Name	DMA Area (sq ft)	Post-Project Surface Type	DMA Runoff Factor	DMA Area x Runoff Factor	IMP Sizing			
					IMP Sizing Factor	Rain Adjustment Factor	Minimum Area or Volume	Proposed Area or Volume
IMP1	171,858	Conventional Roof	1.00	171,858				
L1	346,872	Landscape	0.70	242,810				
Total				414,668				
Area					0.050	1.185	24,565	35,949
Surface Volume					0.042	1.185	20,635	29,958
Subsurface Volume					0.055	1.185	27,021	28,759
Maximum Underdrain Flow (cfs)								0.69
Orifice Diameter (in)								5.37

Software Tool Warnings

No warnings to report.Report generated on 9/20/2012 12:00:00 AM by the Contra Costa Clean Water Program IMP Sizing Tool software (version 1.3.1.0).

C.3 Area Breakdown Insert

Montreux Subdivision 8279
West Watershed – 35 Lots Total

BASIS: Mean Annual Precipitation = 16 inches
Type D soil
Treatment and hydro modification required
237,054 lots
212,368 slopes (W4 thru W5 minus C.3 bottom @ elev 365)
69,308 roads
35,949 bio retention area PL1 (@ elevation 365)
554,679 total onsite area
201,072 offsite clean water (areas W1 thru W2) to pass thru site
755,751 total project area

A. Offsite "Clean" Water CW1:

"Clean" water from 201,072 sf of upstream offsite tributary area (W1=101,096 sf, W2=99,976 sf) will be carried around the site, bypassing the bio retention area and discharging into the existing ravine to the west of the bio retention area.

No Treatment or Hydro modification is required

B. Onsite Area Breakdown:

Basis for lot calculations is as follows:

1. Typical average lot = 6,773 sf (237,054 sf lot area/35 lots).
2. Typical impervious surface area for 6,773 sf lot = 2,930 sf per Contra Costa County "Table 8 – Average Impervious Surface Amounts"

Impervious area:

Impervious lot area = 35 lots x 2,930 sf/lot	=	102,550 sf
Roads area =	=	<u>69,308 sf</u>
Total Impervious Area (IMP1)*		171,858 sf

Pervious area:

Pervious lot area = 237,054 sf (total lot area) – 102,550 (impervious lot area) +
212,368 slopes = 346,872 sf

Total Pervious Area (L1) 346,872 sf

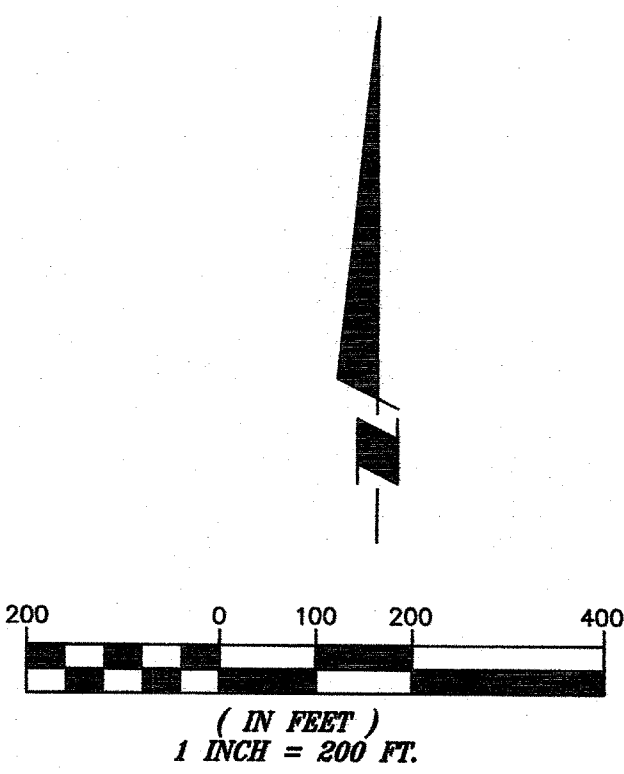
Notes:

* Total impervious area IMP1 is a composite of all roof, concrete and asphalt surfaces.

Table 8 – Average Impervious Surface Amounts

<u>Land Use</u>	<u>Impervious Surface Area</u>	
	<u>Street Area Not Included</u>	<u>Street Area Included</u>
<u>Commercial/Industrial/Downtown Offices:</u>		
<u>Offices (Medium):</u>	41,120 sf/acre	44,170 sf/acre
<u>Offices (Light):</u>	35,240 sf/acre	39,380 sf/acre
	29,490 sf/acre	33,240 sf/acre
<u>Multi-Family Residential (Including Mobile Home Parks):</u>		
Less than 2,500 sf of land/unit	32,400 sf/acre	32,400 sf/acre
2,500 to 2,999 sf of land/unit	1,920 sf/unit	1,920 sf/unit
3,000 to 3,999 sf of land/unit	2,200 sf/unit	2,200 sf/unit
4,000 to 4,999 sf of land/unit	2,560 sf/unit	2,560 sf/unit
5,000 to 5,999 sf of land/unit	2,930 sf/unit	2,930 sf/unit
6,000 to 6,999 sf of land/unit	3,290 sf/unit	3,290 sf/unit
7,000 to 7,999 sf of land/unit	3,640 sf/unit	3,640 sf/unit
8,000+ sf of land/unit	3,820 sf/unit	3,820 sf/unit
<u>Single Family Residential:</u>		
4,000 to 4,999 sf of land/unit	2,690 sf/unit	4,310 sf/unit
5,000 to 5,999 sf of land/unit	2,810 sf/unit	4,490 sf/unit
6,000 to 6,999 sf of land/unit	2,930 sf/unit	4,670 sf/unit
7,000 to 7,999 sf of land/unit	3,050 sf/unit	4,850 sf/unit
8,000 to 9,999 sf of land/unit	3,230 sf/unit	5,110 sf/unit
10,000 to 13,999 sf of land/unit	3,590 sf/unit	5,630 sf/unit
14,000 to 19,999 sf of land/unit	4,190 sf/unit	6,480 sf/unit
20,000 to 29,999 sf of land/unit	5,180 sf/unit	7,770 sf/unit
30,000 to 39,999 sf of land/unit	6,430 sf/unit	9,280 sf/unit
40,000 +	7,710 sf/unit	10,690 sf/unit

Use 2,930 sf/lot for single family housing



LEGEND

- TRIBUTARY BOUNDARY AFTER DEVELOPMENT —————
- TRIBUTARY BOUNDARY PRIOR TO DEVELOPMENT - - - - -

NOTE:
SEE C.3 AREA BREAKDOWN INSERT AT END
OF REPORTS FOR MONTREUX EAST &
MONTREUX WEST AREA EXPLANATIONS.

E 6160000

	SUBDIVISION 8279		MONTREUX		
	C.3 MONTREUX EAST & WEST				
	CITY OF PITTSBURG		CONTRA COSTA COUNTY CALIFORNIA		
	Isakson & Assoc. Inc. civil engineering & land surveying 2255 Ygnacio Valley Road, Suite C, Walnut Creek, CA. 94598 Phone: (925) 937-9333				
DATE: 9-20-12	DESIGNED BY: DOI	DRAWN BY: STAFF	CHECKED BY: DOI	JOB NO. 200601	1 OF 1