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**ALTA ROBLES
RESIDENTIAL
DEVELOPMENT**

*Precise Development Plan
Rezoning
Tentative Subdivision Map*

***Draft Environmental Impact
Report***

TOWN OF TIBURON

State Clearinghouse No. 2007072104

AUGUST 2009

ALTA ROBLES RESIDENTIAL DEVELOPMENT DRAFT ENVIRONMENTAL IMPACT REPORT

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1.0 INTRODUCTION

This Draft Environmental Impact Report (Draft EIR) describes the potential environmental effects that could result from implementation of the proposed *Alta Robles Residential Development* project (the proposed project).

The *State CEQA Guidelines* charge public agencies with the responsibility of avoiding or minimizing environmental damage where feasible. As part of this responsibility, public agencies are required to balance various public objectives, including economic, environmental, and social issues. An EIR is integral to that process, informing decision-makers and the general public what significant environmental effects might result from a proposed project. In addition, the EIR identifies possible means of mitigating any significant effects and presents reasonable alternatives to the project. The Town of Tiburon, as the lead agency, has prepared this EIR for the proposed project. In making its decisions about the proposed project, the Town of Tiburon must consider the information in this EIR along with any other available information.

1.1 EIR REQUIREMENT

Environmental review in compliance with the California Environmental Quality Act (CEQA) is required as part of the Town's consideration of the *Alta Robles Residential Development*. It was determined that an EIR covering the following topics should be prepared:

- Conformance with Public Plans
- Transportation
- Air Quality
- Noise
- Hydrology and Water Quality
- Biological Resources
- Geology and Soils
- Public Services
- Visual Resources
- Cultural Resources

In accordance with the *State CEQA Guidelines*, no Initial Study was prepared since the preliminary review determined that an EIR would be required.

In compliance with CEQA, the Town of Tiburon sent a Notice of Preparation (NOP) on July 19, 2007 to government agencies, special service districts, organizations, and individuals with an interest in or jurisdiction over the project. This step ensured early consultation with these entities on the scope of the EIR. A copy of the NOP is in **Appendix A**.

On August 8, 2007 the Town of Tiburon Planning Commission conducted a public scoping session on the proposed project. The purpose of the meeting was to identify environmental issues and concerns of the public about the project in order to evaluate those issues in this EIR.

Responses to the NOP and scoping meeting comments are part of the public record for the project. They are on file and available for public review during normal business hours at the Town of Tiburon City Hall, 1505 Tiburon Boulevard, Tiburon, California as are other environmental and planning documents compiled for the project.

The Draft EIR has been prepared in accordance with the California Environmental Quality Act, including the *CEQA Statutes* (Public Resources Code §§ 21000-21178.1), *State CEQA Guidelines* (Code of Regulations, Title 14, §§ 15000-15387), and relevant court decisions.

1.2 EIR OBJECTIVITY

In accordance with CEQA, this EIR:

- Assesses the expected impacts of the ultimate environmental changes resulting from implementation of the proposed *Alta Robles Residential Development*;
- Identifies mitigation measures that could avoid or minimize potentially significant environmental impacts; and
- Evaluates alternatives to the proposed project.

If an EIR determines that a project would result in significant impacts, agencies with authority over the project must make one or more of the following findings:

- Changes or alterations have been required in, or incorporated into, the project which avoid or substantially reduce the significant impacts identified in the EIR;
- Such changes or alterations are within the responsibility and jurisdiction of another public agency, and such changes have been adopted by such other agency or can and should be adopted by such other agency; or
- Specific economic, legal, social, technological, or other considerations make the mitigation measures of the EIR or project alternative(s) infeasible.

After considering the Final EIR, the lead agency shall not approve a project unless all significant effects have been eliminated or reduced where feasible or the agency adopts a statement of overriding considerations finding that economic, legal, social, technological, or other benefits of the proposed project outweigh its unavoidable adverse environmental effects.

The EIR is a factual, objective, public-disclosure document that takes no position on the merits of the project, but rather provides information by which decisions about the project can be based. The EIR has been prepared according to the professional standards and practices of the EIR consultants' individual disciplines and in conformance with the legal requirements and informational expectations of CEQA and the State and local guidelines in place to implement it. EIR authors are listed in *Chapter 8.0 Report Preparation*.

1.3 PUBLIC REVIEW AND COMMENT

The Town of Tiburon will circulate this Draft EIR widely for review and comment by public agencies, interested individuals, and organizations and will accept comments in writing. Comments should address the adequacy and completeness of the Draft EIR or contain questions about the environmental consequences of approving and implementing the project, not on the merits of the project itself (the Town will invite comments on the project itself as part of its normal public review process, separate from considering the Draft EIR). *Adequacy* refers to the EIR's completeness in disclosing significant

environmental effects, identifying measures to mitigate those significant impacts, and providing sufficient information for officials to make decisions about the merits of the project. The *State CEQA Guidelines* direct that an EIR focuses on a project's significant environmental impacts and not to dwell on all conceivable less-than-significant effects, so that reports can be succinct disclosure documents and effective decision-making tools.

Written comments on the Draft EIR must be made before the close of the 45-day public review period, October 2, 2009, and mailed to or delivered to the following address:

Scott Anderson
Town of Tiburon
1505 Tiburon Boulevard
Tiburon, California 94920

Comments can be sent by email to Scott Anderson at
sanderson@ci.tiburon.ca.us

A Final EIR will be prepared after the close of the public review period. The Final EIR will include all comments received by the Town during the public review period and responses to those comments. The Final EIR will be distributed to the public and to public agencies commenting on the Draft EIR for review before the Town considers certifying the Final EIR as complete.

No action can be taken to approve or conditionally approve the project until the Final EIR is certified. Town acceptance of the EIR upon certification does not require approval of the project studied in the EIR.

In addition to preparation of the Final EIR, a Mitigation Monitoring and Reporting Program (MMRP) will be prepared. California State Government Code Section 21081.6 (*California Environmental Quality Act*) requires a public agency to adopt a reporting or monitoring program when approving a project or changes to a project, in order to mitigate or avoid significant effects on the environment. The program is based on the findings and the required mitigation measures presented in the Final EIR that has been prepared on the project and certified by the lead agency. The reporting or monitoring program must be designed to ensure compliance during project implementation.

As per the *State CEQA Guidelines*, the MMRP must:

- Identify the entity that is responsible for each monitoring and reporting task, be it the Town of Tiburon (as Lead Agency), other agency (Responsible or Trustee Agency), or a private entity (i.e., the project sponsor);
- Be based on the project description and the required mitigation measures presented in the environmental document prepared for the project and certified by the Lead Agency;
- Be approved by the Lead Agency at the same time of project entitlement action or approvals.

1.4 REPORT ORGANIZATION

After *Chapter 1.0 Introduction*, the Draft EIR is organized as follows:

- *Chapter 2.0 – Summary of Findings*, identifies areas of controversy, highlights the important effects of implementing the project, and identifies some of the measures available to mitigate significant adverse impacts.
- *Chapter 3.0 – Description of the Proposed Project*, describes the location of the project site, existing land uses on and in the vicinity of the project site, all aspects of the project as proposed, cumulative assumptions used throughout the analyses, and the approvals and permits required before the project could be implemented, if approved.
- *Chapter 4.0 – Land Use and Planning*, presents an analysis of the project in relation to the adopted *Town of Tiburon General Plan, Zoning Ordinance* of the *Tiburon Town Code*, the *Paradise Drive Visioning Plan*, and the *Marin LAFCo Policy Guidelines*.
- *Chapter 5.0 – Environmental Setting, Impacts, and Mitigation Measures*, describes existing environmental conditions on the site and within the study area, identifies probable impacts from implementing the project, and describes mitigation measures required to substantially reduce or eliminate potentially significant adverse impacts.
- *Chapter 6.0 – Alternatives to the Proposed Project*, describes and assesses the difference in outcome between the project and three alternatives: a No Project / No Build alternative; a No Project / Reasonably Foreseeable Development Alternative and a revised site plan. This chapter also identifies an environmentally superior alternative among the alternatives.
- *Chapter 7.0 – Other Sections Required by CEQA*, discusses growth inducing impacts and cumulative impacts, significant unavoidable impacts, and effects of no significance.
- *Chapter 8.0 – Report Preparation* includes: the report preparers; the people and organizations consulted; and the bibliography.
- *Appendix* includes the Notice of Preparation.

1.5 INFORMATION USED TO PREPARE THE DRAFT EIR

The *State CEQA Guidelines* permit any person, including the applicant, to submit information to assist in the preparation of an EIR but requires independent review of the information to ensure that it accurately reflects the Lead Agency's judgment about the environmental impacts of the project. The Draft EIR consultants conducted peer reviews of the background reports and documents submitted to the Town as part of the project application. Applicant-prepared information was only used in the Draft EIR after the validity of the data was verified and, where required, updated by the EIR consultants. Documents prepared by the applicant's consultants and examined in the Draft EIR's environmental analyses are listed below, identified in the relevant report sections, and referenced in *Chapter 8.0 Report Preparation*.

- *Alta Robles - Project Narrative*, IPA, Inc., March 2007, revised May 2007.

This is a discussion of the proposed project submitted as a part of the project application. Information regarding the proposed project, the planning land use context, and the precise development plan is provided.

- *Architectural Guidelines*, March 6, 2007.

This document provides architectural design guidelines. Landscape design guidelines, and biological mitigation and monitoring guidelines for the proposed project are included.

- *Construction Management Plan Alta Robles - Rabin / SODA*, March 6, 2007.

This document describes the applicant related construction activities and proposed mitigation measures for construction impacts.

- *Botanical Assessment for the 30-Acre Rabin Property, Tiburon, Marin County, California*, Sycamore Associates LLC, July 30, 2005.

This report presents the results of field investigations conducted by Sycamore Associates on the Rabin property. Sycamore Associates evaluated the potential for occurrence of special-status plant species and performed seasonal focused rare plant surveys on the Rabin property.

- *Botanical Assessment of the 30-Acre SODA Property, Tiburon, Marin County, California*, Sycamore Associates, May 31, 2005.

This report presents the results of field investigations conducted by Sycamore Associates on the SODA property. Sycamore Associates evaluated the potential for occurrence of special-status plant species and performed seasonal focused rare plant surveys on the SODA property.

- *Biological Assessment for the Proposed Residential Development at the SODA Property, Marin County, California*, Sycamore Associates LLC, September 5, 2002.

This report presents the results of a reconnaissance-level biological assessment performed by Sycamore Associates on the SODA property. The purpose of the assessment was to identify constraints and opportunities by assessing the potential for the occurrence of special-status biological resources to occur on the site.

- *Biological Assessment and Jurisdictional Determination for the 30 Acre Rabin Property, Tiburon, Marin County California*, Sycamore Associates, LLC, January 21, 2005.

This report presents the results of a reconnaissance-level biological assessment performed by Sycamore Associates on the Rabin property. The report includes a discussion of the existing conditions on site including plant communities and wildlife habitats, and potentially occurring special-status plants and animals. The results of a formal wetland delineation and preliminary jurisdictional determination for the property are presented. Included is a letter dated November 17, 2005 from the U.S. Army Corps of Engineers providing a verification of the Rabin Wetland Delineation and Jurisdictional Determination.

- *Wetland Delineation and Preliminary Jurisdictional Determination of the SODA Property Marin County, California*, Sycamore Associates LLC, August 30, 2002.

This report presents the results of a formal wetland delineation and jurisdictional determination of waters of the U.S. conducted by Sycamore Associates on the SODA property. Included is a letter dated December 9, 2005 from the U.S. Army Corps of Engineers providing a verification of the SODA Wetland Delineation and Jurisdictional Determination.

- *Mitigation Recommendations for the Approximate 60-Acre Rabin / SODA Residential Development, Tiburon Marin County California*, Sycamore Associates LLC, Revised March 5, 2007.

Based on site reconnaissance, botanical assessments, and other field surveys Sycamore Associates provides mitigation recommendations for the Rabin and SODA properties.

- *Tree Survey Report for the Approximate 60-Acre Rabin / SODA Project, Tiburon, Marin County, California*, Sycamore Associates LLC, October 6, 2005.

This report presents the results of a tree survey conducted for an approximately 22-acre area within the approximately 60-acre Rabin / SODA property by Sycamore Associates. A total of 766 trees were tagged and identified representing 32 species. A letter report addendum prepared by Sycamore Associates (December 21, 2006) is included in the report. The addendum was prepared in response to changes in the proposed design and grading of the project.

- Letter report to David Warner, Redhorse Constructors, Inc., from Whitney Fiore, EDAW, May 8, 2007.

This letter is in response to Town of Tiburon comments, dated April 6, 2006 regarding the proposed project. Included as Appendix A is the Second Addendum to the *Tree Survey Report for the Approximately 53-acre Rabin / Soda Project, Tiburon, Marin County, California*.

- *Preliminary Geotechnical Investigation Alta Robles Subdivision, Tiburon California*, Miller Pacific Engineering Group, March 2007.

This report presents the results of a preliminary geotechnical investigation performed on the project site by Miller Pacific Engineering Group. Preliminary geotechnical recommendations and design criteria for use in project planning are presented.

- *Preliminary Landslide Assessment Alta Robles Residential Project Tiburon California*, Klienfelder, Inc., February 28, 2007.

This report presents the results of Klienfelder's engineering geologic assessment of landslides on the project site. The report provides conclusions and recommendations for project development plus meeting the requirements of the Town of Tiburon Landslide Mitigation Policy.

- *Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California*, S.A. Stephens, S.R. Korbay, Miller Pacific Engineering Group, January 28, 2008.

In response to comments by the Town's Geotechnical Consultant (Herzog Geotechnical) Miller Pacific Engineering Group performed additional subsurface exploration with borings and test pits and provided additional analysis, including slope stability calculations.

- *2nd Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California*, S.A. Stephens, S.R. Korbay, March 4, 2008.

Miller Pacific Engineering Group provided additional responses to the second review by the Town's Geotechnical Consultant.

- *Preliminary Hydrology Report for Alta Robles Development Tiburon, Marin County, California, CSW / Stuber-Stroeh Engineering Group, Inc., January 2006.*

This is a hydrology study for the project site. The study examines and compares hydrological conditions of the proposed project for pre- and post-development conditions. Proposed storm drainage improvements have also been identified.

- *Tree Removal, Alta Robles Subdivision, Marin County, California, Sheets L1.1 L.1.1a, and L1.1b, Jim Catlin, Landscape Architect, March 2006, revised September 10, 2008*

Tree Removal maps prepared in 2006 and updated in 2008 for the applicant by Jim Catlin. Identifies the location of trees included in the 2005 Tree Survey, a summary of tree removal totals, and a table of all trees proposed for removal.

- *Alta Robles Precise Development Plan, March 1, 2007.*

This submittal includes the exhibits submitted as a part of the Precise Development Plan and includes the following sections:

- *Precise Development Plan for Alta Robles Tiburon, California, CSW / Stuber-Stroeh Engineering Group, Inc. revised May 8, 2007, consisting of 18 sheets C1 - C18.*

This is a part of the applicant's precise development plan submittal to the Town of Tiburon. It consists of 18 sheets including existing topography, existing slope map, preliminary grading plan, grading cut and fill diagram, proposed slope map, proposed utility plan, and preliminary erosion control plan.

- *Alta Robles Precise Development Plan, KAO Design Group, March 1, 2007, consisting of 126 sheets. Several of the sheets were revised May 8, 2007.*

The drawings include site documentation, planning approach, green design, and house designs for the proposed lots (excluding the existing house on Lot 1). For each individual lot a section view, site plan, area calculations, floor plans, roof plan, house sections and house elevations are provided.

- *Alta Robles Precise Development Plan, Jim Catlin, Landscape Architect, March 2006, consisting of 16 sheets.*

The drawings include defensible space plans, tree removal plan, and preliminary planting schematics.

These documents are available for public review at

Town of Tiburon Planning Division
1505 Tiburon Boulevard
Tiburon, California 94920

1.6 GLOSSARY AND ACRONYMS

A glossary of terms used in this document is provided in **Exhibit 1.0-1**. Acronyms used in this document are listed in **Exhibit 1.0-2**.

Exhibit 1.0-1 **Glossary**

Term	Meaning
Acre-foot of water	One acre-foot of water is equal to 325,829 gallons of water. This measurement refers to the amount of water covering one acre to a depth of one foot.
Cistern	A receptacle for holding water or other liquid, especially a tank for catching and storing rainwater.
Class III Bikeway (Bicycle Route)	Provides for a right-of-way designated by signs or pavement markings for shared use with motor vehicles.
Compacted Fill Buttress	A compacted fill mass that is constructed against a slope for the purpose of stabilizing adverse geologic conditions.
Debris Fence	A fence structure placed within a ravine or swale that is designed to catch and slow down soil and rock debris from debris flows and erosion.
Defensible Space	Fire safe zones around structures facilitated by both fuel modification (pruning) and reduction (removal of pyrophytes).
Ephemeral Stream	A watercourse that carries only surface runoff and flows during and immediately after periods of precipitation.
Fire Flow	The term firefighters use to describe how much water can be delivered by a water system through one or more hydrants to fight a fire at a specific location or to state the optimum amount (standard) of water flow firefighters require for a theoretical fire at a specific location. The former is determined by a pipe's size, pressure and internal condition and the latter is based on standards developed over years of experience.
Flood, 100-year	Based on historical data, the magnitude of a flood expected to occur on the average every 100 years. The 100-year flood has a one percent chance of occurring in any given year.
Green Building	Generally refers to a whole-systems approach to building design, construction, and occupancy. Site, energy, water, resources, materials, indoor air quality, and financial feasibility are all analyzed for environmental impact, health effects, and cost effectiveness.
Level of Service (LOS)	LOS is a qualitative assessment of perceived traffic conditions by motorists and it generally reflects driving conditions such as travel time and speed, freedom to maneuver, and traffic interruptions. LOS uses quantifiable traffic measures such as average speed, intersection control delay, and volume-to-capacity ratio to determine driver satisfaction. Reported for individual intersections, LOS is designated by a range of letters, with "A" representing the most

Term	Meaning
	favorable conditions (free flow) and “F” representing the least favorable conditions (jammed with excessive delays).
Low-Impact Development	Low impact development is an innovative storm water management approach with the basic principle that is modeled after nature: manage runoff from rainfall and urban use of water at the source using uniformly distributed decentralized micro-scale controls.
Peak Hour	The 60-minute period in the morning (AM) and in the evening (PM) with the highest volume of motor vehicle traffic constitutes the “peak hour” for the purposes of the traffic analysis.
Planning Area	The Tiburon Planning Area consists of the incorporated Town of Tiburon, the unincorporated part of Paradise Drive, the unincorporated area between the western border of incorporated Tiburon and U.S. 101 north of Tiburon Boulevard, and all unincorporated portions of the Ring Mountain Open Space Preserve.
Residential Use Area	Each residential lot includes a residential use area where the majority of development would occur. Development of each main housing unit would be restricted to within the residential use area.
Sorokko Property	An 18.9-acre site located at 3,820 Paradise Dive, directly across from the Alta Robles site. A development plan to develop five homes on the property has been approved by Marin County.
500-year storm	Refers to a storm of such intensity that there is a 0.2 percent probability of it occurring in any given year, or put another way, that such a storm would occur only once in a 500-year period.

Notes: see **Exhibit 5.3-1** for definitions of acoustical terms.

Exhibit 1.0-2
Acronyms

Acronym	Meaning
AASHTO	American Association of State Highway and Transportation Officials
APN	Assessor’s parcel number
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	2007 California Building Code
CC&Rs	covenants, conditions, and restrictions

Exhibit 1.0-2 (continued)
Acronyms

Acronym	Meaning
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CEQA	California Environmental Quality Act
CFS	Cubic Feet per Second
CMP	Marin County Congestion Management Program
CNDDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CNEL	Community noise equivalent level
Corps	U.S. Army Corps of Engineers
CWPP	Marin County Community Wildlife Protection Plan
dB	Decibels
dBA	A-weighted sound
DPM	Diesel particulate matter
EIR	Environmental impact report
EFZ	Alquist-Priolo earthquake fault zone
EPA	United States Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
gpd	gallons per day
gpm	gallons per minute
GHG	Greenhouse gases
GWP	Global Warming Potential
HCM	Highway Capacity Manual
HOA	Homeowners Association
IPCC	United Nations Intergovernmental Panel on Climate Change
L _{dn}	Day / night noise level
L _{eq}	Energy equivalent noise level
LAFCo	Local Agency Formation Commission
LCFS	Low carbon fuel standard
LID	Low-impact development
LOS	Level of Service
MCSTOPP	Marin County Stormwater Pollution Prevention Program

Exhibit 1.0-2 (continued)
Acronyms

Acronym	Meaning
MEP	Maximum Extent Practicable
MMRP	Mitigation Monitoring and Reporting Program
MMTCO _{2e}	Million metric tons of equivalent CO ₂ emissions
MMWD	Marin Municipal Water District
mph	Miles per hour
MTC	Metropolitan Transportation Commission
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
OPR	Governor's Office of Planning and Research
PAHs	Polycyclic Aromatic Hydrocarbons
PDP	Precise Development Plan
PD-R	Planned Development - Residential
POA	Property Owners' Association
RCP	Reinforced concrete pipe
RPD	Residential Planned Development
RTIP	Regional Transportation Improvement Program
RUSD	Reed Union School District
RWQCB	San Francisco Bay Regional Water Quality Control Board
SD No. 5	Sanitary District Number 5
SFHA	Special Flood Hazard Area
SOD	Sudden Oak Death
SM4	Small Municipal Separate Storm Sewer Systems
SR	State Route
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminants
TAM	Transportation Authority of Marin
TDM	Transportation Demand Management
TFPD	Tiburon Fire Protection District
TMDL	Total Maximum Daily Load

Exhibit 1.0-2 (continued)
Acronyms

Acronym	Meaning
TMF	Tiburon Traffic Mitigation Fee Program
TUHSD	Tamalpais Union High School District
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
U.S. 101	U.S. Highway 101
vph	vehicles per hour
WGCEP	Working Group for California Earthquake Probabilities
WQMP	Water Quality Management Plan
WTA	Water Transit Authority
WUI	wildland-urban interface

2.0 SUMMARY OF FINDINGS

This chapter summarizes the proposed project considered in this draft Environmental Impact Report (Draft EIR); including environmental impacts associated with the proposed project and mitigation measures.

2.1 PROPOSED PROJECT

The 52.21-acre *Alta Robles Residential Development* project site is located on the northeast side of the Tiburon Peninsula, about 2.9 miles southeast of the U.S. Highway 101 (U.S. 101) / Tiburon Boulevard interchange via Tiburon Boulevard and Trestle Glen Boulevard; and about 4.3 miles from the U.S. 101 / Tamalpais Drive interchange via Paradise Drive. The project site is bordered on the north by Paradise Drive and on the south by Hacienda Drive.¹

The project site consists of two contiguous parcels: the SODA property and the Rabin property. The 20.95 acre SODA property (APN 039-301-01) is located in an unincorporated portion of Marin County within the Town of Tiburon's Sphere of Influence. The SODA property is currently undeveloped.

The 31.26 acre Rabin property (APN 039-021-13) is located within the Town of Tiburon and has a street address of 3825 Paradise Drive. The Rabin property is currently developed with one single-family residence and several ancillary structures, including a tennis court.

Irving and Varda Rabin have submitted an application to the Town of Tiburon requesting approval of a Precise Development Plan (PDP) for the Alta Robles project site. In addition, the application requests rezoning the SODA property to the Town's Residential Planned Development zoning designation and annexation of the SODA property to the Town of Tiburon.

The PDP proposes to create a 14-home subdivision. The subdivision would include 14 residential lots consisting of one single-family home and accessory structures on each lot. One lot (Lot 1) would be for the existing single family home and 13 lots (Lots 2 through 14) would be for new single family homes. An additional three parcels (Parcels A, B and C) would voluntarily be offered for dedication as Open Space. The applicant proposes to repair site landslides and provide improved lots with roadway and utilities in place.² An internal roadway would connect the residential lots to Paradise Drive.

In addition to the certification of the EIR, the proposed *Alta Robles Residential Development* will require the following approvals from the Town of Tiburon:

- Precise Development Plan approval.

¹ Although not precisely oriented north-south, for the purpose of this EIR the Paradise Drive boundary will be referred to as north and the Hacienda Drive boundary will be referred to as south.

² The applicant does, however, reserve the option to develop the residential lots rather than offer improved lots to future owners. *Alta Robles - Project Narrative*, IPA, Inc., May 2007, page 2.

- Rezoning of the SODA property (in anticipation of annexation to the Town).
- Tentative and Final Subdivision Map approvals.
- Design Review of construction on individual lots.
- Building permits

2.2 SCOPING COMMENTS AND AREAS OF CONTROVERSY

In compliance with CEQA, the Town of Tiburon sent a Notice of Preparation (NOP) on July 19, 2007 to government agencies, special service districts, organizations, and individuals with an interest in or jurisdiction over the project. This step ensured early consultation with these entities on the scope of the EIR.

On August 8, 2007 the Town of Tiburon Planning Commission conducted a public scoping session on the proposed project. The purpose of the meeting was to identify environmental issues and concerns of the public about the project in order to evaluate those issues in this EIR. After reviewing comments relevant to the Alta Robles Residential Development, the Town of Tiburon identified the following areas of controversy that are further evaluated in this Draft EIR.

Land Use and Planning – Concern with consistency of the proposed *Alta Robles Residential Development* project with adopted Town of Tiburon land use plans.

Transportation – Concern with increased traffic, safety, including pedestrians and bicyclists, on Paradise Drive, adequacy of access road connection to Paradise Drive.

Air Quality – Concern with diesel exhaust and construction impacts.

Noise – Concern with construction related noise.

Hydrology and Water Quality – Concern with impacts to streams, wetlands, and other water features on the project site.

Biological Resources – Concern about impacts to existing biological resources on the project site, especially loss of trees.

Geology and Soils – Concern regarding proposed landslide remediation and amount of grading required.

Public Services – Concern about ability of Sanitary District No. 5, Marin Municipal Water District and others to provide public services.

Visual Quality – Concern regarding impact to Town identified significant ridges, size and scale of proposed houses, and views of the project site from off-site locations.

Cultural Resources – Requested consultation with native American groups regarding impact to cultural resources.

2.3 SIGNIFICANT IMPACTS AND MITIGATION MEASURES

This section presents a complete summary of the environmental impacts discussed in this Draft EIR and detailed in *Chapter 5.0 Environmental Setting, Impacts, and Mitigation Measures*. The following levels of significance were used to identify impacts in **Exhibit 2.0-1** and elsewhere in this Draft EIR.

- **Significant Impact (S)** – An adverse change in the environment, where the change exceeds a specific significance threshold. These thresholds are described under the "Significance Criteria" in sections 5.1 through 5.9.
- **Significant Unavoidable Impact (SU)** – A significant impact that cannot be avoided with mitigation. These include impacts which could be partly mitigated but could not be reduced to a less-than-significant level.
- **Less-than-Significant Impact (LTS)** – A change in the environment that does not exceed specific significance thresholds, or no change at all.

Topical sections in *Chapter 5.0 Environmental Setting, Impacts, and Mitigation Measures* list the thresholds and criteria used to determine significance for the respective environmental subject.

Exhibit 2.0-1
Summary of Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
Transportation			
<p><i>5.1-1 Existing-plus-Project Impact on Signalized Intersections.</i> Project traffic would increase peak hour traffic volumes at the signalized Trestle Glen Boulevard /Tiburon Boulevard intersection. The intersection would operate at an acceptable LOS under existing-plus-project conditions.</p>	LTS	No mitigation would be required.	LTS
<p><i>5.1-2 Cumulative-plus-Project Impact on Signalized Intersections.</i> Cumulative-plus-project conditions would increase peak hour traffic volumes at the signalized Tiburon Boulevard / Trestle Glen Boulevard intersection. The intersection would operate at an unacceptable LOS during the AM peak hour under cumulative conditions, with or without the project. While not significant alone, the additional increment of motor vehicle traffic generated by the project would contribute to the cumulative impact. Since project traffic would result in less than a five second increase in average delay, the project’s contribution to the cumulative impact would be less than cumulatively considerable.</p>	LTS	<p><i>5.1-2</i> Mitigation of the cumulative impact would require the installation of a second through lane in the eastbound direction at the Tiburon Boulevard / Trestle Glen Boulevard intersection (in addition to the planned lane in the westbound direction).</p>	LTS
<p><i>5.1-3 Existing-plus-Project and Cumulative Impacts on Unsignalized Intersections.</i> Project traffic and cumulative-plus-project conditions would increase traffic at the unsignalized Paradise Drive / Trestle Glen Boulevard and Paradise Drive / Project Entrance Road intersections. Each intersection would continue to operate at an acceptable LOS.</p>	LTS	No mitigation would be required.	LTS
<p><i>5.1-4 Safety Impact Due to Inadequate Sight Distance Approaching the Unsignalized Intersection of Paradise Drive with the Project Entrance.</i> Visibility for drivers approaching the intersection of Paradise Drive with the project entrance road would</p>	S	<p><i>5.1-4</i> Requires a minimum 220 feet long sight distance clearance for vehicles approaching the entrance road traveling west on Paradise Drive, which could be achieved by grading the hillside</p>	LTS

³ Exhibit 2.0-1 contains a summary of mitigation measures. For complete details for each mitigation measure please refer to the appropriate analysis section.

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
not meet the AASHTO standard for stopping sight distance and would, in the opinion of the EIR traffic analyst, result in a potentially unsafe condition.		and use of a retaining wall.	
<p><i>5.1-5 Impact on Regional Roadways.</i> The project would generate trips that would travel on two facilities that are designated as routes of regional significance as part of the County Congestion Management Program (CMP): Tiburon Boulevard and U.S. 101. The Tiburon General Plan 2020 EIR identified a significant unavoidable impact to U.S. 101 resulting from regional growth, including growth within Tiburon which includes the proposed project. This would be a significant cumulative impact.</p>	S	<p><i>5.1-5</i> Same as Mitigation Measure 4.2-4 in the <i>Tiburon General Plan 2020 EIR</i>. Maintain an active role in the Transportation Authority of Marin and / or U.S. 101 Corridor planning program with the purpose of ensuring that improvements enhance inter-city movement. Corridor improvements could include additional travel lanes in some segments, operational improvements at interchanges, and measures to reduce vehicle trips (such as regional transit improvements). Ultimately, implementation of such measures is outside the jurisdiction of the Town of Tiburon.</p>	SU
<p><i>5.1-6 Project Impact on Transit.</i> Project related traffic would not adversely impact transit operations. Increase in demand for transit generated by the proposed project would be met by existing services.</p>	LTS	No mitigation would be required.	LTS
<p><i>5.1-7 Project Impact on Bicycle Facilities and/or Safety.</i> Project site residents would contribute slightly to the number of bicyclists using Paradise Drive, a narrow and winding roadway that lacks shoulders and can be challenging for inexperienced cyclists. The project also would add motor vehicle traffic to the roadway, which has limited areas for motorists to pass bicyclists given the narrow width and frequent curves. While not significant alone, this additional increment of motor vehicle and bicycle traffic would exacerbate already constrained conditions. This would be a significant cumulative impact.</p>	S	<p><i>5.1-7</i> Requires provision of a consistent-width shoulder (four to six feet in width) on the project frontage along the south side of Paradise Drive (directly abutting the project site) in order to reduce conflict between bicycle and motor vehicle traffic, alleviate traffic congestion, and increase safety.</p>	LTS
<p><i>5.1-8 Project Impact on Pedestrian Circulation.</i> Project implementation would not result in disruptions to existing pedestrian facilities, cause traffic to increase to the point of causing a safety hazard for pedestrians, or interfere with planned pedestrian facilities.</p>	LTS	No mitigation would be required.	LTS
<p><i>5.1-9 Project Impacts Related to Site Access.</i> Access to the proposed single-family homes would be provided from Paradise Drive by the proposed project entrance that would be located near the western boundary of the site. Access to the existing single-family home located on the Rabin property would continue to utilize the</p>	LTS	No mitigation would be required.	LTS

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
existing driveway located near the eastern edge of the site.			
<i>5.1-10 Project Impacts Related to Emergency Access and Internal Circulation.</i> The project would create demand for emergency services and require provision of adequate internal circulation for vehicles, pedestrians, emergency vehicles and fire trucks.	LTS	No mitigation would be required.	LTS
<i>5.1-11 Parking Impacts.</i> The project would create demand for parking spaces.	LTS	No mitigation would be required.	LTS
<i>5.1-12 Construction Traffic Impacts.</i> Project implementation would add a significant number of construction trips to Paradise Drive, raising concerns about safety, pavement damage on affected roads, and disruptions of peak hour traffic.	LTS	No mitigation would be required.	LTS
<i>Air Quality</i>			
<i>5.2-1 Construction-Period Air Pollutant Emissions.</i> Air pollutants emitted during construction could expose nearby neighbors to unhealthy levels of particulate matter and possibly TACs.	S	5.2-1 Reduces air pollutant emissions during construction by requiring the implementation of the Construction Management Plan, which is contained in the Precise Development Plan, with additional modifications to the plan that would: <ul style="list-style-type: none"> Require the use of off road construction equipment that meets stricter air pollutant emission standards. Prohibit the use of diesel powered equipment that would emit dark smoke (exceeding 40-percent opacity) for more than three minutes of any one hour of operation. Require any diesel equipment standing idle more than five minutes be turned off, with exception to rotating drum concrete trucks. Require efforts to prevent visible tracking of mud or dirt on to public roadways or immediately sweep dirt or mud tracked on to roadways. 	LTS
<i>5.2-2 Generation of Airborne Asbestos.</i> Grading of the project site may disturb soils containing serpentine, possibly releasing asbestos fibers into the air.	LTS	No mitigation would be required.	LTS
<i>5.2-3 Greenhouse Gas Emissions.</i> New large residences would be an additional source of GHG emissions, primarily through	LTS	No mitigation would be required.	LTS

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
consumption of energy for transportation and energy usage. These GHG emissions would not exceed any GHG significance thresholds being contemplated by air management districts and other agencies.			
Noise			
<p><i>5.3-1 Construction Noise.</i> Construction of the Alta Robles Residential Development would temporarily increase ambient noise levels in the site vicinity. Given the potential for substantial increases in noise at adjacent residential land uses as a result of project construction and the likelihood that substantial noise increases would occur for more than one construction season, this would be a significant impact.</p>	S	<p><i>5.3-1</i> Reduce construction noise impacts by requiring implementation of the Construction Management Plan, which is contained in the Precise Development Plan, with the following modifications:</p> <ul style="list-style-type: none"> • Limits to construction hours, including hours for truck deliveries and arrival or departure of heavy equipment, between 7:00 AM and 5:00 PM Monday through Friday and 9:30 AM to 4:00 PM on Saturday. • Restriction for idling construction equipment and trucks. • Limits for noise from construction workers’ radios, so as not to be audible off the site. • Restriction for the location of stationary noise-generating equipment so that emitted noise is directed away from residences. • Requirements to notify neighbors within 500 feet of the construction site of the construction schedule in writing. 	SU
Hydrology and Water Quality			
<p><i>5.4-1 Drainage Alteration of Existing Drainage Patterns and Erosion and On- and Off-Site Flooding.</i> Project development would result in the clearing of land for the proposed site improvements, as well as localized alterations in the drainage pattern and the installation of roadways and storm drain systems. While the proposed cistern installations would maintain pre-development peak flow rates for each of the site drainage areas, concentrated stormwater would be discharged at two points along existing swales or small drainageways (i.e. more defined bed and banks). Under current conditions, hillslope runoff enters the swales/drainageways in less concentrated fashion than that depicted for the project condition. This could increase localized channel erosion and increase sediment delivery to culverts along Paradise Drive. If such increases in</p>	LTS	No mitigation would be required	LTS

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
sediment yield occurred, these roadway culverts could become obstructed and create nuisance backwater flooding along Paradise Drive.			
<p><i>5.4-2 Alteration of Existing Drainage Patterns on Erosion and Downstream Sedimentation.</i> Project development would result in the installation of new roads and storm drain systems that would discharge more concentrated flows into existing swales or small drainageways (i.e. more defined bed and banks). This could result in localized incision (i.e. erosion) of the receiving drainageways even if the rock energy dissipaters are installed as proposed in the PDP. Also, the PDP shows an incomplete tie-in to a roadside sump at Culvert 7. These alterations in the routing and concentration of discharged runoff would result in a significant impact on hillslope and channel erosion.</p>	S	<p><i>5.4-2</i> Reduces downstream erosion that would be caused by increased run-off from the project site by requiring construction of suitable channel stabilization methods where needed in the downstream drainageways. Appropriate permits would be obtained for any work and the applicant would monitor the effectiveness of the stabilization methods as required by the permitting agencies. Additionally, requires revisions to the proposed drainage plan to correct the inadequate tie-in to the roadside sump at Culvert 7.</p>	LTS
<p><i>5.4-3 Impacts on Groundwater Levels and Groundwater Recharge.</i> Project implementation and its incorporation of the proposed landslide remediation program would result in the installation of subdrains for dewatering of active or potentially active landslides, including colluvial zones occupying existing on-site drainageways. These subdrains would intercept groundwater and convey it to downslope outlets with the aim of dewatering potentially unstable colluvial deposits. This would result in a local lowering of the shallow groundwater tables established in these colluvial deposits. Depending on the orientation and connectivity of fractured bedrock aquifers underlying these deposits, this conversion of groundwater to surface water could also diminish the on-site recharge of bedrock aquifers.</p>	LTS	<p>No mitigation required. In order to comply with the Town's Landslide Mitigation Policy, landslide and slope stabilization, with their associated subsurface drainage measures, would result in localized, secondary impacts on both groundwater levels and soil moisture availability for on-site hydrophilic plant communities. Implementation of Mitigation Measures discussed in Section 5.5 <i>Biological Resources</i>, including off-site replacement of freshwater wetland and seep habitats, where avoidance is infeasible, would reduce the secondary impacts of grading and subsurface drainage control on affected biotic resources to a less-than-significant level.</p>	LTS
<p><i>5.4-4 Impacts on Water Quality.</i> Project implementation would increase the area devoted to both paved (roadway and driveway) surfaces and irrigated landscaping. Episodic discharge of stormwater contaminated with heavy metals and petrochemical residues could detrimentally affect shoreline waters along Paradise Cove. Residential lot development could be accompanied by increased application of fertilizers and chemicals (such as herbicides and pesticides). Typical residential pesticide application, as well as over-</p>	S	<p><i>5.4-4</i> Reduce contamination of stormwater by requiring the Home Owners Association (HOA) to privately contract with Mill Valley Refuse Service or its equivalent to undertake twice a month street sweeping. Additionally the HOA shall provide each homeowner with information regarding less toxic pest management procedures.</p>	LTS

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
irrigation combined with accidental spills or releases of fertilizer or pesticides / herbicides would result in downstream migration of contaminated runoff to drainageways tributary to Central San Francisco Bay. Due to the listing of Central San Francisco Bay as impaired for mercury, polycyclic aromatic hydrocarbons (PAHs), PCBs, and several pesticides, including chlordane and dieldrin, even minor amounts of these substances above ambient watershed levels would result in a significant impact.			
Biological Resources			
<p><i>5.5-1 Special-Status Species.</i> The Alta Robles Residential Development could result in loss of essential habitat and individuals for a number of special-status species unless adequate protective measures are implemented during construction and as part of long-term management of the site. In addition, construction could affect nests of a number of bird species if established on the site in the future.</p>	S	<p><i>5.5-1(a)</i> Requires the applicant to comply with permit requirements of the CDFG, Army Corps of Engineers, USFWS, and the RWQCB. Also requires the applicant to participate in informal consultation with these agencies to insure maximum efforts to avoid, minimize and offset impacts to protected species.</p> <p><i>5.5-1(b)</i> Requires revisions to the proposed Precise Development Plan to incorporate input received from consultation required in Mitigation Measure 5.5-1 regarding efforts to avoid further disturbance to essential habitat for special-status plant species on the site, which at a minimum, this shall include the following project modifications:</p> <ul style="list-style-type: none"> • Substantial avoidance of the Marin western flax in the western portion of the project site. • Substantial avoidance of the Marin western flax and Tiburon buckwheat along the existing driveway off Paradise Drive through Parcel A and Lot 8. • Improved protection of the north coast semaphore grass along the western edge of the site. • Restriction for landscaping in Common Open Space consists of native and indigenous species that are approved by a qualified biologist. <p><i>5.5-1(c)</i> Requires preparation of a detailed Mitigation and Monitoring Program, by a qualified biologist, for Special-status Species and Other Sensitive Resources (Mitigation Program). Goals of the Mitigation and Monitoring Program would include:</p>	LTS

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
		<ul style="list-style-type: none"> • Expanding the initial mitigation framework established in this Draft EIR by incorporating input received via consultation with permitting agencies mentioned in Mitigation Measure 5.5-1(a). • Detailed description of measures to avoid and/or offset impacts to the Californian red-legged frog. • Detailed description of salvage and reinstallation efforts for special-status plant species when complete avoidance is unfeasible. • Defined revegetation methods for serpentine grasslands, including maintenance, monitoring, performance standards, and contingency measures. • Description of long-term vegetation management goals and methods. • Identification of a mechanism that would insure feasibility of long term on site management of common open space, public trail easements, and portions of private property where special status species and sensitive natural communities occur. • Provisions of interpretive measures to prevent inadvertent take of special-status species by persons utilizing common open space or maintaining undeveloped lands on private lots. <p><i>5.5-1(d)</i> Requires measures to avoid the inadvertent take of the Californian red-legged frog that includes field surveys, the use of exclusionary fencing, training sessions for construction personnel, proper disposal of trash that may attract predators, and locating construction staging areas away from sensitive areas.</p> <p><i>5.5-1(e)</i> Specifies requirements for the protection of raptor nests or other bird nests protected under the Migratory Bird Treaty Act, including pre-construction surveys, deferment of construction activities until young birds have fledged, and establishing protected areas as nest setback zones where activities are limited and require approval of a qualified biologist.</p>	

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
<p>5.5-2 <i>Sensitive Natural Communities.</i> The Alta Robles Residential Development would result in loss of important native habitat and sensitive natural community types.</p>	<p>S</p>	<p>5.5-2 Requires provisions to protect, replace, and enhance occurrences of native serpentine bunchgrass that includes:</p> <ul style="list-style-type: none"> • Restoration of areas disturbed by construction. • Adjustments to the proposed residence and residential landscaping on lots 5 and 6 to provide a 30 feet setback from areas that host native serpentine bunchgrass. • Revising the Preliminary Planting Plan to emphasize native plant species and exclude certain undesirable, invasive species. • Enhancing grasslands through removal of non native trees and shrubs • The provision of long-term maintenance and monitoring of the serpentine bunchgrass grasslands. 	<p>LTS</p>
<p>5.5-3 <i>Wetlands and Drainages.</i> The Alta Robles Residential Development would result in direct impacts to an estimated 0.07 acre (3,050 square feet) of jurisdictional waters, could result in further loss of other on-site wetlands due to subdrain installation, and could degrade downstream drainages unless adequate erosion control measures are taken.</p>	<p>S</p>	<p>5.5-3(a) Requires protection, replacement and enhancement of the jurisdictional wetlands and other waters on the site by requiring the following:</p> <ul style="list-style-type: none"> • Measures to prevent inadvertent loss and degradation of protected wetlands. • Replacement wetlands at a minimum ratio of 2:1 for direct or indirect impacts where complete avoidance is infeasible. • Performance criteria and monitoring requirements for a five year period. <p>5.5-3(b) Reinforces previous mitigation, discussed in <i>Section 5.4 Hydrology and Water Quality</i>, requiring a Storm Water Pollution Prevention Plan (SWPPP) that includes measures to protect wetlands and water quality located in downstream drainages through the use of erosion and pollution control measures.</p> <p>5.5-3(c) Requires authorization from the CDFG, Corps, and RWQCB for all activities affecting jurisdictional waters, and adherence to all conditions required by such agencies.</p>	<p>LTS</p>
<p>5.5-4 <i>Wildlife Habitat and Connectivity.</i> The Alta Robles Residential Development could reduce the existing habitat values of the site and substantially reduce opportunities for wildlife movement.</p>	<p>S</p>	<p>5.5-4 Requires measures that, in addition to Mitigation Measures 5.5-1, 5.5-2, and 5.5-3, would preserve habitat values and connectivity at the project site by:</p>	<p>LTS</p>

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
		<ul style="list-style-type: none"> • Requiring fencing restrictions, which would be enforced by restrictive easements, to insure unobstructed wildlife movement corridors. • Requiring lighting restrictions to prevent unnecessary illumination of open space. • Requiring secured garbage, recycling, and compost containers. • Establishing leash requirements for pets when in sensitive areas. 	
<p>5.5-5 <i>Conflicts with Tiburon Tree Ordinance and Wetland Policies.</i> Aspects of the Alta Robles Residential Development would conflict with the Tiburon Tree Ordinance and Town wetland policies.</p>	S	<p>5.5-5(a) Establishes that measures recommended above in Mitigation Measures 5.5-1 through 5.5-4 to mitigate potential impacts to special-status species, sensitive natural communities, wetlands, and native habitat and wildlife movement corridors would generally serve to provide conformance with the applicable local goals, objectives, and policies.</p> <p>5.5-5(b) Requires compliance with the Tiburon Tree Ordinance (Chapter 15A of the Tiburon Municipal Code). Also requires the Mitigation Program called for in Mitigation Measure 5.5-1(c) to provide for the protection and replacement of “protected trees” affected by proposed development.</p>	LTS
Geology and Soils			
<p>5.6-1 <i>Seismic Ground Shaking.</i> Strong seismic ground shaking is expected to occur on the site some time during the effective “life” of the proposed project and would expose people and structures to adverse seismic effects, including the risk of loss, injury, or death involving strong seismic groundshaking.</p>	S	<p>5.6-1 Requires site development to comply with all applicable seismic design provisions of the most currently accepted Building Code in effect at the time the applicant or individual lot owner applies for a building permit from the Town.</p>	LTS
<p>5.6-2 <i>Seismic-Related Ground Failure.</i> Development at the site would expose people and structures to potential substantial adverse seismic effects, including the risk of loss, injury, or death from seismic-related ground failures; specifically seismically triggered slope failures.</p>	S	<p>5.6-2 Would reduce the potential impact from earthquake-induced slope failure and satisfy the Town’s Landslide Mitigation Policy by requiring a qualified geotechnical consultant to analyze Risk Level A landslides to determine the calculated factor of safety using appropriate pseudo-static values. Also requires recommendations for repairing or improving unstable slopes and landslides that are categorized as Risk Level A to have a calculated factor of safety greater than 1.0 for seismic conditions.</p>	LTS

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
<p>5.6-3 <i>Landsliding</i>. Eighteen landslides / unstable colluvial filled swales are identified as underlying the site. Development can affect the stability of landslides and unstable colluvium if they are not repaired or eliminated. In addition, if not properly repaired or eliminated in accordance with the Town’s Landslide Mitigation Policy, landslides could reactivate and threaten new development, adjacent properties, and Paradise Drive.</p>	<p>S</p>	<p>5.6-3 Requires implementation of the following mitigation measures:</p> <ul style="list-style-type: none"> • Detailed engineering geologic and geotechnical investigations shall be performed before development of roads and utilities and within proposed development areas of each individual lot. • One comprehensive grading plan shall incorporate all roads, lots, and open space. A design-level landslide repair program shall be established and implemented by the applicant. • Based on the design level analysis, all landslides shall be repaired, improved or avoided in accordance with the Town’s Landslide Mitigation Policy before offering lots for sale. 	<p>LTS</p>
<p>5.6-4 <i>Slope Stability</i>. Cut / fill grading and landslide mitigation would potentially create slopes exposing geologic units or soils that are unstable or that would become unstable because of development.</p>	<p>S</p>	<p>5.6-4 Requires implementation of the following measures in order to mitigate the impacts of low shear strength of some bedrock / fill materials and potential erosion / failure of some slopes.</p> <ul style="list-style-type: none"> • Cut slopes shall be examined during construction to determine whether they would be stable in the long-term. If the geotechnical consultant determines that the exposed bedrock materials are weaker than expected, this condition shall be mitigated by decreasing the proposed slope angle or by selectively using retaining walls. • Depending on the remolded shear strength of compacted fill materials used on the site, some of the proposed fill slopes shall be reinforced with mechanically stabilized embankments. This would allow for steeper slopes with enhanced long-term stability. • Appropriate drainage facilities shall be designed for all slopes with grades steeper than 5:1. Drainage facilities must be designed to be self-cleaning and allow for quick drainage. • Incorporate surficial stabilization methods into slope design to reduce erosion and surficial failures (see Mitigation Measure 5.6-7). 	<p>LTS</p>

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
<p>5.6-5 <i>Grading.</i> Site development would require grading for construction of roads and building pads, in addition to improving or repairing landslides as required by Town policy. Many slides and unstable colluvium are proposed to be repaired through a combination of drainage and localized cut / fill grading for stabilization. The actual amount of grading necessary to develop the site could change from that anticipated in the Precise Development Plan.</p>	S	<p>5.6-5 Requires implementation of acceptable methods of grading and minimization of grading activities by establishing performance criteria that includes:</p> <ul style="list-style-type: none"> • Requiring general observation, evaluation, and direction of grading operations by a qualified geotechnical consultant, and establishing that the geotechnical consultants shall observe and test the removal and / or recompaction of unsuitable materials and determine the use of stability mitigation by recompaction of materials or select use of retaining walls. • Requiring revegetation of cut and fill slope to prevent erosion. • Conformance with the Building Code and requirements of the Town. • Establishing standards for excavated areas, fill compaction, and the removal of all unsuitable materials from the project site. • Requiring further geotechnical exploration as needed to determine depths and limits of removal and recompaction. 	LTS
<p>5.6-6 <i>Secondary Effects of Grading.</i> In order to satisfy Town policy, improving or repairing landslides and colluvial deposits as proposed would reduce the impacts of landsliding and slope instability to a less-than-significant level. However, building pad grading, stabilization grading and subdrain installation would result in significant secondary impacts.</p>	S	<p>5.6-6 Establishes that implementation of Mitigation Measures discussed in <i>Section 5.5 Biological Resources</i> would reduce the secondary impacts of grading and subsurface drainage control on affected biotic resources to a less-than-significant level.</p>	LTS
<p>5.6-7 <i>Expansive Soils.</i> Without appropriate mitigation measures, development (structures, roads, utilities) located on expansive soils would be damaged by differential movement caused by shrinking and swelling of clay soils.</p>	S	<p>5.6-7 Requires comprehensive plasticity index or expansion index testing on developed lots to determine shrink-swell potential of expansive soils on developed site, and implements typical site specific mitigation measures to reduce the potential damage to structures, road, and utilities.</p>	LTS
Public Services and Utilities			
<p>Impact 5.7-1 <i>Fire Service Impact.</i> Project site development would result in increased service demands on the TFPD, however, the</p>	S	<p>5.7-1 Revise the PDP to reflect standards of the TFPD related to fire apparatus access.</p>	LTS

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
increase would not be significant. The design of the proposed project may provide some fire fighting concerns.			
<i>Impact 5.7-2 Wildland-Building Fire Exposure.</i> Development on the project site may expose houses and structures to wildland fire risks.	LTS	No mitigation would be required.	LTS
<i>Impact 5.7-3 Cumulative Fire Service Impact.</i> Cumulative development in the Tiburon Planning Area could generate additional demand for fire services which may require additional personnel and equipment.	S	5.7-3 Establishes that in the event new construction is required to expand fire services for the area, the Tiburon General Plan includes a number of policies and programs to reduce development-related impacts. These policies include OSC-22 which require buffers of 50 to 100 feet from perennial, intermittent, and ephemeral streams; OSC-26, which directs development away from special status species; OSC-30, which encourages development to be in areas where it least interferes with views; and OSC-35 which requires that grading be kept to a minimum.	LTS
<i>Impact 5.7-4 Increased Demand for Police Protection Services.</i> The Town of Tiburon Police Department would provide police protection to the proposed Alta Robles Residential Development. The proposed project would not generate a substantial increase in calls for police services and would not require additional officers or improvements to the Police Department facility.	LTS	No mitigation would be required.	LTS
<i>Impact 5.7-5 Cumulative Increased Demand for Police Protection Services.</i> Cumulative development in the Tiburon Planning Area could generate additional demand for police services which would require the addition of four sworn personnel.	LTS	No mitigation would be required.	LTS
<i>Impact 5.7-6 Increased Water Demand.</i> Development of the project site would increase water demand on the MMWD. However, the MMWD has sufficient capacity to serve the project site.	LTS	No mitigation would be required.	LTS
<i>Impact 5.7-7 Water Service Impacts.</i> Proposed on-site water system would not be adequate to serve Lot 14.	S	5.7-7 Requires the on-site water supply system be redesigned so that Lot 14 would be served by MMWD's existing water line in Paradise Drive.	LTS
<i>Impact 5.7-8 Cumulative Water Service Impacts.</i> Cumulative development would result in increased water demands.	LTS	No mitigation would be required.	LTS

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
<i>Impact 5.7-9 Increased Project Wastewater Treatment Demand.</i> Development of the project site would increase sewage treatment demands on Sanitary District No. 5. Existing facilities, including the Paradise Cove Treatment Plant would have sufficient capacity to serve the project. The additional flow would not require the construction of additional treatment facilities nor would it exceed wastewater treatment requirements of the Regional Water Quality Control Board or violate water quality standards.	LTS	No mitigation would be required.	LTS
<i>Impact 5.7-10 Increased Cumulative Wastewater Treatment Demand.</i> Cumulative development would increase sewage treatment demands on Sanitary District No. 5. Existing and planned facilities, including the expanded Paradise Cove Treatment Plant would have sufficient capacity to serve the project.	LTS	No mitigation would be required.	LTS
<i>Impact 5.7-11 Reed Union School District.</i> Project implementation would generate approximately seven students who would attend Reed Union School District schools.	LTS	No mitigation would be required.	LTS
<i>Impact 5.7-12 Tamalpais Union High School District.</i> Project implementation would generate about three to five students who would attend Redwood High School.	LTS	No mitigation would be required.	LTS
<i>Impact 5.7-13 Cumulative Public School Impacts.</i> Both the Reed Union School District and the Tamalpais Union High School District would have adequate capacity to accommodate future students due to cumulative development.	LTS	No mitigation would be required.	LTS
<i>Impact 5.7-14 Project and Cumulative Increased Demand for Solid Waste Services.</i> Project implementation would result in an increased demand for disposal of solid waste.	LTS	No mitigation would be required.	LTS
Visual Quality			
<i>Impact 5.8-1 View Looking North from Middle Ridge Open Space (Viewpoint No. 1).</i> In this view, implementation of the proposed project would not substantially affect a scenic vista, would not substantially damage any scenic resources, and would not substantially degrade the visual character of the site or its surroundings. However, the project as proposed would cause a	S	5.8-1 Requires a reduction in the visible exposure and perceived mass of the projects structural elements to the extent that the project meets the criteria of subordinate visual dominance when viewed from the Middle Ridge Open Space. Standards include height limits, reduced floor area, native landscaping, and use of materials with minimal reflection value.	SU

Impact	Significance Before Mitigation	Mitigation Measure ³	Significance After Mitigation
significant change in the visual quality of the site.			
<i>Impact 5.8-2 View Looking West from Paradise Drive (Viewpoint No. 2).</i> From this viewpoint, implementation of the proposed project would not substantially affect a scenic vista, would not substantially damage any scenic resources, and would not substantially degrade the visual character or quality of the site or its surroundings.	LTS	No mitigation would be required.	LTS
<i>Impact 5.8-3 View Looking East from Acacia Drive (Viewpoint No. 3).</i> From this viewpoint, implementation of the proposed project would not substantially affect a scenic vista, would not substantially damage any scenic resources, and would not substantially degrade the visual character or quality of the site or its surroundings.	LTS	No mitigation would be required.	LTS
<i>Impact 5.8-4 Light Pollution.</i> Implementation of the proposed project would result in new lighting sources on the project site which could lead to increased light pollution.	LTS	5.8-4 Requires preparation of a lighting plan consisting of measures to minimize unnecessary illumination throughout the project site that will be incorporated into the Precise Development Plan.	LTS
Cultural Resources			
<i>Impact 5.9-1 Potential Subsurface Cultural Deposits.</i> While no discernible impacts to subsurface cultural resources including human remains are anticipated, the possibility cannot be precluded that prehistoric cultural deposits and features are present below the ground surface and could be damaged during land alteration activities.	S	5.9-1 Requires training of construction workers for recognition of archaeological resources and measures, in the event that archaeological resources are discovered, that allow for unimpeded evaluation by an archaeologist and consultation with appropriate agencies including the Native American groups and the Marin County Coroner (if skeletal remains are found).	LTS

2.4 MAJOR EIR CONCLUSIONS AND ISSUES TO BE RESOLVED

The EIR reached the following major conclusions:

- As discussed in *Section 5.1 Transportation*, the Draft EIR concludes that the proposed project would not result in a significant increase in peak hour traffic volumes at the signalized Trestle Glen Boulevard / Tiburon Boulevard intersection or at the unsignalized Paradise Drive / Trestle Glen Boulevard and Paradise Drive / Project Entrance Road intersections. Project site residents would contribute slightly to the number of bicyclist using Paradise Drive. The project would also add motor vehicle traffic to Paradise Drive. This additional increment of motor vehicle and bicycle traffic would exacerbate already constrained conditions along Paradise Drive. Mitigation measures are proposed to improve conditions along Paradise Drive.
- As discussed in *Section 5.2 Air Quality*, construction activities could expose neighbors to unhealthy levels of particulate matter and possibly toxic air contaminants. Grading of the project site may disturb soils containing serpentine, possibly releasing asbestos fibers into the air. With conformance to BAAQMD regulations and proposed mitigation measures, these impacts would be less-than-significant.
- As discussed in *Section 5.3 Noise*, construction noise at the project site would temporarily increase ambient noise levels in the site vicinity. Measures are proposed to mitigate construction noise but this would be a significant unavoidable impact.
- As discussed in *Section 5.4 Hydrology and Water Quality*, the proposed project includes on-site stormwater detention. Each residential lot would be provided with a cistern that would store stormwater runoff generated by the construction of impervious surfaces. The proposed cisterns would possess sufficient capacities to mitigate post-development peak flow rates to pre-development levels for the 100-year rainstorm. Surface water quality, including the shoreline water along Paradise Cove could be adversely affected by project-related runoff pollutants. Project impacts would be mitigated through development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) together with other required mitigation measures.
- As discussed in *Section 5.5 Biological Resources*, four special-status plant species (Marin western flax, Tiburon buckwheat, North coast semaphore grass, and carlotta hall's lace fern) are known to occur on the site. Of particular concern are potential impacts on the occurrences of Marin western flax and Tiburon buckwheat. The proposed project would result in loss of important native habitat and sensitive natural community types as well as impacts to jurisdictional waters. A total of 261 trees would be removed to accommodate the proposed project. Mitigation measures are proposed to protect adversely affected biological resources.
- The project site is mapped as being underlain by 18 landslides. Four methods of landslide stabilization are proposed: use of compacted fill buttresses, subsurface drainage, retaining structures, and debris fences. As discussed in *Section 5.6 Geology and Soils*, strong seismic ground shaking is expected to occur at the project site some time during the design life of the proposed *Alta Robles Residential Development* that would expose people and structures to adverse seismic effects, including the risk of loss, injury, or death. If not properly repaired or eliminated, consistent with the Town's Landslide Mitigation Policy, the on-site landslides could reactivate and threaten new development, adjacent properties, and Paradise Drive. Mitigation

measures are proposed to reduce the identified geology and soils impacts to a less-than-significant level.

- **Section 5.7 Public Services and Utilities** evaluates fire protection and emergency services, police services, water supply, wastewater management, public schools, and solid waste. In general, the Draft EIR concludes that adequate public services are available for the proposed project. Development on the project site may expose houses and structures to wildland fire risks. With incorporation of Fire Safe Marin guidelines and Tiburon Fire Protection District requirements this would be a less-than-significant impact.
- The Draft EIR evaluates visual impacts from three viewpoints – looking north from Middle Ridge Open Space, looking west from Paradise Drive, and looking east from Acacia Drive. As discussed in **Section 5.8 Visual Quality**, the Draft EIR concludes that from the Middle Ridge Open Space viewpoint new houses would be seen on 12 of the 13 lots proposed for development. The close proximity to this viewpoint of the houses on Lots 3, 4, 5, and 6 plus the fact that much of their exterior surface would be exposed cause them to be most conspicuous features of the proposed project from this viewpoint. No building construction and/or yard improvements would occur within 150 horizontal feet from either side of the Tiburon Ridge. Development on Lots 4 and 5 would occur within 50 vertical feet of the nearest peak elevation of the Tiburon Ridge. All of the proposed development on Lot 4 and the proposed detached garage on Lot 5 would occur within the 50 vertical feet setback of the Tiburon Ridge.
- As discussed in Section **5.9 Cultural Resources**, the Draft EIR concludes that no known archeological or historic sites exist on the project site.

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3.0 DESCRIPTION OF THE PROPOSED PROJECT

This chapter of the Draft EIR describes the location of the *Alta Robles Residential Development* project (the proposed project), discusses existing land uses, land use designations, and zoning on the project site, and summarizes all aspects of the project as proposed. This chapter also identifies the administrative actions required by the planning and environmental review process before this project can be approved.

3.1 SITE LOCATION AND LAND USES

Site Location

The 52.21-acre project site is located on the northeast side of the Tiburon Peninsula, about 2.9 miles southeast of the U.S. Highway 101 (U.S. 101) / Tiburon Boulevard interchange via Tiburon Boulevard and Trestle Glen Boulevard and 4.3 miles from the U.S. 101 / Tamalpais Drive interchange via Paradise Drive (see **Exhibit 3.0-2**). The project site is bordered on the north by Paradise Drive and on the south by Hacienda Drive.¹

The project site consists of two contiguous parcels: the SODA property and the Rabin property. Acreage information and current uses for each parcel are summarized in **Exhibit 3.0-1** and **Exhibit 3.0-3** illustrates their location.

Exhibit 3.0-1 **Alta Robles Assessors Parcels**

Property	Assessors Parcel Number	Acres	Percent of Total	Uses
Rabin Property	039-021-13	31.26	59.9	One single-family residence plus ancillary structures
SODA Property	039-301-01	20.95	40.1	Undeveloped
Total		52.21	100.0	

Source: *Alta Robles - Project Narrative*, IPA, Inc., May 2007

The 20.95 acre SODA property (APN 039-301-01) is located in an unincorporated portion of Marin County within the Town of Tiburon's Sphere of Influence. The SODA property is currently undeveloped.

¹ Although not precisely oriented north-south, for the purpose of this EIR the Paradise Drive boundary will be referred to as north and the Hacienda Drive boundary will be referred to as south.

**Exhibit 3.0-2
Regional Location**



Source: TOPO! Wildflower Productions (USGS)

**Exhibit 3.0-3
Project Site**



Source: Google Maps, 2009

The 31.26 acre Rabin property (APN 039-021-13) is located within the Town of Tiburon and has a street address of 3825 Paradise Drive. The Rabin property is currently developed with one single-family residence and several ancillary structures, including a tennis court.

U.S. 101 provides north-south local and regional access in Marin County and to adjacent counties. Tiburon Boulevard, designated as State Route (SR) 131, provides access to the incorporated City of Belvedere and Town of Tiburon and the unincorporated Strawberry and Paradise Drive areas via the southwest side of the Tiburon Peninsula. Paradise Drive serves the northeast side of the Peninsula, including the Towns of Corte Madera (eastern part) and Tiburon (northern part) and unincorporated lands. Trestle Glen Boulevard connects Tiburon Boulevard and Paradise Drive.

Existing Land Use

PROJECT SITE

A 12-foot wide graded fire road exists on the SODA property.² The unpaved fire road starts at Paradise Drive (approximately across from a residential driveway at 3910 Paradise Drive) and extends upslope approximately to the boundary of the Rabin property.

The Rabin property (3825 Paradise Drive) consists of one single-family home, accessory buildings and uses, utilities, and a paved driveway that intersects Paradise Drive. Two water tanks exist on the Rabin property. The water tanks provide water for fire protection and onsite irrigation.

SURROUNDING LAND USE

The project site is surrounded on three sides by other residential neighborhoods along Acacia Drive, Hacienda Drive, and Paradise Drive. Town-owned open space along the Middle Ridge borders the project site to the south and east. The Tiburon Ridge Trail passes a portion of the project site along a ridge top fire road through the Middle Ridge open space.

Nearby residential land uses including the following:

- Hacienda Drive on the south boundary of the Rabin property. In the vicinity of the project site the residential lots along Hacienda Drive range in size from 18,400 to 47,800 square feet. Single family homes range in size from 2,374 to 5,073 square feet.³ This area began development in the 1960s.
- Acacia Drive residential subdivision borders the Rabin property on the west boundary. The seven residential lots on Acacia Drive range in size from 39,581 to 77,972 square feet. Single family

² Marin County issued a grading permit (01-008) for the fire road on December 5, 2001. The permit states that the road is for fire access only. Nichols • Berman conversation with Eric Steger, Senior Civil Engineer, Marin County, December 2007.

³ Marin County Assessor's information, 2006.

homes range in size from 3,700 to 6,272 square feet. Included with the residential development on Acacia Drive is a 138,085 square foot private open space parcel.⁴ Acacia Drive was developed in the late 1980's.

- Seafirth Estates is located north of the project site along Paradise Drive. Residential lot sizes in Seafirth Estates range from 5,000 to 40,000 square feet and homes range in size from 2,167 to 3,833 square feet.⁵ Seafirth Estates was developed in the 1950's.
- East of the project site, along Paradise Drive is Norman Estates. The lot sizes for the 12 homes on Norman Way range from 15,000 to 88,843 square feet (not counting one 5.7-acre lot) and homes range in size from 2,290 to 4,305 square feet.⁶ Norman Estates was developed in the end of the 1970's. In 2006 the Town approved a Precise Development Plan for a 26-acre property surrounding Norman Estates. The Tiburon Glen Estates would permit construction of three single-family houses.
- In 2008 Marin County approved a Master Plan and Land Division for the 18.9 acre Sorokko property located at 3820 Paradise Drive. The approval divided the property into four lots and a remainder parcel. The four lots range in size from 2.35 acres to 3.35 acres. The remainder parcel is 7.27 acres. The conditions of approval for the Sorokko property limit development on each lot and the remainder parcel to a maximum floor area of 8,000 square feet.

Land Use Designations and Zoning

TOWN OF TIBURON GENERAL PLAN AND ZONING

Town of Tiburon General Plan

The *Tiburon General Plan* land use designation for both the SODA and Rabin properties is Planned Development - Residential (PD-R). The SODA property is not within the Town's boundaries but is within the Town's planning area and, therefore, has a *Tiburon General Plan* land use designation. The SODA property is one of several properties along Paradise Drive that are shown for potential annexation to the Town of Tiburon prior to development.⁷

The Land Use Element of the *Tiburon General Plan* provides a description of the properties with a PD-R designation, including the SODA and Rabin properties.⁸

⁴ *Ibid.*

⁵ *Sorokko Property, Draft Environmental Impact Report*, Leonard Charles and Associates, October 2007, page 4.16-3.

⁶ *Ibid.*

⁷ *Tiburon General Plan*, Town of Tiburon, adopted September 7, 2005 and revised through March 31, 2006, Diagram 2.5-1 Annexation Areas.

⁸ Land Use Element, *Tiburon General Plan*, Town of Tiburon, *op. cit.*, pages 2-5 through 2-10.

The Rabin property, as noted in the Land Use Element, has mainly grasslands and a 450-foot peak elevation along the Tiburon Ridge, which traverses the property. Significant ridgelines also cross the property. Steeper slopes occur on the San Francisco Bay side of the property as it slopes towards Paradise Drive, the central placement of the existing home, ridgeline restrictions, and steep slopes make achievement of the maximum density unlikely. The maximum allowable density is identified as 0.4 housing unit per one acre.⁹ The maximum number of housing units is 12.

It is noted in the Land Use Element that the SODA property slopes up from Paradise Drive. The property consists mainly of non-native grasslands and coast live oak woodland. Elevations range from 160 to 345 feet. Significant ridgelines cross the property. The maximum allowable density is identified as 0.4 housing unit per acre. The maximum number of housing units is eight.

Exhibit 3.0-4 provides a summary of the *Tiburon General Plan* land use designations.

Exhibit 3.0-4
Town of Tiburon General Plan Designations

Property	Acreage	Maximum Allowable Density	Maximum Number of Housing Units
Rabin Property	31.26	0.4 housing unit per acre	12
SODA Property	20.95	0.4 housing unit per acre	8
Total number of housing units			20

Source: *Town of Tiburon General Plan*

The Open Space & Conservation Element of the *Tiburon General Plan* includes prime open space policies that describe which open space is valuable to the community. **Exhibit 3.0-5** lists the prime open space characteristics identified for the two properties by the *Tiburon General Plan*.

⁹ This is equivalent to one housing unit per 2.5 acres.

**Exhibit 3.0-5
 Prime Open Space Characteristics**

Property	Prime Open Space Characteristics
Rabin Property	Significant Ridgelines Special Status Species / Special Communities Steep Slopes (> 40 percent) Inboard / Outboard Views Tree Stands
SODA Property	Significant Ridgelines Wetlands Streams and Riparian Corridors Special Status Species / Special Communities Steep Slopes (> 40 percent) Inboard / Outboard Views Tree Stands

Source: Table 2.2-2 Planned Development Residential - Properties and Prime Open Space Characteristics, *Town of Tiburon General Plan*, September 2005.

Town of Tiburon Zoning Ordinance

The Zoning Map of the Tiburon Municipal Code (Chapter 16) designates the Rabin property as Residential Planned Development (RPD).¹⁰ The RPD zoning is “intended to protect and preserve open space land as a limited and valuable resource without depriving owners of a reasonable use of their property for residential purposes”.¹¹ Single-family homes are permitted uses in the RPD zone. The RPD district requires approval of a Precise Development Plan (PDP) which establishes land and structure regulations for the proposed development including lot area, lot width, lot coverage, and required yards. Building height is limited to 30 feet for main buildings and 15 feet for accessory buildings, unless modified by the PDP. Projects proposed in the RPD district are subject to Site Plan and Architectural Review.

Because the SODA property is not within the Town boundaries, the property does not have a Town zoning designation.

MARIN COUNTYWIDE PLAN AND ZONING

Until annexed to the Town, Marin County has jurisdiction over certain land use and development decisions for the SODA property.

The *Marin Countywide Plan* land use designation for the SODA property is Planned Residential.¹² This designation provides for a density range of one housing unit per one to ten acres. The SODA

¹⁰ Town of Tiburon Zoning Map, Section 16-2.16 of the Tiburon Municipal Code.

¹¹ Section 16-2.7 of the Tiburon Municipal Code.

¹² Map 6.5 Tiburon Peninsula Land Use Policy Map, *Marin Countywide Plan*, November 2007.

property is also located in the County's Ridge and Upland Greenbelt Area.¹³ The *Marin Countywide Plan* directs that a variety of strategies be used to protect views of Ridge and Upland Greenbelt areas. It is also stated that the density for Ridge and Upland Greenbelt subdivisions should be calculated at the lowest end of the General Plan designation range.

County zoning of the SODA property is RMP-0.40 (Residential, Multiple Planned, 0.4 units per acre). The RMP zoning district is intended for a full range of residential development types within the unincorporated urban areas of the County. Permitted uses in this district include single-family, two-family dwellings, multi-family residential development and limited commercial uses in a suburban setting.

The project's relationship to specific policies of the *Tiburon General Plan* and provisions of the Zoning Ordinance are discussed in *Chapter 4.0 Land Use and Planning*.

3.2 PROJECT DESCRIPTION ¹⁴

Irving and Varda Rabin have submitted an application to the Town of Tiburon requesting approval of a Precise Development Plan (PDP) for the approximately 52 acre Alta Robles project site. The project site consists of the 20.95-acre SODA property (Assessor's Parcel Number [APN] 039-301-01) and the 31.26-acre Rabin property (APN 039-021-13). In addition the application requests rezoning the SODA property to the Town's Residential Planned Development zoning designation and annexation of the SODA property to the Town of Tiburon. The PDP proposes 14 residential lots, one lot for the existing single family home and 13 new lots for 13 new single family homes. The applicant's objectives are listed below, followed by a description of all aspects of the proposed project.

Project Objectives and Goals

The project applicant submitted the following project objectives and goals to the Town of Tiburon for the proposed *Alta Robles Residential Development* project.

OBJECTIVES

- Preserve the scenic beauty of the SODA / Rabin property while developing a world class residential subdivision. The residential development will be subject to building guidelines consistent with the *Tiburon General Plan* prime open space, conservation, and land use policies.
- Obtain approvals for:

¹³ Although it is located within the Town of Tiburon, the Rabin property also is shown in the County's Ridge and Upland Greenbelt area.

¹⁴ The project description is based on application materials submitted by the project applicant. See *Section 1.5 Information Used to Prepare the Draft EIR* for a description of the application materials.

A Precise Development Plan permitting development of 13 new residential lots, three common open space lots, private open space and maintaining Lot 1 for an existing single-family home and private space.

Prezoning and annexation of the SODA, LLC property.

A future Tentative Subdivision Map which would allow the necessary land subdivision and infrastructure development to implement the Precise Development Plan and Tentative Map.

- Through the approval process, obtain building guidelines for future development of residences, accessory uses and buildings compatible with *Tiburon General Plan* goals, consistent with zoning regulations governing the property.
- Ensure that development:
 - Is sensitive to the property's unique natural resources;
 - Respects the public interest in land conservation and scenic view preservation;
 - Balances the public's desire to leave large parts of the land open and undeveloped with the owner's desire for a reasonable economic return on the property; and
 - Creates the necessary public infrastructure improvements to protect health and safety.

GOALS

- Find a way to inhabit this magnificent natural resource without destroying the very reason people are drawn to the site.
- Provide an orderly balance of private and public conservation, in part by clustering development in very small building envelopes.
- Ensure that development is consistent with environmental constraints and the ability of the land to support such uses.
- Embody simplicity by nestling housing on and in the ground with a similarity of material, color, and form that links residences to each other and to their natural surroundings.
- Preserve existing neighborhood character and identity by careful coordination of new development with adjacent neighbors and by creation of greenbelt buffer zones between new and existing development.

Project Related Applications

In addition to the certification of the EIR, the proposed *Alta Robles Residential Development* will require the following approvals from the Town of Tiburon:

- Precise Development Plan approval.
- Rezoning of the SODA property (in anticipation of annexation to the Town).
- Tentative and Final Subdivision Map approval.
- Design Review of construction on individual lots.
- Building permits for improvements.

Precise Development Plan

The applicant proposes to create a 14-home subdivision. The subdivision would include 14 residential lots consisting of one single-family home and accessory structures on each lot (see **Exhibit 3.0-6**). One lot (Lot 1) would be for an existing single family home and 13 lots (Lots 2 through 14) would be for new single family homes. An additional three parcels (Parcels A, B and C) would voluntarily be offered for dedication as Open Space. The applicant proposes to repair site landslides and provide improved lots with roadway and utilities in place.¹⁵ An internal roadway would connect the residential lots to Paradise Drive. **Exhibit 3.0-7** illustrates the proposed site plan.

¹⁵ The applicant does, however, reserve the option to develop the residential lots rather than offer improved lots to future owners. *Alta Robles - Project Narrative*, IPA, Inc., May 2007, page 2.

Exhibit 3.0-6
Summary of Land Uses

Lot	Area (Acres)	Percent of Total
1	14.99	28.71
2	1.67	3.19
3	1.44	2.77
4	1.00	1.92
5	1.50	2.87
6	1.59	3.05
7	1.50	2.87
8	1.51	2.89
9	1.50	2.87
10	1.51	2.89
11	1.51	2.89
12	1.51	2.89
13	1.50	2.87
14	1.20	2.30
<i>Subtotal</i>	<i>33.92</i>	<i>64.97</i>
A	11.30	
B	3.18	
C	3.81	
<i>Subtotal</i>	<i>18.29</i>	<i>35.03</i>
Total	52.21	

Source: Alta Robles Development Precise Development Plan, CSW/ST2, May 8, 2007.

RESIDENTIAL LOTS

The individual residential lots would range in size from 1.20 (Lot 14) to 14.99 (Lot 1) acres. Excluding Lot 1, the individual residential lots would range in size from 1.20 (Lot 14) to 1.67 (Lot 2) acres. The 14-residential lot project would result in a density of one housing unit per 3.73 acres.¹⁶ Residential lots are proposed as follows:

- Seven residential lots (Lots 1 through 7) are proposed on the Rabin property. Lot 1 would be the existing single family residence.
- Seven residential lots (Lots 8 through 14) are proposed on the SODA property.

Each residential lot would consist of a *residential use area*¹⁷ and a *residential open space area* further discussed below.¹⁸

Residential Use Area

Each residential lot would include a residential use area where the majority of development would occur. Development of each main housing unit would be restricted to within the residential use area. Other development permitted within the residential use area would include driveways, parking, landscaping, utility improvements, and accessory uses normally associated with single family homes. Such accessory uses could include pools, landscape walls below four feet in height and additional landscaping or garden structures such as a potting shed, tool storage sheds, and a gazebo. Excluding the existing tennis court on Lot 1, no tennis courts are expected.¹⁹ The residential use areas would range in size from 0.53 (Lot 13) to 4.51 (Lot 1) acres (see **Exhibit 3.0-8**). Excluding Lot 1, the residential use areas would range in size from 0.53 (Lot 13) to 1.44 (Lot 3) acres. The 14 residential use areas combined would account for 14.86 acres of the 52.21-acre site, for 28.5 percent of total site area.

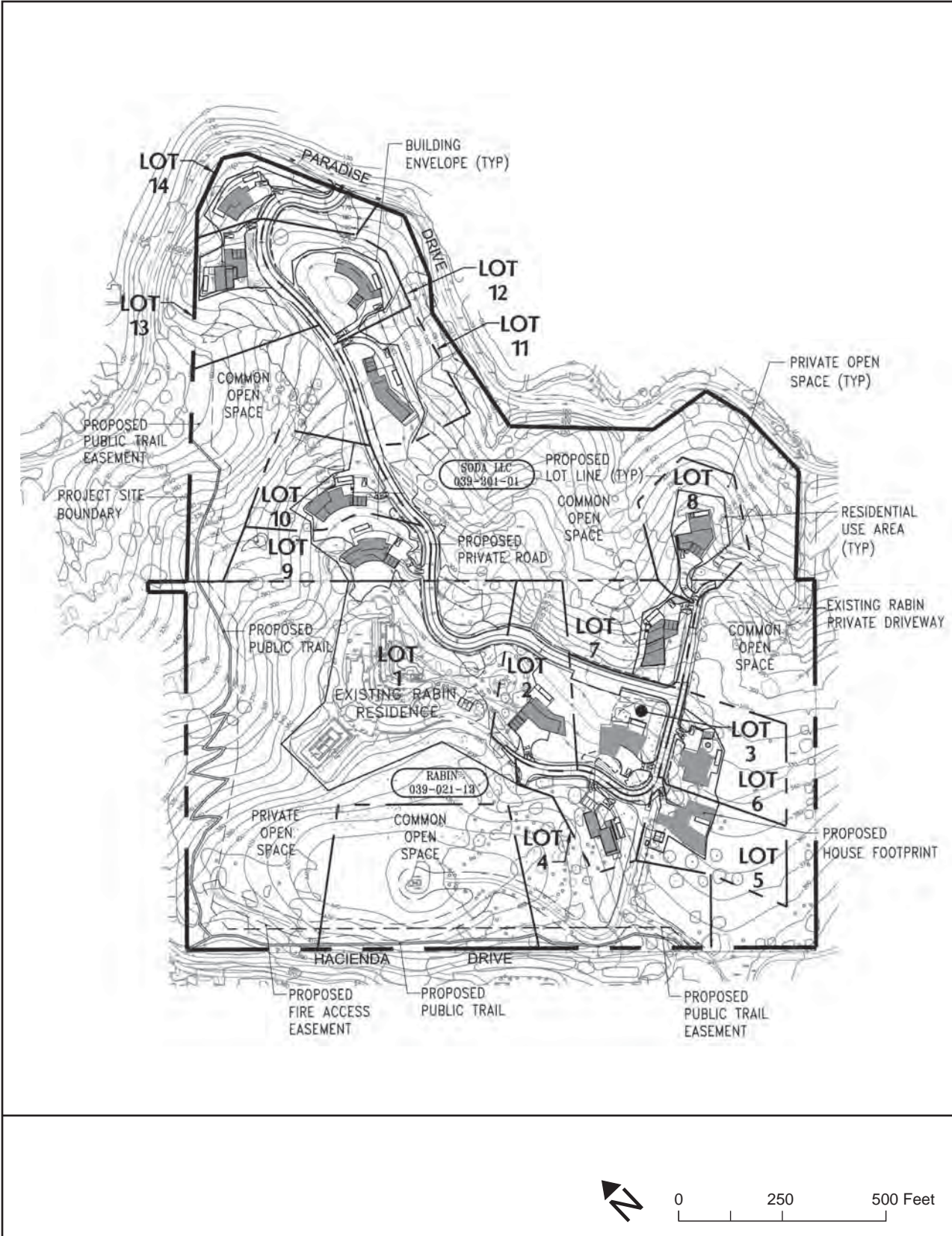
¹⁶ Total site area 52.21 acres divided by 14 residential lots equals one housing unit per 3.73 acres.

¹⁷ Note: In some instances in the PDP the *residential use area* is referred to as a *building envelope area*.

¹⁸ Lot 1 would have a *private space* rather than a *private open space* and Lots 3 and 4 would not include a *private open space*.

¹⁹ Nichols • Berman communication with Scott Hochstrasser (applicant's representative), October 2007.

**Exhibit 3.0-7
Proposed Site Plan**



Source: CSW/ST 2, 2009

Exhibit 3.0-8
Residential Lot Characteristics

Lot	Lot Area (Acres)	Residential Use Area (Acres)	Rabin Private (Acres)	Private Open Space (Acres)
1	14.99	4.51	10.48	--
2	1.67	1.26	--	0.41
3	1.44	1.44	--	0.00
4	1.00	1.00	--	0.00
5	1.50	0.54	--	0.97
6	1.59	0.55	--	1.04
7	1.50	0.56	--	0.94
8	1.51	0.60	--	0.90
9	1.50	0.84	--	0.66
10	1.51	0.68	--	0.83
11	1.51	0.84	--	0.67
12	1.51	0.88	--	0.62
13	1.50	0.53	--	0.97
14	1.20	0.63	--	0.57
Total	33.92	14.86	10.48	8.58

Source: Alta Robles Development Precise Development Plan, CSW/ST2, May 8, 2007.

Housing Units

As a part of the PDP application, a lot-by-lot site plan and building design has been prepared for each of the 13 new lots (Lots 2 through 14). For Lots 2 through 14, the PDP includes a site plan, individual floor plans, a roof plan, house sections, and house elevations (see Sheets A02-00 through A14-32 of the PDP). In addition to the house footprint, each site plan shows the proposed driveway. The project applicant is committed to ensuring that the individual home designs submitted as a part of the PDP are the designs submitted to the Town for subsequent design review.²⁰ Following subdivision approval, individual home designs would be submitted to the Town for site plan and architectural review and approval.

Exhibit 3.0-9 provides characteristics of the individual house designs. Except for Lot 7, which is proposed to be a three-story house, the other 12 houses would be two stories.²¹ The footprint of the future houses would range from 4,480 square feet (Lot 4) to 8,180 square feet (Lot 5).²² Future housing units would range from 6,300 square feet (Lot 4) to 7,980 square feet (Lot 6). On Lots 4 and 14 the garage would be 600 square feet. On the remaining lots (Lots 2, 3, 5 through 13) the garage would be 750 square feet. With the exception of Lot 5 with a building height of 16 feet one inch, the building heights would range from 21 feet eight inches on Lot 12 to 29 feet one inch on Lot 8.

Affordable Housing

The Town of Tiburon Zoning Ordinance requires that any residential development of two or more housing units make provisions for affordable housing.²³ Residential projects of 12 or more units are to provide at least 20 percent of the housing units to be affordable.²⁴ The Town requires residential projects to either construct the affordable units on-site, off-site, or contribute in-lieu fees for any required units not constructed.²⁵ The Alta Robles project applicant proposes to make an in-lieu payment to satisfy the affordable housing requirement.

²⁰ *Ibid.*

²¹ The house on Lot 4 is described as a two-story house. The house would appear as a three-story house from some viewpoints due to the fact that the lowest level is a garage (600 square feet) and stairs that are not included in the total floor area.

²² On Lot 5 the house footprint includes the garage and detached utility barn. The total square footage of the house on **Exhibit 3.0-9** only accounts for the habitable residence. The inclusion of the utility barn and garage increases the footprint beyond that of the house size. Email from Kenneth Kao to Robin Welter, March 11, 2009.

²³ Title IV, Chapter 16, Article VI. Inclusionary Housing and Density Bonuses of the Tiburon Municipal Code. The requirement is that a certain number of the dwelling units be affordable by very low, low, or moderate income households.

²⁴ In applying the 20 percent figure for construction of dwellings units, any decimal fraction less than 0.50 may be disregarded and any decimal fraction equal to or greater than 0.50 shall be construed as requiring one affordable unit. In accordance with the Town's current Inclusionary Housing Ordinance, a 13-unit project would require three affordable housing units.

²⁵ For payment of in-lieu fees, the fee shall be calculated using exact decimal fractions.

**Exhibit 3.0-9
 Proposed House Characteristics**

Lot	House Footprint^a	Level One^a	Level Two^a	Level Three^a	Total House Area^a	Garage^a	Maximum Height
2	5,885	4,350	3,450		7,800	750	23'-6"
3	5,950	4,350	3,290		7,640	750	29'-0"
4	4,480	2,450	3,850		6,300	600	29'-0"
5	8,180 ^b	2,020	5,270		7,290	750	16'-1"
6	5,570	4,280	3,700		7,980	750	22'-0"
7	5,810	2,510	2,040	2,740	7,290	750	28'-7"
8	5,590	4,380	3,140		7,520	750	29'-1"
9	5,970	4,240	3,570		7,810	750	25'-0"
10	5,690	4,250	3,150		7,400	750	27'-0"
11	6,390	5,670	2,220		7,890	750	22'-4"
12	7,270	3,620	3,950		7,570	750	21'-8"
13	6,220	2,400	5,530		7,930	750	27'-4"
14	5,750	3,820	3,380		7,200	600	24'-2"

a. Square feet.

b. On Lot 5 the house footprint includes the garage and detached utility barn. The total square footage of the house only accounts for the habitable residence. The inclusion of the utility barn and garage increases the footprint beyond that of the house size. Email from Kenneth Kao to Robin Welter, March 11, 2009.

Source: *Alta Robles Precise Development Plan*, KAO Design Group, sheets A02-00 through A14-32, March 1, 2007.

Private Open Space

Land outside of the residential use area on private lots would generally remain as undeveloped open space and be retained in a natural condition. The proposed project distinguishes between private space on Lot 1 and private open space on the remaining 13 lots (see **Exhibit 3.0-8**). Lot 1 would have 10.48 acres of private space. Lots 3 and 4 would have no private open space. The private open space on the remaining 11 lots would range in size from 0.41 (Lot 2) to 1.04 (Lot 6) acres. Including Lot 1, the private open space would comprise a total of 19.06 acres, 36.5 percent of the site. All private open space (including Lot 1) outside of each residential use area would be owned and maintained by the individual lot owner.

It is proposed that the private space on Lot 1 be maintained for private resource conservation, open space, and private recreational uses.²⁶

It is the intent of the applicant that restrictions would be placed on the private open space.²⁷ Landscaping would be limited to native plants and only where existing native plant communities would not be disturbed. Generally grading would not be permitted, although minor grading subject to Town permit regulations may be allowed for property maintenance. Passive recreational uses would be permitted and encouraged, provided that sensitive native plants would be protected. Recreational uses that would require significant grubbing, tree removal, grading, structures, or paving would not be permitted. For example, private tennis courts, keeping of livestock, and commercial-level agriculture (such as vineyards) would not be permitted.

As a part of the subdivision improvements, three-foot-high bollards (or stone outcrops) would be installed between the residential use area and private open space to demarcate the boundary. The bollards would be installed at the edge of the residential use area at a separation distance of 50 feet. Bollards would also be installed at each property corner at the boundary between private and public open space. Each of those bollards would include a permanent plaque explaining the existence and purpose of the private open space.

COMMON OPEN SPACE

Open Space Lots

In addition to the private open space on individual lots, the proposed project includes 18.29 acres of common open space (Parcels A, B, C) (see **Exhibit 3.0-6**). The common open space would comprise 35.0 percent of the site. It is the intent of the applicant to voluntarily grant an open space easement to the Town over Parcels A, B, and C. The existing water tanks on the project site would be located within Parcel C.

²⁶ According to the *Alta Robles - Project Narrative*, IPA, Inc., May 2007, page 12, it is intended that the private space on Lot 1 be maintained in private ownership and a voluntary natural resource protection, scenic view preservation easement be offered for dedication to Marin County or the Town of Tiburon.

²⁷ Although not yet prepared, restrictions placed on the private open space would be included with the Covenants, Conditions, and Restrictions (CC&Rs) placed on property deeds. *Alta Robles - Project Narrative*, IPA, Inc., May 2007, page 15. The *Project Narrative* (page 3) also states that the private open space would be voluntarily offered for permanent protection in scenic and resource conservation easements.

Public Access

The proposed project includes an offer of the grant of a public access easement. The purpose of the public access easement is to link the adjacent neighborhood, including adjacent public open space and surrounding residential neighbors, to the proposed on-site open space.

A public access easement is proposed along the west side of the project site (within Parcel B) and along the south side of the property (within Parcels B and C) parallel to Hacienda Drive. The south side of the trail would parallel Hacienda Drive and provide a link between two discontinuous segments of the Tiburon Ridge Trail, which is currently not in place between approximately 139 and 180 Hacienda Drive. The trail along the west side of the project site would connect to an adjacent property (APN 039-021-05). Presumably, the trail would connect to Paradise Drive when the adjacent property is developed.

CIRCULATION

Site Access

Site access would be provided by a new roadway from Paradise Drive. The intersection with Paradise Drive would be at the existing fire road intersection with Paradise Drive. This road would roughly follow the alignment of the existing fire road on the SODA property. Two roads are proposed - a *main road* and an *upper road*.

Main Road - A 24-foot wide road would be constructed from the intersection with Paradise Drive to a “T” intersection with the upper road. In addition to the two 12-foot wide travel lanes the Main Road would have two foot shoulders on both sides and be constructed within a 40 foot wide access and utility easement. The Main Road would serve Lots 9, 10, 11, 12, 13, and 14. Road grades on the Main Road would range from 6.3 percent to a maximum of 18.0 percent.

Upper Road - A 24-foot wide road would be constructed at the end of the Main Road. A portion of this Upper Road would follow the alignment of the existing private driveway. In addition to the two 12-foot wide travel lanes, the road would have two foot shoulders on both sides and be constructed within a 40-foot wide access and utility easement. The Upper Road would serve Lots 1, 2, 3, 4, 5, 6, 7, and 8. Road grades on the Upper Road would range from 1.4 percent to 17.4 percent.

No public vehicular access is proposed from Hacienda Drive. Secondary (i.e. emergency only) access to the project site would be provided via a gated entrance on the Town’s Middle Ridge Open Space located immediately east of 180 Hacienda Drive that would connect to an existing fire road located on the Town-owned Middle Ridge open space. Emergency vehicles such as fire and police would be allowed to utilize this access.

The existing private driveway from Paradise Drive that provides access for the existing house on Lot 1 would be gate-controlled and would provide an entrance and exit exclusively for the existing house on the Rabin property.²⁸

²⁸ This gated access would be mechanically controlled by a private electronic pass code known to the owner of Lot 1.

The existing dirt roads providing access to the existing water tanks on Parcel C and to the Town's Middle Ridge open space to the southeast would remain. A new gravel fire access road would be provided along a portion of the southern site boundary.

Parking

Each residential lot would be provided with a minimum of four off-street parking spaces, two of which would be in a garage. In addition, the site plan shows an additional 22 guest parking spaces along the Main Road, two in front of Lot 2, 12 in front of Lot 3, four in front of Lot 11, and four in front of Lot 13.

PUBLIC FACILITIES AND UTILITIES

The PDP includes a Preliminary Utility Plan.²⁹ Project implementation would involve the extension and installation of on-site water facilities, sewer facilities, and utilities (gas, electric, telephone, cable television)³⁰ and on-site installation of drainage facilities.³¹ Proposed public facilities would be connected to those of the Marin Municipal Water District (MMWD) and Sanitary District Number 5. Water and sewer lines plus other utilities would be constructed underground within the 40 foot access and utility easement. The PDP Preliminary Utility Plan shows the location of existing and proposed on-site street lights. Gas, electric, telephone, and cable television lines would be located underground in a joint trench within the 40 foot wide access and utility easement.

Water

The PDP proposes to construct new water distribution pipelines along the alignments of the Main Road and the Upper Road and connected to an existing water line in Hacienda Drive. Connection to the water line in Hacienda Drive would require the construction of a water line in the gravel road extension of the Upper Road, south of Lots 4 and 5. In addition, approximately 1,400 feet of an existing eight-inch water line in Hacienda Drive would be replaced with a new 12-inch water line. MMWD has both access and easements rights over Hacienda Drive.³² These rights would allow the installation of the replacement water line in Hacienda Drive. The water line would be extended to serve Lot 14 but would stop approximately 177 feet short of Paradise Drive and not connect to Paradise Drive.

The PDP Preliminary Utility Plan does not define diameters of new water mains (except for the replacement line in Hacienda Drive) but does show future location of fire hydrants.

All improvements to existing water facilities and extension of water facilities that are required for the development of a subdivision are to be completed by the applicant, under MMWD's inspection and with materials purchased from MMWD. MMWD's construction management group would notify the neighbors of an upcoming project; however, it would not be a District project. The applicant would

²⁹ *Preliminary Utility Plan, Precise Development Plan, Sheets C14 and C15, CSW/ST2, May 8, 2007.*

³⁰ *Ibid.*

³¹ *Preliminary Grading & Drainage Plan, Precise Development Plan, Sheets C8 and C9, CSW/ST2, May 8, 2007.*

³² Nichols • Berman communication with Robin Welter, CSW/ST2, May 2009.

enter into an agreement with the MMWD for the replacement and extension of water facilities. Once the project is approved by the Board of Directors and the applicant's contractor is approved, an Addendum to the Pipeline Extension Agreement would be drafted and signed by the applicant, the contractor and MMWD.³³

Sewer

The PDP proposes to construct new sanitary sewer pipelines along the alignments of the Main Road and the Upper Road.³⁴ One sanitary sewer line would be constructed from Lot 2 down the Main Road to connect to an existing sanitary sewer line in Paradise Drive. Lots 1 and 2 and Lots 9 through 14 would connect to this sanitary sewer line. A second sanitary sewer line would be constructed in the Upper Road and serve Lots 3 through 8. This sanitary sewer line would connect to the existing sanitary sewer line in the existing driveway, just above Lot 8, which in turn is connected to an existing sewer line in Paradise Drive.

The PDP Preliminary Utility Plan does not define diameters of the new sanitary sewer lines.

Drainage

The PDP includes a Preliminary Grading & Drainage Plan.³⁵ The proposed drainage plan indicates the construction of an insloped roadway and gutter; seven storm drain inlets and four component storm drain systems that would route stormwater runoff collected in the drain inlets to ephemeral downslope drainageways, either directly or via Paradise Drive roadside ditches. Each of these receiving drainageways eventually cross Paradise Drive in existing roadway culverts, and continues downslope and off-site toward their respective outlets in North San Francisco Bay. None of the existing Paradise Drive culverts handling runoff from the project site are proposed for replacement as part of the proposed project.

Aside from the storm drain segments that underlie the project access road, the remainder of the storm drain system segments extending downslope to the drainageways would be installed above-ground. The purpose of this atypical form of placement is to minimize both hillslope disturbance and the risk of future hillslope instability due to deteriorating piping and the resulting exfiltration into the shallow landslide-prone, hillslope soils.

All stormwater runoff generated over project impervious surfaces would be discharged to site drainageways. The pre-project and post-project watershed boundaries depicted on the Preliminary Grading & Drainage Plan match closely, thus no cross-basin diversions of stormwater would accrue from project construction. While all site stormwater runoff would be conveyed off-site, the proposed project has incorporated several low-impact development (LID) techniques to detain excess stormwater from developed impervious surfaces, and thus, to mitigate for the project's impact on peak flow rates. The roof of each proposed house would be covered with an average of 2,000 square feet of sod and seeded, native vegetation. The sod roofs are permeable surfaces that would reduce the impact of development on the quality and quantity of the project area's stormwater runoff. In addition, each lot would be provided with a cistern that would store the extra stormwater runoff generated by the

³³ Email from Una Conkling, MMWD, April 3, 2009.

³⁴ The existing house on the Rabin property currently is provided sanitary sewer service by Sanitary District No. 5.

³⁵ *Preliminary Grading & Drainage Plan, Precise Development Plan, op. cit.*

construction of lot impervious surfaces such as non-sodded roof surfaces, driveways, patios etc. The proposed cisterns are intended to store sufficient runoff to enable the project to maintain site peak flow rates at pre-project levels for the 100-year design rainstorm event.

The PDP also includes a Preliminary Erosion Control Plan.³⁶ The Preliminary Erosion Control Plan provides detailed information regarding general pollution control as well as urban runoff pollution control and erosion control. The plan shows the locations of and installation details for fiber rolls, sand / gravel bag barriers, and storm drain inlet protection.

LANDSCAPING

The PDP includes a conceptual landscape plan for the proposed project.³⁷ The conceptual landscape plan uses the Marin Fire Safe Guidelines for Defensible Space as the primary source for establishing landscape planting procedures for the proposed project.³⁸

The conceptual landscape plan identifies project tree removal. A total of 261 trees would be removed to accommodate the proposed development.³⁹ Of the total number of trees to be removed, 76 would be associated with landslide repair and 185 would be associated with roadway construction and / or lot grading. A conceptual tree, native and non-native, replacement plan is included. Additionally, a lot by lot preliminary planting plan is provided.

The intent of the conceptual landscape plan is to respect the primary viewsheds available to surrounding residents and to users of the public open space. The location and species type of new landscaping would be regulated by the Property Owners' Association to ensure that existing scenic views are preserved. The location and species type of the new landscaping would be such that, at maximum height, landscaping would not block scenic views of significant natural features (such as Tiburon Ridge and San Francisco Bay) or cast substantial shadows onto adjacent properties.

On-site landscaping would utilize primarily native plant species which are compatible with the existing vegetation on the project site. Existing trees and natural vegetation would be retained where possible. Introduced landscaping would include approximately 80 percent California native species tolerant to drought, fire, and frost which are consistent with plants approved by the Marin Municipal Water District and the Tiburon Fire Protection District.

The conceptual landscape plan includes a plant list of species that meet the establish criteria. It is noted that this is not an exclusive list, but that all vegetation selected for landscaping should be comparable in drought tolerance and fire resistance to those plants listed in the conceptual landscape plan.

³⁶ *Preliminary Erosion Control Plan, Precise Development Plan*, Sheets C16 and C17, CSW/ST2, May 8, 2007.

³⁷ *Alta Robles Subdivision, Preliminary Planting Plan Defensible Space*, 16 Sheets, Jim Catlin, Landscape Architect, March 2006.

³⁸ Fire Safe Marin is a non-profit organization dedicated to reducing wildland fire hazard and improving fire safety awareness in Marin. See www.FireSafeMarin.org.

³⁹ **Exhibit 5.5-6** in *Section 5.5 Biological Resources* provides a summary of the anticipated tree removal associated with the project.

LANDSLIDE REPAIR

The project site is mapped as being underlain by 18 landslides (Landslide A through Landslide R) that vary in total area from 2,871 square feet (Landslide K) to over 110,202 square feet for combined Landslides Q and O (**Exhibit 3.0-10** shows the location of the landslides on the project site). These slides have been mapped according to the following criteria by Miller Pacific Engineering Group:⁴⁰

QLSA - Active landslides having visible geomorphic features that indicate instability within the last 50 years.

QLSD - Ancient landslides with poorly defined geomorphic features and no evidence of recent activity; and,

QC - Colluvial filled swales with potential creep forces.

The Town of Tiburon Landslide Mitigation Policy requires repair, improvement or mitigation of these landslides and potential landslide areas.⁴¹ The level of mitigation, however, is dependent on the level of risk for damage to property and to existing or proposed improvements. Two levels have been created with the higher priority Level A mitigation requiring repair or avoidance. Level B mitigation requires that slides in this category be improved or avoided.

In general, Miller Pacific proposes four methods of mitigation for the site landslides, which include: use of compacted fill buttresses, subsurface drainage, retaining structures, and debris fences. **Exhibit 3.0-11** illustrates the type of landslide repairs the applicant's geologists propose. A compacted fill buttress requires removal of potentially unstable landslide debris and replacement with reinforced compacted fill. This repair would result in the most significant footprint impact and require cut / fill grading techniques. In general, compacted fill buttresses are proposed in those areas that are closest to proposed building envelopes and roadways. Some of the smaller landslides would be completely removed and replaced with compacted fill. Construction of fill buttresses would improve slope stability by removing preexisting landslides and landslide slip surfaces, both of which have low strength and perched shallow groundwater. The low strength landslide debris would be replaced with reinforced compacted fill and would include subdrains for collecting and removing shallow groundwater.⁴² An example of a typical compacted fill slope buttress is shown in **Exhibit 3.0-11**.

Subsurface drainage is proposed to be used in conjunction with the other methods in order to reduce the impact of groundwater on slope stability. In general, increased groundwater can reduce the strength of landslide debris and colluvium and increase the weight of the landslide mass; both of which decrease slope stability. Installation of the proposed subdrains would improve slope stability by reducing the buildup of groundwater in the landslides. An example of a typical subdrain is shown in **Exhibit 3.0-11**.

⁴⁰ *2nd Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California, S.A. Stephens, S.R. Korbay, March 4, 2008.*

⁴¹ *Town of Tiburon Landslide Mitigation Policy, adopted by the Tiburon Town Council, October 6, 2004 (Resolution No. 52-2004).*

⁴² *Figure 4 in Preliminary Geotechnical Investigation, Alta Robles Subdivision, Tiburon, California, S. Killen, Stephens, S., Miller Pacific Engineering Group, March 5, 2007.*

**Exhibit 3.0-10
Landslides**

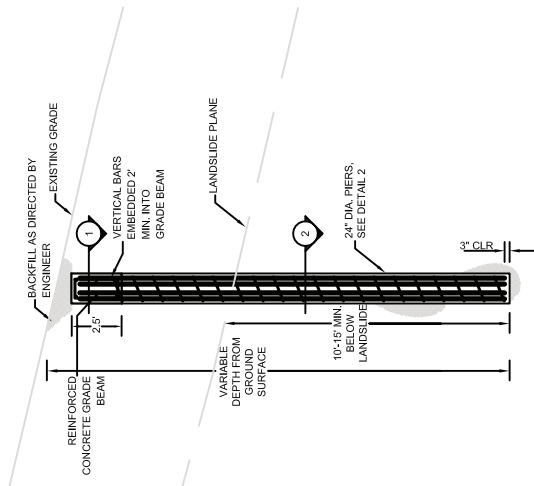


Legend

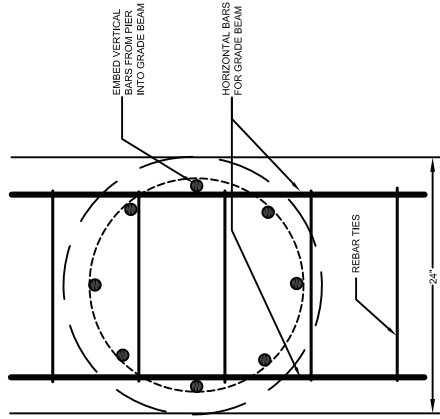
- ① QLSA Designated Landslide Letter and Type of Landslide
- QLSA Active Landslide having visible geomorphic features that indicate instability with last 50 years
- QLSD Dormant Landslides with poorly defined geomorphic features, no evidence of recent activity
- QC Colluvial filled Swales with potential creep forces
- Retaining Structure
- ***** Debris Fence
- ▨ Compacted Fill Buttress
- Subsurface Drainage

Source: Miller Pacific Engineering Group, 2008

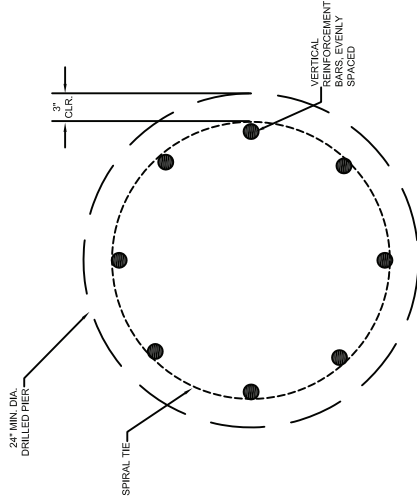
Exhibit 3.0-11 Landslide Repair Details



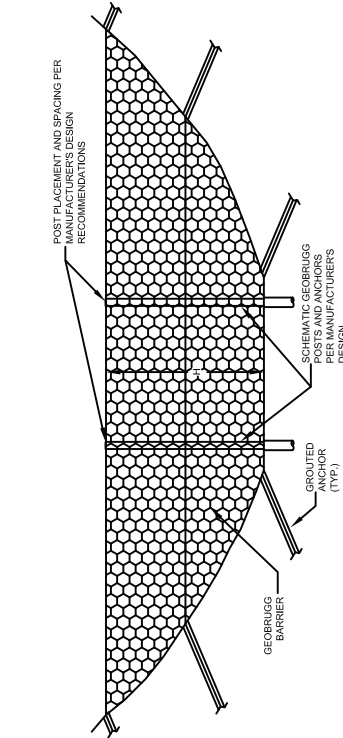
TYPICAL BELOW GRADE PIER AND GRADE BEAM



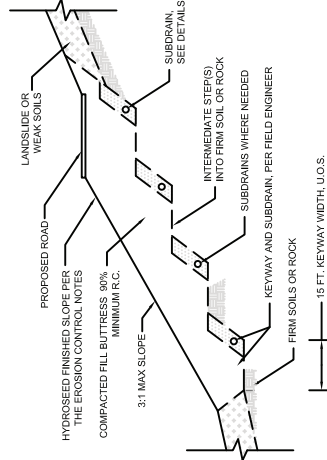
DETAIL 1
GRADE BEAM PLAN VIEW



DETAIL 2
PIER COLUMN PLAN VIEW

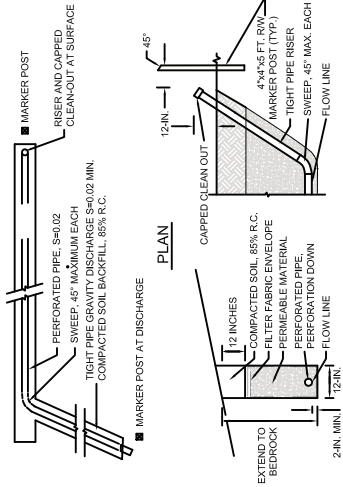


SCHMATIC GEOBRUEGG DEBRIS CATCHMENT
(NO SCALE)



- NOTES:
- (1) SEE TYPICAL SUBDRAIN DETAIL FOR BUTTRESS KEYWAYS AND BENCHES. SEE DETAIL 2 FOR PER FABRIC, GRANULAR BACKFILL, AND OTHER DETAILS OF SUBDRAIN DESIGN
 - (2) NUMBER OF BENCHES AND WIDTHS MAY VARY AND TO BE DETERMINED BY ENGINEER IN FIELD
 - (3) R.C. = RELATIVE COMPACTION
 - (4) U.O.S. = UNLESS OTHERWISE SPECIFIED

TYPICAL SLOPE BUTTRESS



PARTIAL PROFILE

- NOTES:
- (1) PIPE TO BE 4-IN. DIAMETER, SCHEDULE 40 PVC
 - (2) PERFORATED PIPE TO BE 1/2" DIA. PERFORATIONS
 - (3) PERMEABLE MATERIAL TO BE CALTRANS CLASS 1A OR 1B
 - (4) R.C. = RELATIVE COMPACTION
 - (5) U.O.S. = UNLESS OTHERWISE SPECIFIED

TYPICAL DETAILS FOR SUBDRAINS

The use of retaining structures in conjunction with compacted fill buttresses and subsurface drainage is proposed for at least three landslides (Landslides B, D, and M) to improve landslide stability to a level that satisfies the Town's Landslide Mitigation Policy. An example of a typical below grade pier and grade beam retaining structure is shown in **Exhibit 3.0-11**. This type of repair minimizes the need for extensive mass grading that would otherwise be required. A limited zone of disturbance adjacent to the retaining structures would be required for drill rig and construction access. This would be necessary to excavate the proposed retaining wall piers. Reinforced concrete piers are buried cast-in-ground shafts that are drilled to a required depth below the lowest landslide slip surface.

Debris fences are a method for mitigating surficial instability issues and they are proposed for drainage ravines where potential shallow debris flow failures could impact Paradise Drive. An example of a typical debris catchment fence is shown in **Exhibit 3.0-11**.

The PDP Grading Cut / Fill Diagram indicates that there would be no need for import or export of fill for site grading.⁴³ According to the PDP, it is the intent to balance the earthwork on-site. Any export material would be dispersed over the disturbed areas to achieve a balanced site.

The following is a brief discussion of each of the 18 mapped landslides and the proposed methods of repair.⁴⁴ **Exhibit 3.0-10** shows the location of the landslides and the proposed landslide stabilization methods.

Landslide A

Landslide A is located at the northeast corner of the site and is mostly off-site and east of the driveway entrance to the Rabin residence. This is an active landslide (QLSA) and is designated as a Risk Level of A / B, with risk level A given for the potential impact of debris onto Paradise Drive. A potential exists for surficial soil debris flowing to the northeast toward the drainage ditch adjacent to Paradise Drive. The proposed repair would consist of a debris catchment fence installation of about 50 linear feet, and possible subsurface drainage if a wetland is not present. The debris catchment fence would be approximately five to six feet in height. This repair would disturb approximately 100 square feet and involve grading quantities of about ten cubic yards.

Landslide B

Landslide B is located at the northeast corner of the site, just west of Landslide A, and underlies a portion of the Rabin driveway entrance and extends upslope into the ravine above. This is an active landslide (QLSA) and is designated with a Risk Level A/B, with risk Level A given for the upslope portion of the slide within 100 feet of a proposed building envelope. The proposed repair would involve the use of a below grade retaining structure in the lower section of the landslide, subdrains in the central portion of the slide and the use of a compacted fill buttress in the upper portion of the landslide closest to a building envelope. This repair scheme would be continuous with the repair proposed for Landslide D, adjacent to the northwest. The repair would disturb 4,727 square feet of surface area, involve 1,750 cubic yards of grading and include construction of 115 linear feet of a

⁴³ *Grading Cut / Fill Diagram, Precise Development Plan, Sheets C10 and C11, CSW/ST2, May 8, 2007.*

⁴⁴ The discussions for repairs of Landslides I and J in the *Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California*, S.A. Stephens, S.R. Korbay, Miller Pacific Engineering Group, January 28, 2008, proposes the possible use of retaining structures in lieu of compact fill buttresses. These retaining structures, however, are not shown on the proposed landslide repair exhibit. These retaining structures, therefore, are not further discussed in this Draft EIR.

below grade retaining structure and 277 linear feet of subdrain installation. In addition, some land disturbance would occur from excavation equipment to install the subsurface drainage.

Landslide C

Landslide C is located in the northeast corner of the site, and is shown as a colluvial filled swale (QC), located south and upslope of Landslide A. This landslide has a Risk Level B. The proposed repair would consist of installation of subdrains in the upper and center portion of the slide mass. The repair would disturb about 225 square feet and involve about 50 cubic yards of grading and installation of 195 linear feet of subdrain. In addition, some land disturbance would occur from excavation equipment to install the subsurface drainage.

Landslide D

Landslide D is located at the northeast corner of the site, immediately north of Landslide B. This is an active landslide (QLSA) and is designated Risk Level A for that portion within 100 feet of a building envelope. The proposed repair is the same as Landslide B and would consist of a below grade retaining structure in the landslide toe, subdrains in the central portion of the slide and the use of a compacted buttress fill in the upper section adjacent to the building envelope. This repair would disturb about 3,757 square feet of surface area, involve 1,250 cubic yards of grading and installation of 277 linear feet of subdrain. The proposed below grade retaining structure would be 92 linear feet. In addition, some land disturbance would occur from excavation equipment to install the subsurface drainage.

Landslide E

Landslide E is located in the northeast quadrant of the site and is associated with a northeast trending ravine. This is an active landslide (QLSA) and is designated Risk Level A due to its proximity to a building envelope. The proposed repair would consist of subdrain installation in the lower and central portions of the landslide mass. The upper south section of the landslide would be repaired with a compacted fill buttress since this area is closest to the proposed structure. A debris fence is proposed downslope of this landslide at the ravine outlet above Paradise Drive in order to reduce debris from impacting Paradise Drive. The debris catchment fence would be up to 12 feet in height. This repair would disturb about 11,081 square feet of land involve 4,104 cubic yards of material. In addition, some land disturbance would occur from excavation equipment to install the 647 linear feet of subsurface drainage.

Landslide F

Landslide F is located in the southeast portion of the site and is a colluvial filled swale (QC) that has a potential for creep or surficial failure and is designated Risk Level B. The proposed repair would consist of using a compacted fill buttress, which would result in removal of the lower two-thirds of the landslide. The upper one-third of the landslide is above the existing driveway and would be improved with subsurface drainage. This repair would disturb about 33,740 square feet and the subdrain installation would involve 227 linear feet of excavation, which would cause some land disturbance from excavation equipment to install the subsurface drainage.

Landslide G

Landslide G is located in the central portion of the site in a wetland setback zone and does not directly impact existing / proposed structures or roadways. The landslide is considered active (QLSA), but it has a Risk Level B. No repairs are planned for this landslide.

Landslide H

Landslide H is a dormant landslide (QLSD) in the north-central portion of the site between Paradise Drive and the proposed Main Road. This landslide is located adjacent to a building envelope and is directly above Paradise Drive, therefore, it is considered to be a Risk Level A landslide. The proposed repair for the landslide would consist of a buttress fill in the northeast half of the slide and the southeast half would be stabilized with subsurface drainage. A debris fence is proposed downslope of this landslide in the ravine above Paradise Drive in order to reduce debris from impacting Paradise Drive. The debris catchment fence would be up to 16 feet in height. Approximately 18,810 square feet of land would be disturbed for repair and about 427 linear feet of subsurface drainage would be installed. Some land disturbance would occur from excavation equipment to install the subsurface drainage.

Landslide I

Landslide I is located just northeast of Landslide H and is a relatively small landslide directly upslope of Paradise Drive. It is designated an active landslide (QLSA) and could potentially impact Paradise Drive resulting in a Risk Level A category. The proposed repair would include complete removal and replacement with a compacted fill buttress. Construction of the compacted fill buttress would disturb about 7,192 square feet.

Landslide J

Landslide J is in the northwest portion of the site directly upslope of Paradise Drive. This slide is dormant and does not show any evidence of recent movement (QLSD). It is located directly above Paradise Drive; therefore, is considered to be Risk Level A and must be repaired. The repair proposed would use a compacted fill buttress. Construction of the compacted fill buttress repair would disturb about 13,604 square feet of land.

Landslide K

Landslide K is located at the toe of Landslide J and is immediately upslope of Paradise Drive in the northwest portion of the site. This relatively small landslide is considered active (QLSA) and because it could impact Paradise Drive is designated Risk Level A. The proposed repair would consist of removal and replacement with a compacted fill buttress, which would disturb about 2,698 square feet of land.

Landslide L

Landslide L is located in the northern portion of the site in the vicinity of the intersection of the Main Road and Paradise Drive. This relatively small landslide is considered to be active (QLSA) and because of its location and impact to proposed and existing roads is considered Risk Level A. The proposed repair would involve the removal and replacement with a compacted fill buttress and would disturb about 4,865 square feet of land.

Landslide M

Landslide M is located in the northwesternmost portion of the site directly above Paradise Drive. This landslide is considered dormant (QLSD); however, a portion of it is located in a building envelope, therefore, it has a Risk Level A. The proposed repair would be a retaining structure with the use of subsurface drainage. The approximate length of the below grade retaining structure would be 69 linear feet and the subsurface drainage upslope of the retaining structure would be 74 linear feet. The

approximate area of disturbance would be about 180 square feet. In addition, some land disturbance would occur from excavation equipment to install the 74 linear feet of subsurface drainage.

Landslide N

Landslide N is located in the west portion of the site, below the southwest side of the proposed Main Road. This landslide is active (QLSA) and has a Risk Level A due to the proximity to the road and an adjacent building envelope. It is proposed to repair the upper portion of the landslide with the use of a compacted fill buttress. About 793 linear feet of subsurface drainage is proposed to stabilize the lower portion of the landslide. Repair of the upper portion of this relatively large landslide would involve about 31,607 square feet of land disturbance. Some land disturbance would occur from excavation equipment to install the subsurface drainage.

Landslide O

Landslide O is just southeast and upslope of Landslide N and is characterized as a colluvial filled swale (QC). This landslide is located adjacent to the proposed Main Road and a building envelope; therefore, it is designated a Risk Level B landslide. The proposed repair would consist of removal of most of the landslide and replacing it with a compacted fill buttress. This repair would involve over 19,787 square feet of land disturbance.

Landslide P

Landslide P is the southwestern most mapped landslide and is considered active (QLSA); however it is located in Private Open Space and not adjacent to any of the proposed development. It is located west of the existing Rabin residence. No repairs are planned for this landslide.

Landslide Q

Landslide Q is located in the west portion of the site and is described as an erosion gully with active landsliding (QLSA). It is not located adjacent to any proposed development. The proposed repairs would consist of improving the gully with a debris fence and possibly a debris catchment area. The debris catchment fence would be approximately five feet in height. The area of disturbance is listed as 1,603 square feet.

Landslide R

Landslide R is located in the center of the site and directly upslope of Landslide G. The upper portion of Landslide R is located beneath the proposed Main Road. This landslide is described as a colluvial filled swale and the proposed repair would involve grading a compacted fill buttress in the upper portion of the landslide. The area of disturbance for this repair would involve about 36,281 square feet.

GRADING

Applicant proposed grading is intended to prepare the project site for residential development by installing roadways and utilities and repairing landslides and unstable areas. The PDP includes a

Preliminary Grading & Drainage Plan⁴⁵ and a Grading Cut / Fill Diagram.⁴⁶ **Exhibit 3.0-12** provides a summary of the volume of excavation and fill operations depicted on these exhibits.

The PDP Grading Cut / Fill Diagram indicates that there would be no need for import or export of fill for site grading.⁴⁷ The intent of the PDP is that on-site earthwork would be balanced. The applicant estimates the volume of grading necessary to construct driveways and building pads for the 13 new houses to be 19,090 cubic yards of material to be cut and 20,310 cubic yards of material for fill. The volume of grading necessary to build the roads is estimated to be 5,510 cubic yards of material to be cut and 4,290 cubic yards of material for fill. The total amount of cut material therefore is estimated to be 24,600 cubic yards and the total amount of fill material is estimated to be 24,600 cubic yards thus balancing the on-site earthwork. Any export material would be dispersed over the disturbed areas to achieve a balanced site.

The grading would include a significant amount of landslide repair work with the use of compacted fill buttresses and complete removal and replacement of smaller landslides. As discussed above, this would involve removing unstable portions of a landslide and improving the stability of the slope by placing the fill back on the slope in a more stable condition. Many of the proposed fill buttress repairs would be located in areas that would already require grading for proposed building envelopes and access roads.

Exhibit 3.0-13 summarizes all of the retaining walls proposed for site preparation for residential development. The wall numbers correspond to wall locations shown in **Exhibit 3.0-14**.

The following is a brief discussion of proposed grading for each lot as shown on the PDP grading cut / fill diagrams and for the proposed landslide repairs discussed previously.

Lot 1

Most of the grading for Lot 1 would be northeast of the existing Rabin residence. The grading performed would be for stabilizing the upper section of Landslide R by construction of a buttress fill for the landslide stabilization and cut / fill grading for the Main Road.

Lot 2

A significant amount of grading would be required for Lot 2. Some cut would be needed for the Main Road in the north portion of the lot and the northwest end of the building pad. However, most of the grading would involve filling in a northeasterly trending drainage swale. This grading would also be removing Landslide F and replacing it with a compacted fill buttress.

⁴⁵ *Preliminary Grading & Drainage Plan, Precise Development Plan, op. cit.*

⁴⁶ *Grading Cut / Fill Diagram, Precise Development Plan, op. cit.*

⁴⁷ *Ibid.*

Exhibit 3.0-12
Estimated Earthwork Summary

	Cut^a	Fill^a	Net^a
Residential Lots			
2	770	5,160	+ 4,390
3	2,400	1,820	- 580
4	420	120	- 300
5	2,160	80	- 2,080
6	405	550	+ 145
7	100	1,380	+ 1,280
8	835	370	- 465
9	1,200	2,200	+ 1,000
10	1,210	2,210	+ 1,000
11	4,550	2,380	- 2,170
12	2,350	3,140	+ 790
13	1,030	880	- 150
14	1,660	20	- 1,640
Road Work			
Main Road	5,300	2,850	- 2,450
Upper Road	210	1,440	+ 1,230
Total	24,600	24,600	0

a In cubic yards

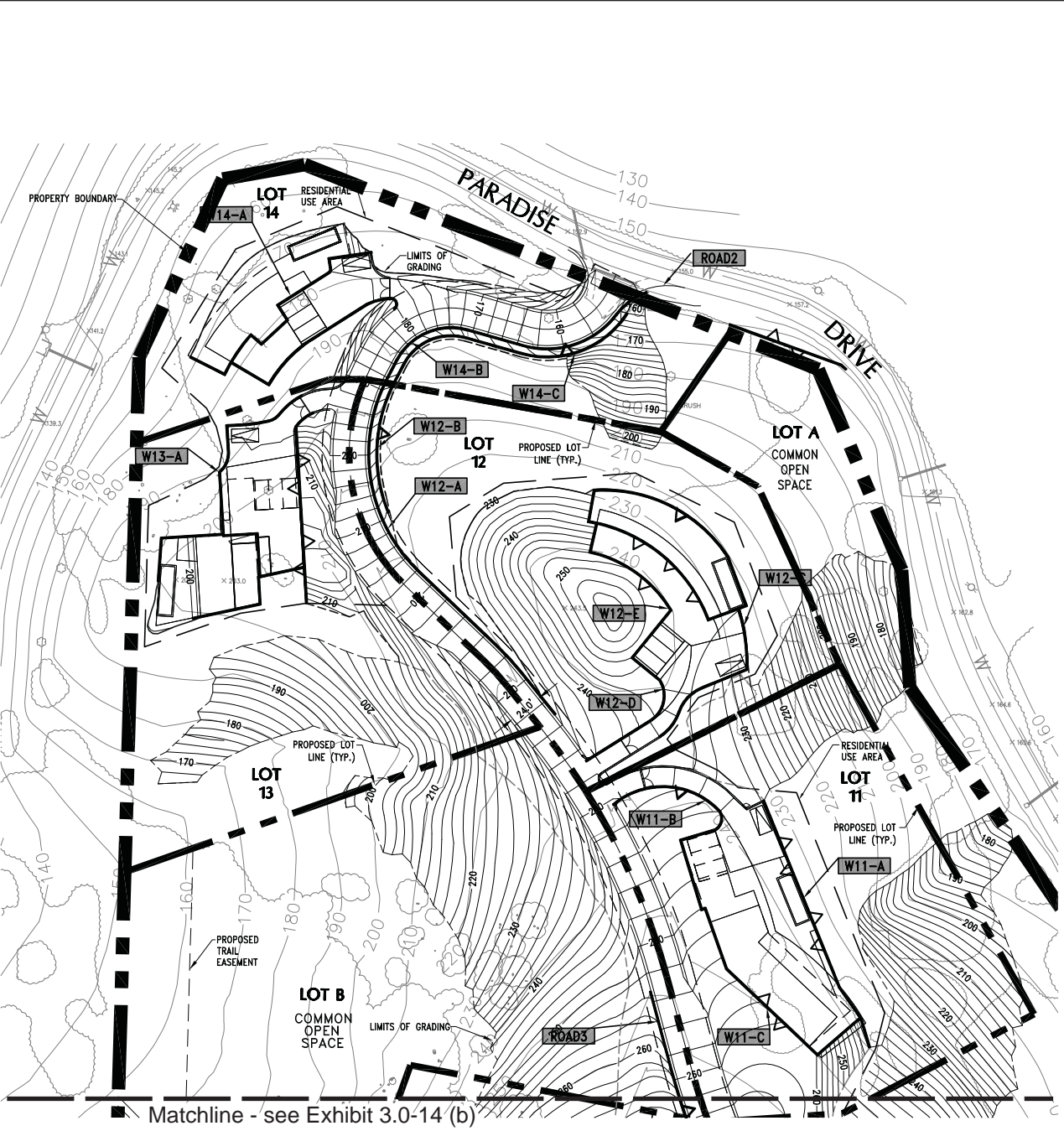
Source: *Grading Cut / Fill Diagram (C10 and C11)*, Alta Robles Development Precise Development Plan, CSW/ST2, May 8, 2007.

Exhibit 3.0-13
Retaining Wall Summary

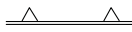

Lot Number	Wall Number	Height (in feet)	Length (in feet)	Purpose
1	W1-A	Varies 3-5	333	Lot Development
	W1-B	Varies 3-5	325	Lot Development
	W1-C	Varies 2-6	31	Lot Development
2	W2-A	Varies 4-5	111	Lot Development
	W2-B	5	172	Lot Development
	W2-C	Varies 4-6	109	Lot Development
	W2-D	Varies 4-5	114	Lot Development
	W2-E	Varies 2-6	54	Lot Development
	W2-F	Varies 0-14	350	House Construction
3	W3-A	Varies 2-4	163	Lot Development
	W3-B	Varies 3-5	239	Lot Development
	W3-C	Varies 0-11	564	House Construction
4	W4-A	Varies 0-2	34	Lot Development
	W4-B	Varies 0-15	253	Lot Development
	W4-C	Varies 0-4	114	Lot Development
5	W5-A	Varies 0-9	39	Lot Development
	W5-B	Varies 0-15	491	House Construction
6	W6-A	Varies 0-9	196	House Construction
	W6-B	Varies 0-10	247	House Construction
7	W7-A	Varies 0-8	240	Lot Development
	W7-B	Varies 0-10	557	House Construction
8	W8-A	Varies 1-6	174	Lot Development
	W8-B	Varies 0-11	201	House Construction
	W8-C	Varies 1-4	257	Lot Development
Near 7 9	Road 1	Varies 1-3	108	Lot Development
	W9-A	Varies 3-4	72	Lot Development
	W9-B	4	80	Lot Development
	W9-C	Varies 1-16	382	House Development
	W9-D	Varies 2-16	179	Lot Development
W9-E	Varies 1-4	123	Lot Development	
10	W10-A	Varies 7-21	108	Lot Development
	W10-B	Varies 0-21	192	Lot Development
	W10-C	Varies 0-18	144	House Construction
	W10-D	Varies 1-6	127	Lot Development
	W10-E	6	139	Lot Development
	W10-F	Varies 2-6	125	Lot Development
11	W11-A	Varies 0-5	200	Lot Development
	W11-B	Varies 2-13	102	Lot Development
	W11-C	Varies 13-28	267	House Construction
12	W12-A	Varies 2-4	298	Lot Development
	W12-B	Varies 1-2	98	Lot Development
	W12-C	Varies 0-7	112	Lot Development
	W12-D	Varies 1-11	90	Lot Development
	W12-E	Varies 0-16	496	House Construction
13	W13-A	Varies 1-20	533	House Construction
14	W14-A	Varies 0-10	356	House Construction
	W14 B	Varies 4-7	257	Lot Development
	W14-C	Varies 3-6	203	Lot Development
Lot A	WLA-A	Varies 0-4	52	Lot Development
Lot B	Road 3	Varies 0-4	98	Lot Development
Near 14	Road 2	4	37	Lot Development

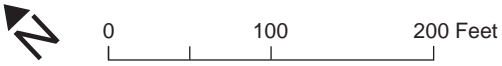
Source: CSW/ST2

Exhibit 3.0-14 (a)
Retaining Wall Exhibit



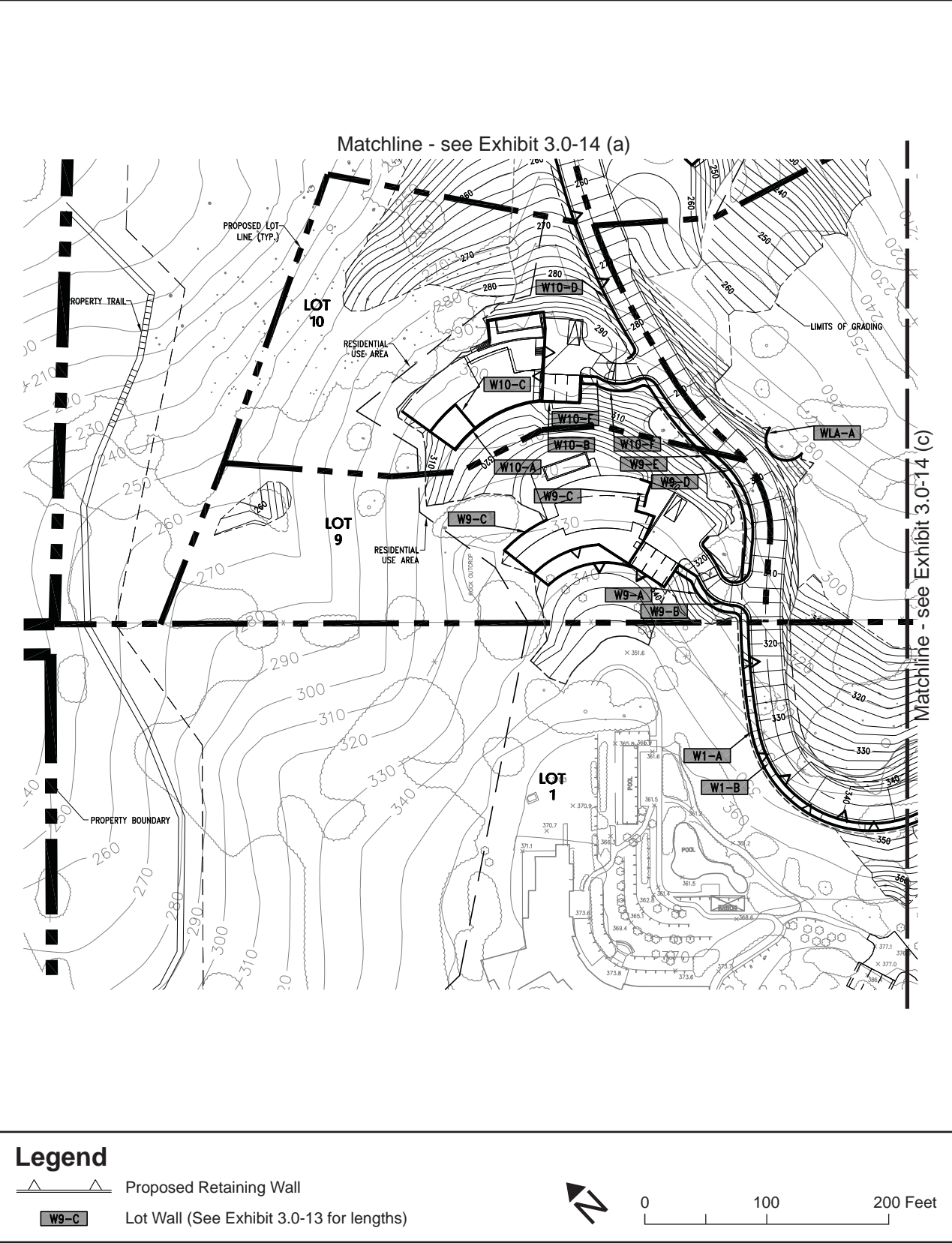
Legend

-  Proposed Retaining Wall
-  Lot Wall (See Exhibit 3.0-13 for lengths)



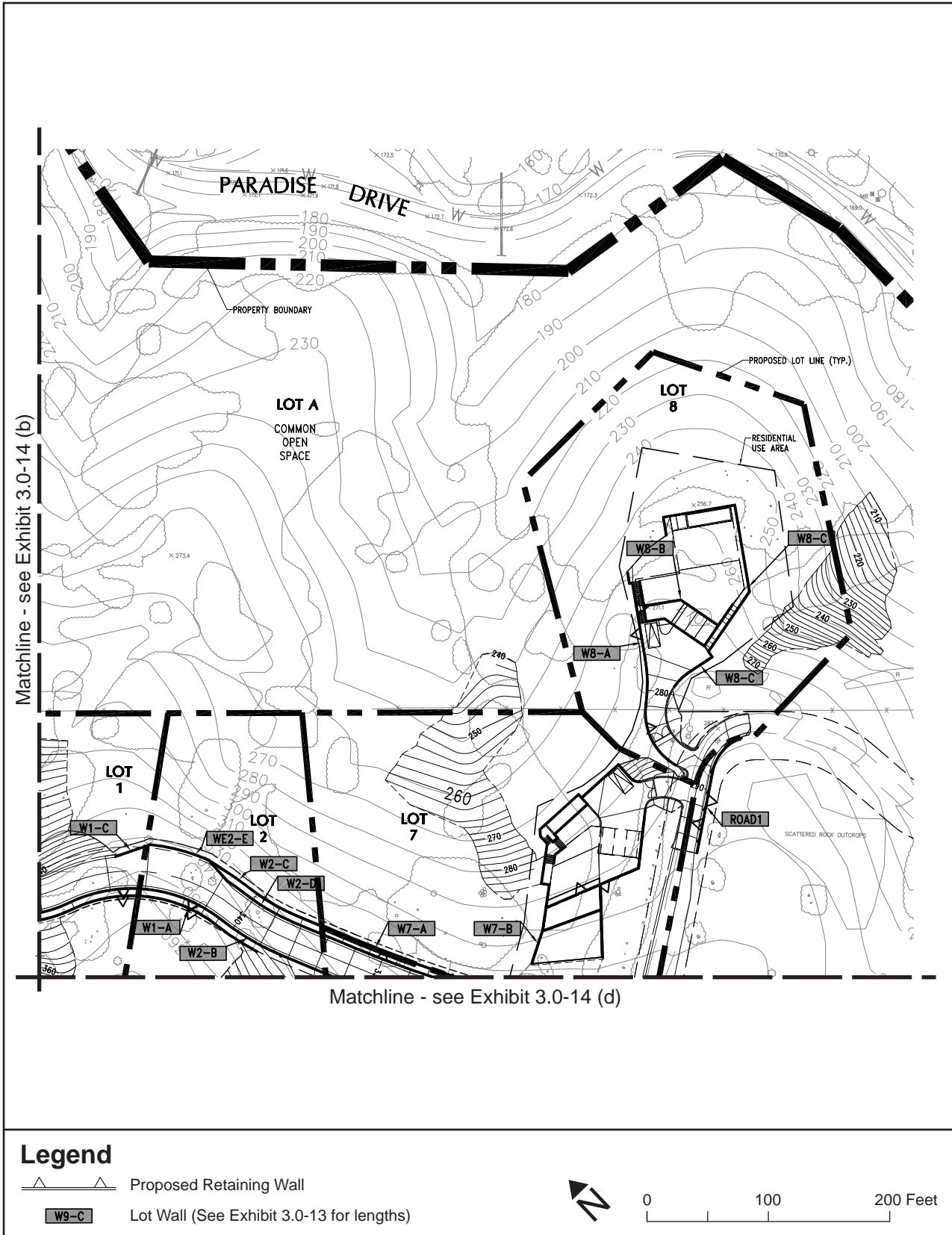
Source: CSW/ST 2, 2009

Exhibit 3.0-14 (b)
Retaining Wall Exhibit



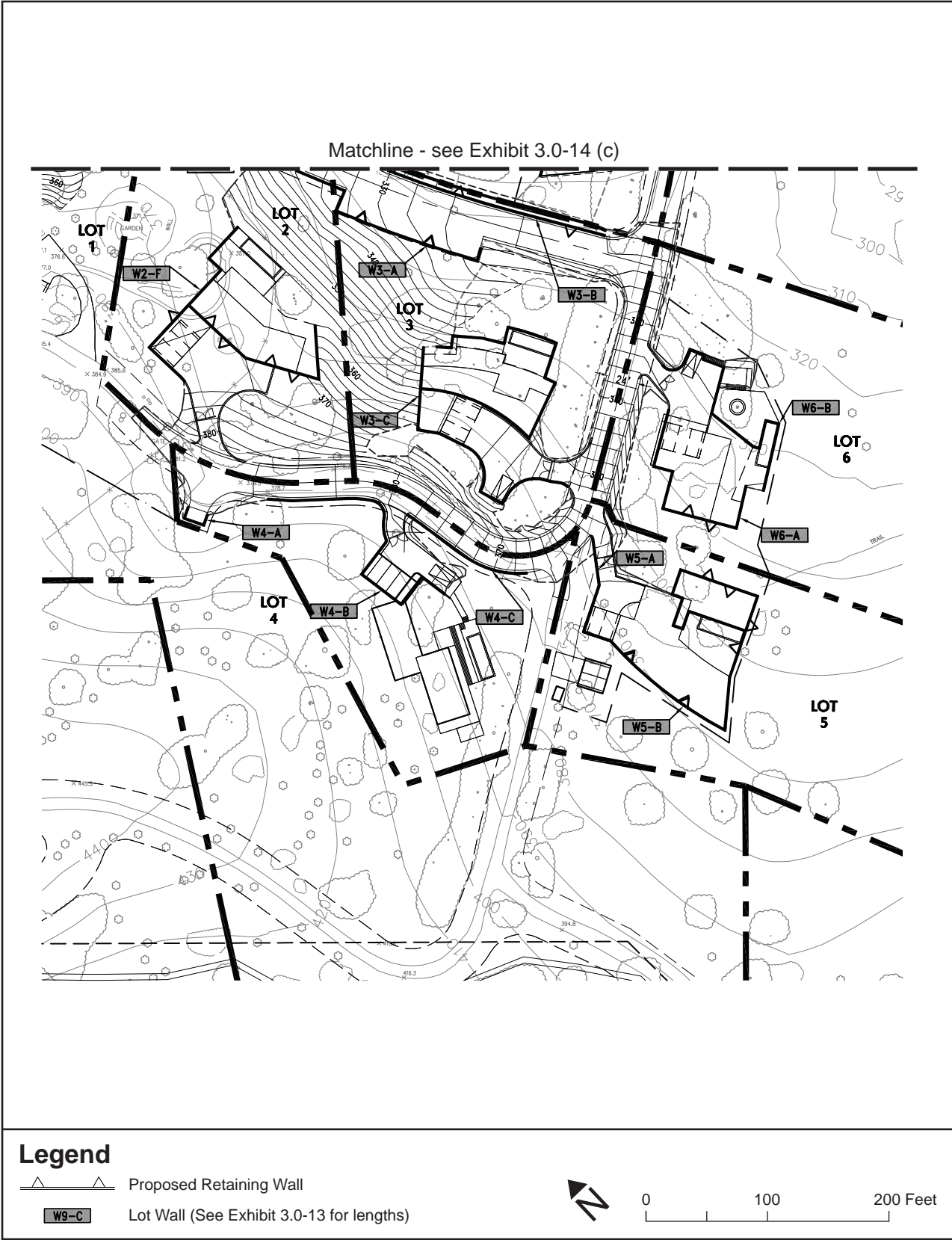
Source: CSW/ST 2, 2009

Exhibit 3.0-14 (c)
Retaining Wall Exhibit



Source: CSW/ST 2, 2009

Exhibit 3.0-14 (d)
Retaining Wall Exhibit



Source: CSW/ST 2, 2009

Lot 3

Grading for Lot 3 would involve cut for the building pad and sections of the Main Road. In addition, as in Lot 2, filling would be required for the shared northeasterly trending drainage swale. The grading would also include removing and recompacting the lower section of Landslide F.

Lot 4

Lot 4 grading would consist of cut for the Upper Road and building pad. Some minor fill is present southeast of the garage pad cut. At the northeasternmost end of Lot 4, some cut / fill would be placed in the northeasterly trending slope.

Lot 5

The majority of grading for Lot 5 would involve cut for the building pad with some minor fill. Fill would be placed at the northwest corner of the lot for the access road.

Lot 6

Grading would be limited to cut / fill in the vicinity of the building pad and on the northwestern edge of the lot for the Upper Road construction.

Lot 7

Fill and minor cut is proposed for the building pad and the Upper Road on Lot 7. However, a significant amount of grading would be required outside the building envelope for removal of an upper section of Landslide E, which would be replaced with a buttress fill.

Lot 8

Grading would be limited to cut / fill within the building envelope for building pad construction. However, on the east portion of Lot 8, removal and recompaction of landslide debris is proposed for stabilization of Landslides B and D.

Lot 9

The building envelope for this lot is located on a north descending ridge and would require cut / fill grading for the construction of the building pad. Some minor grading is proposed at the west end of the lot to provide an apparent debris catchment structure for the erosion gully that is labeled as Landslide Q.

Lot 10

The building pad for Lot 10 is located on the same ridge as Lot 9, which would require cut / fill grading for construction of the building pad. Grading is also proposed in the eastern portion of the lot for construction of the Main Road and repair of Landslide O. This repair would involve removal of the landslide and replacement with a compacted buttress fill.

Lot 11

Lot 11 would require cut / fill grading for construction of the proposed building pad and adjacent access road. Additional grading would involve complete removal of Landslides I and J landslide

debris and replacement with compacted fill buttresses. In addition, downslope of the south portion of the building envelope portions of Landslide H are proposed to be repaired.

Lot 12

Lot 12 grading would involve cut / fill of a knoll on a northerly trending ridge within the building envelope. This would provide the level area for the building pad. Mostly cut would be used for construction of this section of the Main Road. In addition, grading is proposed to remove Landslides J and L, portions of which are located within Lot 12. The small Landslide K is entirely within the boundaries of Lot 12 and would be completely removed. These three landslides would be removed and replaced with a compacted fill buttress.

Lot 13

Grading for the building pad would involve cut / fill within the building envelope and the Main Road. To the south-southeast of the building envelope, it is proposed to construct a buttress fill to stabilize the upper section of Landslide M.

Lot 14

Most Lot 14 grading would involve cut within the building envelope for both the Main Road and building pad. Some additional grading would be required for the proposed repair of Landslide M. A retaining structure is proposed for stabilizing this landslide, which would likely involve cutting a temporary access road for drill rig / excavating equipment used for retaining structure construction. At the east end of Lot 14, Landslide L is proposed to be completely removed and replaced with a compacted fill buttress.

Parcel A

Parcel A, located in the north portion of the site above Paradise Drive, contains several landslides that require repair. Portions of proposed grading repairs for Landslides B, D, E, H, and R are within the boundaries of Parcel A. This grading is part of landslide debris removal and replacement with compacted fill buttresses. These repairs are part of proposed stabilization efforts for building envelope and access road construction on adjacent lots.

Parcel B

Parcel B contains a significant portion of Landslide M, and stabilization of this landslide would require grading in the upper section of the slide, which is adjacent to the proposed Main Road. Grading would involve removal of the landslide debris and replacement with a compacted fill buttress.

Parcel C

Grading is not proposed within Parcel C.

DESIGN CONCEPTS

The applicant has not prepared covenants, conditions, and restrictions (CC&Rs) or design guidelines for project site development. The applicant, however, prepared preliminary architectural and landscape design guidelines that would eventually be included in the CC&Rs. The CC&Rs would

include provisions for sustainable design, green building concepts,⁴⁸ and energy conservation. The applicant also proposes to establish a Property Owners' Association (POA) which would be responsible for administering and enforcing the restrictions in the CC&Rs concerning architectural and landscape design and management and use of the private and public open space.⁴⁹

The applicant proposes to incorporate sustainable design features into the design of the individual houses. These design features would include:

- Passive solar design.
- Active solar energy where neighbors are not unreasonably affected.
- Other energy conservation design.
- Use of "green" building materials.
- Prohibition on wood-burning stoves or fireplaces that do not incorporate state-of-the art engineering measures designed to prevent release of particulate matter.

Two distinct residential building types are proposed - earthen buildings and terraced buildings. The PDP proposes design strategies for building configuration, energy efficiency, material selection and water conservation for each building type.⁵⁰

Earthen Building Strategies -- The design objective for these lots is to place structures into existing land contours, fitting buildings into the native environment as underground service spaces. Some shaping of the terrain would be done to fit the structures. The design for these homes would be primarily single-story and should be earth berm and thermal mass engineered for energy efficiency. Second-story elements would only be used when the roofline can be kept below the upper elevations of such lot.

Terraced Building Strategies -- The design objective for these homes would be to reduce building bulk and mass with horizontal and vertical articulated massing. Stepped building composition would integrate with site contours to reduce visibility. Earth berms and thermal mass engineered for energy efficiency and photovoltaic solar would be used for electricity generation and water heating. Materials and colors would blend with and complement the surrounding native landscape.

⁴⁸ Green building generally refers to a whole-systems approach to building design, construction, and occupancy. Site, energy, water, resources, materials, indoor air quality, and financial feasibility are all analyzed for environmental impact, health effects, and cost effectiveness.

⁴⁹ With or without CC&Rs, all residential lot development would be required to comply with the applicable provision of Chapter 16 (Zoning) of the *Tiburon Municipal Code (Zoning Ordinance)* and the Town of Tiburon Design Guidelines for Hillside Dwellings (Hillside Design Guidelines) and would be subject to the Town's normal procedures (design review, granting of grading and building permits, etc.).

⁵⁰ *Earthen Building Strategies and Terraced Building Strategies, Precise Development Plan*, Sheets SG-02 and SG-03, KAO Design Group, March 1, 2007.

Energy Efficiency

It is proposed to reduce energy / electrical use by incorporating several measures into the individual houses. These measures include:

- Earth berms and thermal mass engineered for energy efficiency.
- Photovoltaic panels to help generate electricity for houses and pools.
- Solar hot water panels to help heat water for the houses and pools.
- Windows and shading devices to control day lighting and solar gain.
- Skylights and clerestories to promote stack effect heat evacuation.
- Exterior sunshades, louvers, and overhangs integrated into elevations.
- Windows designed to optimize day lighting and control solar gain.
- Energy Star rated appliances.
- Low energy lighting lamps and fixtures.
- Baffled exterior lights to minimize visibility.
- Motion sensor activated exterior lighting to reduce energy use and visibility.

Fences

A six-foot high “deer fence” would be installed around each of the new residences as shown on the landscape exhibits.⁵¹ All fencing locations, materials and design would be subject to Town of Tiburon Design Review.

Exterior Lighting

Exterior lighting would be limited to low energy and hooded lamps with the minimum amount necessary to safely illuminate points of access and outdoor living areas. Exterior lighting would generally be avoided in areas which are visible from surrounding properties and roadways, unless necessary for safety or security.

Night lighting for outdoor recreational activity areas would be prohibited. In areas where lighting would be visible from roadways or surrounding properties, light fixtures would be mounted at low elevations and fully shielded to direct lighting downward to the immediate area underneath the fixture.

⁵¹ Alta Robles Subdivision, Sections, Details, Sheet L2.0, Jim Catlin, March 2006,

IMPLEMENTATION AND PHASING ⁵²

If approved by the Town, the applicant would construct roadway extensions and install the required infrastructure. This work would include landslide remediation, grading and paving for roads, clearing vegetation, trenching, installing all utilities, replanting grasslands and trees, and cleaning up the site.

The PDP includes a Preliminary Phasing Scheme. ⁵³ This scheme shows five phases of construction as follows:

- Phase 1 - Roads, infrastructure, and Lot 7
- Phase 2 - Lots 2, 3, 11, and 14
- Phase 3 - Lots 5, 9, and 10
- Phase 4 - Lots 6 and 13
- Phase 5 - Lots 4, 8, and 12

A construction staging area is shown on Lot 12 and it is noted that the phasing scheme shown is a combination of lots that create balanced earthwork sites for particular phases.

Lot Owner-Implemented Construction ⁵⁴

Lot owners would construct upon their individual lots on a case-by-case basis after Town approval, including design review, and granting of building permits. Construction timing would depend on each project's design but generally could be expected to require an average of 12 to 15 months per unit based on current experience in Tiburon. ⁵⁵ **Exhibit 3.0-15** lists general tasks typically involved in individual home development.

⁵² This discussion assumes that the applicant would prepare the project site for future development but that residential development would occur as individuals built their own homes. The applicant is undecided at this time if the homes would be built by the applicant or future owners. Project narrative, page 2.

⁵³ *Preliminary Phasing Scheme, Precise Development Plan*, Sheets C18, CSW/ST2, May 8, 2007.

⁵⁴ The project applicant did not provide information regarding homeowner implemented construction. This discussion is based on the EIR preparers familiarity with Town of Tiburon procedures.

⁵⁵ Nichols • Berman communication with Scott Anderson, Planning Director, Town of Tiburon, August 2000.

Exhibit 3.0-15
Lot Owner-implemented Construction

Task	Activity	
1	Grade Lot	Limited to residential use area. May include landslide stabilization.
2	Construct Foundation	Would involve concrete work.
3	Frame Structure	Would require carpenters and laborers.
4	Build Driveway	Could involve finishing grading operations.
5	Finish Structure and Landscaping	Could involve cabinet makers, concrete finishers, electricians, finish carpenters, landscapers, masons, plasterers, plumbers, roofers, sheet metal workers, sheet rockers, tile setters, others.

Source: Nichols • Berman

Up to eight to 12 workers could be on a single residential lot on a given day, and typical equipment used would include bulldozers, cement mixers, chain saws, compactors, construction trailers, cranes, hot tar vats, material trucks, and nail guns. Residential development would account for construction traffic, including trips by workers, to deliver building materials and equipment, and to haul away excess fill and debris.

3.3 CUMULATIVE DEVELOPMENT ASSUMPTIONS

This EIR assesses the effects of implementing the proposed project under existing environmental conditions and under anticipated future “cumulative” conditions. Cumulative impacts are defined by CEQA to include impacts of little or no consequence when taken alone but, when combined with expected environmental conditions, would have a significant effect.

The *Tiburon General Plan* anticipates eventual buildout of the entire Tiburon Planning Area⁵⁶ and estimates the amount of development that would result from full buildout consistent with allowable density and intensity limits of the Land Use Element. The *Tiburon General Plan* does not predict if or when buildout may occur.

For this EIR the geographic area considered for cumulative impacts is the Tiburon Planning Area plus the Strawberry Peninsula and the City of Belvedere. Cumulative development assumptions are shown in **Exhibit 3.0-16**.

⁵⁶ The Tiburon Planning Area consists of the incorporated Town of Tiburon, the unincorporated part of Paradise Drive, the unincorporated area between the western border of incorporated Tiburon and U.S. 101 north of Tiburon Boulevard, and all unincorporated portions of the Ring Mountain Open Space Preserve.

Exhibit 3.0-16
Cumulative Development Assumptions (Future Development to Occur)

<i>Land Use</i>	<i>Total</i>
Residential	
Single-family units	328 units
Multi-family Units	95 units
Second units	12 units
Total Residential Units	435 units
Commercial	
Retail	37,700 square feet
Office	12,200 square feet
Total Commercial	49,900 square feet
Community Recreation	2,600 square feet
Library	17,100 square feet
Synagogue Expansion	8,400 square feet
Day School Expansion	50 children

Sources: Fehr & Peers, Town of Tiburon and City of Belevede

3.4 ADMINISTRATIVE ACTIONS

The proposed *Alta Robles Residential Development* would require the following specific actions:

- Certification of the *Alta Robles Residential Development Environmental Impact Report* by the Town of Tiburon as accurate, complete, and objective.
- Precise Development Plan approval.
- Rezoning of the SODA property (in anticipation of annexation to the Town).
- Tentative and Final Subdivision Map approval.
- Site Plan and Architectural Review for individual homes and certain subdivision improvements such as retaining walls.
- Building permits for construction on individual lots.
- Annexation of the SODA property to the Town of Tiburon

The Lead Agency for this EIR is the Town of Tiburon. This report is intended to aid the public, agencies and organizations, and public decision-makers in their evaluation of the beneficial and adverse environmental effects of the proposed *Alta Robles Residential Development*. Other agencies would have discretionary approvals related to the proposed project. A *Responsible Agency* includes

“all public agencies other than the Lead Agency which have discretionary approval power over the project”.⁵⁷ A Trustee Agency is a “state agency having jurisdiction by law over resources affected by the project which are held in trust for the people of the State of California”.⁵⁸ Responsible and Trustee Agencies for the *Alta Robles Residential Development* project include:

- **U.S. Army Corps of Engineers (Corps)** - Authorization would be required from the Corps under Section 404 of the Clean Water Act. Depending on the final extent of proposed fill to jurisdictional waters, the project may qualify for a Nationwide Authorization, but the USFWS would have to be consulted by the Corps as part of their interagency coordination. Compliance with the federal Endangered Species Act is one of numerous General Conditions for any Corps authorization under Section 404.
- **U.S. Fish and Wildlife Service (USFWS)** - USFWS would need to be consulted under Section 7 of the federal Endangered Species Act, and would need to make a finding regarding effects on federally listed species, including Marin western flax and possibly California red-legged frog, both federally-listed as threatened.
- **San Francisco Bay Regional Water Quality Control Board (RWQCB)** - RWQCB would issue a certification or waiver for proposed modifications to jurisdictional waters under Section 401 of the Clean Water Act. They may have numerous requirements to replace or restore affected jurisdictional waters, under both Section 401 and the State Porter Cologne Act. A SWPPP would be required as a condition of the NPDES permit, authorizations by the Corps and CDFG, and local grading plan approval.
- **California Department of Fish and Game (CDFG)** - CDFG would require a Streambed Alteration Agreement under Section 1600 of the Fish and Game Code for modifications to drainage channels and an Incidental Take Permit (Section 2081 Permit under the California Endangered Species Act) for impacts to the State-listed threatened Marin western flax.
- **Marin County Local Agency Formation Commission (LAFCo)** - The SODA property is outside of the town limits and would need to be annexed to the Town of Tiburon.
- **Sanitary District Number 5 of Marin County** -- Sanitary District No. 5 would provide sanitary sewer service to the project site. The District Board must review the final Utilities Plans before approval. At that time, the Board would make specific recommendations for changes or additions to the project.
- **Tiburon Fire Protection District (TFPD)** - The TFPD would assess the site plan and building design of each proposed lot and housing unit in conformance with the Uniform Fire Code (UFC), the TFPD’s Urban-Wildland Interface Code based on the standard criteria presented in the Hazard Matrix, and accessibility by emergency vehicle via on-site roadways and driveways based on the TFPD’s Emergency Access Standards and would evaluate adequacy of the design of the proposed water system to meet UFC requirements.

⁵⁷ *State CEQA Guidelines*, Section 15381.

⁵⁸ *Ibid.*, Section 15386.

- **Marin Municipal Water District (MMWD)** - MMWD would provide water service to the site for both domestic and firefighting use. MMWD would review the final Utilities Plan and landscape plan for conformance with District requirements, including compliance with water conservation standards contained in MMWD Ordinances 385 and 326, and would make specific recommendations for changes or additions to the project.
- **Marin County** - Any alteration to and within the right-of-way of Paradise Drive would require an encroachment permit from Marin County.

4.0 LAND USE AND PLANNING

This chapter presents an analysis of the proposed project's consistency with relevant public plans and policies.

The *State CEQA Guidelines* require EIRs to "... discuss any inconsistencies between the proposed project and applicable general plans and regional plans".¹ This chapter presents an analysis of the proposed *Alta Robles Residential Development* project's consistency with adopted public plans and zoning in order to determine the extent to which the project would be consistent or would conflict with policies and zoning. One objective of this analysis is to provide information to find ways to modify the project to reduce any identified inconsistencies with relevant plans and policies. The project is examined in relation to policies and provisions of the following documents:

- *Town of Tiburon 2020 General Plan (Tiburon General Plan)*
- *Chapter 16 of the Tiburon Town Code (Zoning Ordinance)*
- *Town of Tiburon Design Guidelines for Hillside Dwellings*
- *Town of Tiburon Bicycle and Pedestrian Master Plan 2008 Update*
- *Marin County Community Development Agency Paradise Drive Visioning Plan*
- *Marin Local Agency Formation Commission (LAFCo) Policy Guidelines*

The project site is located in the Town of Tiburon's Sphere of Influence. The Rabin property is located within the incorporated area of the Town of Tiburon. The SODA property is located in unincorporated Marin County. Site development would involve annexation of the SODA property to the Town. Upon annexation of the SODA property the entire project site would be subject to the Town's land use planning policies and zoning regulations.

Because the applicant has applied to the Town for rezoning and annexation of the SODA property, this EIR does not analyze the project's conformance with the *Marin Countywide Plan* or *Marin County Zoning Ordinance*. The project's conformance with County policies would only be relevant if the applicant was seeking land use and development entitlements from the County.

General Plans articulate long-term goals and policies for economic growth, proposed use of land, development of infrastructure, conservation of resources, preservation of open space, and related issues (see Government Code sections 63300 and 65302). A project does not need to be consistent with every policy of a general plan; rather, it must be "generally consistent" and "in harmony".

State law does not impose a requirement that a project completely satisfy every policy stated in a general plan. The goals, objectives, and policies in a general plan set the stage for later decision-making. As noted in the recent case of *Sierra Club v. County of Napa*,² "A project is consistent with a county's general plan if... "considering all its aspects; it will further the objectives and policies of the general plan and not obstruct their attainment. A given project need not be in perfect conformity with every general plan policy. To be consistent, a project must be compatible with the objectives, policies, general land uses and programs specified in the general plan" (internal citations omitted).

¹ *CEQA Guidelines*, Section 15125(d).

² *Sierra Club v. County of Napa et al.* (2004) 121 Cal. App. 4th 1490.

A general plan “must try to accommodate a wide range of competing interests... and to present a clear and comprehensive set of principles to guide development decisions. Once a general plan is in place, it is the province of elected officials to examine the specifics of a proposed project to determine if it would be “in harmony” with the policies stated in the plan”.³ Recognizing that the plan provisions would ordinarily provide policy guidance on a range of issues, rather than mandatory, objective regulatory standards, the courts have recognized that the decision-maker must weigh plan policies when applying them, and that the law does not require every policy be completely satisfied.⁴ However, in some instances general plans contain fundamental, mandatory, and objective standards that do not allow any discretion in interpretation and application. A project will be found inconsistent with such a standard if it is clearly incompatible.⁵

Consistency Determination

The consistency discussions in this chapter are based, in part, on applicant prepared information submitted to the Town as a part of the project application. This material is described in *Chapter 3.0 Description of the Proposed Project*. The discussions provided below represent the EIR authors' best judgment of the policies examined. **The Town of Tiburon ultimately must determine the project's consistency with Town policies before taking action to approve, conditionally approve, or deny the pending application.** (Other responsible agencies similarly must determine the project's consistency with their relevant policies when reviewing and commenting on or taking action on the project.) The discussion in this EIR is intended to aid in these decisions.

While CEQA requires a discussion of consistency with public plans, inconsistency does not necessarily lead to a significant impact. Inconsistencies with public plans create significant impacts under CEQA only when an *adverse physical effect* would result from the inconsistency. All adverse physical effects resulting from any inconsistency are discussed in the appropriate environmental analysis in the EIR (in *Chapter 5.0 Environmental Setting, Impacts, and Mitigation Measures*). The location of these environmental analyses is referenced in each policy discussion, as appropriate.

4.1 TOWN OF TIBURON 2020 GENERAL PLAN

The *Town of Tiburon 2020 General Plan*⁶ (*Tiburon General Plan*) sets forth policy guidelines for decision making on issues related to development and conservation in the Town of Tiburon. The *Tiburon General Plan* identifies goals, policies, and implementing programs in eight areas:

- Land Use
- Open Space and Conservation

³ *Sequoyah Hills Homeowners Assn. v. City of Oakland*, 23 Cal. App. 4th 704,791, summarizing from *Greenbaum v. City of Los Angeles*, 153 Cal. App. 3d 391.

⁴ *Ibid.*

⁵ *Families Unafraid to Uphold Rural El Dorado Co. v. El Dorado County*, 62 Cal.App.4th 1332 (1998).

⁶ *Tiburon General Plan*, Town of Tiburon, adopted September 7, 2005 and revised through March 31, 2006.

- Downtown
- Circulation
- Safety
- Noise
- Parks and Recreation
- Housing

The *Tiburon General Plan* discusses each of these topics in a separate element.

Exhibit 4.0-1 assesses the consistency of the *Alta Robles Residential Development* with the relevant goals and policies of the *Tiburon General Plan*.

Exhibit 4.0-1
Consistency with Town of Tiburon General Plan

Applicable Goal / Policy	Consistency Issue(s)
<i>Land Use Element</i>	
<i>Goal LU-C</i> To preserve the character of the Tiburon peninsula through control of the type and location of development.	<i>Consistent</i> - Fourteen housing units on 52 acres would conform with the residential land use designation for the site and the maximum allowable density of 0.4 housing units per acre identified by the General Plan. The maximum allowable density would equate to 20 housing units on the project site.
<i>Goal LU-D</i> To ensure that all land uses, by type, amount, design, and arrangement, serve to preserve, protect and enhance the small-town residential image of the community and the village-like character of its Downtown commercial area.	<i>Consistent</i> - Fourteen housing units on 52 acres would conform with the residential land use designation for the site and the maximum allowable density of 0.4 housing units per acre identified by the General Plan. Low-density residential development on the site would be consistent with the existing neighborhood character.
<i>Goal LU-E</i> To propose future land uses within environmental constraints and consistent with Prime Open Space preservation and other General Plan policies, and the ability of the land and related infrastructure, streets, utilities, public services and other facilities to support such land uses.	<i>Consistent with Mitigation</i> - With implementation of the recommended mitigation measures in this EIR, the proposed project would fit within environmental constraints and would have adequate infrastructure, streets, utilities, public services, and other facilities.
<i>Goal LU-F</i> To preserve and protect Tiburon’s views, scenic environment, natural beauty, and open space.	<i>Consistent</i> - Based on the analyses in this EIR (see <i>Section 5.8 Visual Resources</i>) the proposed project would protect Tiburon’s views, scenic environment, natural beauty, and open space.
<i>Goal LU-H</i> To preserve existing neighborhood character and identity.	<i>Consistent</i> - Surrounding land uses include undeveloped land and low-density single-family residential development. Low-density residential development as proposed on the site would be consistent with the existing neighborhood character and identity.
<i>Goal LU-I</i> To encourage intensity of development, density, and house sizes / architectural styles that are consistent and compatible with surrounding neighborhoods.	<i>Inconsistent</i> - The project generally would be consistent with the intensity of development, density and architectural styles of surrounding neighborhoods – especially houses constructed in recent years. Although the number of stories and building heights would be

Applicable Goal / Policy	Consistency Issue(s)
	<p>similar to other houses in the area, the proposed houses would be somewhat larger in terms of square feet than existing homes in the vicinity. Future houses would range from 6,300 square feet to 7,980 square feet. Single family homes along Hacienda Drive range in size from 2,400 to 5,100 square feet. Single family homes in the Acacia Drive subdivision range in size from 3,700 to 6,300 square feet.</p>
<p><i>Policy LU-2</i> The Town shall limit the type and amount of uses within the Town to those that are compatible with the nature, character and image of the Town as a quiet, small-town residential community with a village-like commercial area.</p>	<p><i>Consistent</i> – The project would be consistent with the residential land use designation and maximum potential density identified by the General Plan. The project would permit low-density, single-family housing similar to other development in the area.</p>
<p><i>Policy LU-3</i> The Town shall strive to preserve to the greatest extent feasible wildlife habitat in the open spaces, shoreline, marshes, mudflats, woodlands, and other biological sensitive areas.</p>	<p><i>Consistent with Mitigation</i> – Proposed development would adversely affect opportunities for wildlife movement across the site, restricting access to common open space areas and protected wetlands. Implementation of Mitigation Measure 5.5-4 together with other habitat protection measures would reduce adverse effects to native habitat and wildlife resources, providing consistency with this General Plan policy.</p>
<p><i>Policy LU-4</i> Future land use decisions shall be consistent with the Land Use Diagram, Proposed Land Use. Densities and intensities specified in the Land Use Element are maximums (except for state-mandated bonuses for affordable housing or other density bonuses specifically provided for in the Housing Element) that may not be achieved if other policies of the General Plan pertaining to environmental, physical or other constraints such as steep slopes, soil instability or limitations on necessary infrastructure require lower densities or intensities.</p>	<p><i>Consistent</i> - The General Plan designates both the SODA and Rabin properties as Planned Development - Residential (PD-R). This designation provides for a density of one housing unit per acre. The maximum allowable density for both properties is 0.4 housing unit per one acre. The approximate number of housing units on the Rabin Property is 12, on the SODA Property is eight. The project proposes a total of 14 housing units on the project site.</p>
<p><i>Policy LU-5</i> New development shall be in harmony with adjacent neighborhoods and open spaces.</p>	<p><i>Consistent</i> - The proposed project would allow low-density single-family housing, similar to other development in the area.</p>
<p><i>Policy LU-6</i> The Town shall closely consider the environmental constraints of land and Prime Open Space preservation and other General Plan policies through the development review process in determining the location, type, and density and / or intensity of development.</p>	<p><i>Consistent</i> - This policy is intended to guide decision makers at the Town of Tiburon. This EIR identifies environmental conditions on the project site which represent constraints to development and assesses the extent to which the project would or would not take the conditions into account, thus permitting Town officials to consider such constraints</p>

Applicable Goal / Policy	Consistency Issue(s)
	when reviewing the project.
<p><i>Policy LU-7</i> Development should be located on the least environmentally sensitive, including habitat in the open spaces, shoreline, marshes, mudflats, and other biological sensitive areas, and least hazardous portions of the land wherever feasible to promote sound land development and planning practices. Special emphasis shall be placed on keeping significant ridgelines open and unobstructed to the maximum extent feasible.</p>	<p><i>Consistent with Mitigation</i> – Proposed development would adversely affect occurrences of special-status species, native serpentine grasslands, wetlands and oak woodlands. Although the project attempts to avoid much of these sensitive resources additional refinement would be necessary, and compensatory mitigation would be required. Implementation of Mitigation Measures 5.5-1 through 5.5-5 would serve to protect and fully mitigate potential impacts on sensitive biological resources, providing consistency with this aspect of the policy. Individual houses would, however, be located along the two significant ridgelines on the project site.</p>
<p><i>Policy LU-8</i> Sewer, water and other essential infrastructure improvements must be available to the developer to serve new development by the time of completion of construction. Developers shall participate in the funding of essential expanded infrastructure to the maximum extent allowed by law.</p>	<p><i>Consistent</i> - As discussed in <i>Section 5.7 Public Services</i> sewer, water, and other essential infrastructure would be available at the time of development to serve the site.</p>
<p><i>Policy LU-9</i> The Town shall coordinate with urban service providers such as Marin Municipal Water District and the sanitary districts to ensure that they have the capacity to serve new development.</p>	<p><i>Consistent</i> - As discussed in <i>Section 5.7 Public Services</i> both Marin Municipal Water District and Sanitary District No. 5 would have adequate capacity to serve the project site.</p>
<p><i>Policy LU-11</i> Property owners cherish their views. Development, new construction, and associated landscaping shall be so situated or kept low to interfere minimally with existing primary views.</p>	<p><i>Consistent</i> - The proposed development features two architectural building strategies (earthen building strategy and terraced building strategy). With the earthen building strategy building mass would be dug into the hillside to reduce the vertical presence of the building. With the terraced building strategy building mass would be broken into layers that follow the contours of the hillside. Both building strategies effectively situate building mass at low elevations.</p> <p>As discussed in <i>Section 3.2 Project Description</i> the location and species type of the new landscaping would be such that, at maximum height, landscaping would not block scenic views. Upon implementation of the project all new landscaping would be regulated by the Property Owners’ Association to ensure that existing views are preserved.</p>

Applicable Goal / Policy	Consistency Issue(s)
<p><i>Policy LU-12</i> The Town shall encourage projects that enhance its character and image through the development and design review processes. Monotony in design, and massive or inordinately large or bulky structures and site coverage that overwhelm or that are inconsistent with the surrounding area, shall be avoided.</p>	<p><i>Consistent</i> - The project would utilize quality design elements that maximize opportunities to blend in with the natural landscape. With the proposed architectural building strategies the majority of building mass would be disguised or hidden in the hillside, avoiding the appearance of massive or bulky structures. The earthen building strategy would have linear shaped building footprints, and the terraced building strategy would have building footprints with detached elements, both of which allow the buildings to be placed along naturally buildable areas with minimum obstruction of the natural terrain.</p> <p>The project would feature a variety of design elements that avoid single form characteristics and monotonous design, resulting in a high quality design that, from an architectural standpoint, would enhance the character of the area.</p>
<p><i>Policy LU-13</i> Neighborhood character, which is defined by the predominant architectural styles, type of buildings, building heights, mass, setbacks, landscaping, and natural characteristics, shall be of material consideration and preserved in all construction projects, including remodels and additions, to the maximum extent feasible.</p>	<p><i>Consistent</i> - The proposed project utilizes the site’s natural characteristics as design opportunities rather than limitations. Existing vegetation and topography would be integrated into the residential design. Approximately 80 percent of introduced landscaping would consist of native species.</p> <p>The proposed architecture would result in a high quality design and upscale neighborhood character.</p>
<p><i>Policy LU-14</i> The Town shall continue to rely on design guidelines, such as the <i>Design Guidelines for Hillside Dwellings</i>, the <i>Downtown Tiburon Design Handbook</i>, and the guiding principles for Site Plan & Architectural Review found in the Zoning Ordinance. Where subdivisions have approved design criteria, new construction shall conform to the criteria.</p>	<p><i>Consistent</i> – Consistency with the <i>Design Guidelines for Hillside Dwellings</i> is discussed in Exhibit 4.0-5 and consistency with the Zoning Ordinance is discussed in Exhibit 4.0-4.</p>
<p><i>Policy LU-15</i> Remodels, tear-downs / rebuilds, and new construction shall be compatible with the design, size, and scale of existing dwellings in the surrounding neighborhood.</p>	<p><i>Inconsistent</i> – The PDP proposes the construction of 13 single family homes that would range from 6,300 square feet to 7,980 square feet. Except for Lot 7, which is proposed to be a three-story house, the other 12 houses would be two stories. Except for Lot 5 (with a building height of 16 feet one inch) the building heights would range from 21</p>

Applicable Goal / Policy	Consistency Issue(s)
	feet eight inches to 29 feet one inch. Although the number of stories and building heights would be similar to other houses in the area, the proposed houses would be somewhat larger in terms of square feet than existing homes in the vicinity. Single family homes along Hacienda Drive range in size from 2,400 to 5,100 square feet. Single family homes in the Acacia Drive subdivision range in size from 3,700 to 6,300 square feet. The conditions of approval for the recently approved Sorokko property permit development on each lot to a maximum floor area of 8,000 square feet.
<i>Policy LU-16</i> Outside lighting shall be allowed for safety purposes. The Town shall limit excessive light spillover and glare resulting from site lighting.	<i>Consistent with Mitigation</i> - With implementation of Mitigation Measure 5.8-4 nighttime lighting impacts, including light spillover and glare, would be reduce to less-than-significant.
<i>Policy LU-28</i> The Town shall, through rezoning and annexation processes, add land to the Town when such action will materially enhance the community or substantially further the goals and policies of the General Plan.	<i>Consistent.</i> - The Rabin property is located within the Town of Tiburon. The SODA property is located in an unincorporated portion of Marin County within the Town of Tiburon’s Sphere of influence. It is proposed to prezone the SODA property and annex it to the Town.
<i>Policy LU-29</i> The Town recognizes that the unincorporated Paradise Drive area is an “island” completely surrounded by the Town of Tiburon and that the area is functionally a part of Tiburon, and therefore supports the annexation of the area into Tiburon at such time as annexation is economically, procedurally, and otherwise viable.	<i>Consistent</i> - The SODA property is located in an unincorporated portion of Marin County within the Town of Tiburon’s Sphere of influence. It is proposed to prezone the SODA property and annex it to the Town.
<i>Policy LU-31</i> Factors to be considered in annexation requests include: resident / property owner interest, cost / revenue and other fiscal implications, the nature and extent of necessary infrastructure, streets, parking, utilities and other facilities, and the feasibility of extending Town services to the annexation area without adversely affecting levels of service provided to current Town residents and property owners.	<i>Consistent</i> – Information presented in this EIR along with other information available from the applicant and other sources will be available to be used in the consideration of the annexation of the SODA property.
<i>Policy LU-32</i> Timing of annexation of property shall be determined, or recorded future annexation agreements shall be required early in the development review / entitlement process.	<i>Consistent</i> - The development application filed with the Town includes a request for rezoning of the SODA property and annexation to the Town.
<i>Policy LU-33</i> Annexation requests may be processed by the Marin	<i>Consistent</i> - With completion of the rezoning by the Town the

Applicable Goal / Policy	Consistency Issue(s)
Local Agency Formation Commission (LAFCO) concurrently with development applications by the Town.	applicant will file an application for annexation with Marin LAFCo.
<i>Policy LU-34</i> The Town shall pre-zone property consistent with this General Plan when annexation is imminent or when the Town deems rezoning timely and appropriate.	<i>Consistent</i> - The applicant has requested rezoning of the SODA property consistent with the General Plan.
<i>Policy LU-36</i> The Town supports the LAFCo’s Dual Annexation Policy, including implementation through future annexation agreements when immediate annexation is not appropriate.	<i>Consistent</i> - Both the Rabin and SODA properties are within the service boundaries of MMWD and Sanitary District No. 5. No annexation to any other special district is required. Therefore, LAFCo’s dual annexation policy would not apply.
<i>Open Space & Conservation Element</i>	
<i>Goal OSC-A</i> To maximize, protect, preserve and enhance the Town’s unique open space and natural beauty.	<i>Consistent</i> – This goal establishes the Town’s intent to preserve Tiburon’s open space and beauty. Consistent with the General Plan’s residential land use designation the project proposes 18.29 acres (35.0 percent of the site) of common open space. In addition the project proposes 19.06 acres of private open space (10.48 acres on Lot 1 and 8.58 acres on the remaining 13 lots). Together the common and private open space would account for 71.5 percent of the site.
<i>Goal OSC-B</i> To provide and permanently preserve as much open space as possible to protect shorelines, open water, wetlands, significant ridgelines, streams, drainageways, riparian corridors, steep slopes, rock outcroppings, special status species and their habitat, woodlands, and areas of visual importance, such as views of and views from open space.	<i>Consistent with Mitigation</i> – Proposed development would adversely affect a number of sensitive resources, including wetlands, occurrences of special-status species, and protected trees. Although the project attempts to avoid much of these sensitive resources additional refinement in lot layout would be necessary. Implementation of Mitigation Measures 5.5.-1 through 5.5-5 would serve to protect and fully mitigate potential impacts on sensitive biological resources, providing consistency with this aspect of the policy. However, as discussed in <i>Impact 5.8-1 (View Looking North from Middle Ridge Open Space)</i> the proposed project would result in a significant visual impact from this location.
<i>Goal OSC-C</i> To permanently protect to the maximum extent feasible,	<i>Consistent</i> – This goal establishes the Town’s intent to preserve

Applicable Goal / Policy	Consistency Issue(s)
<p>the unique open space character of the Town which is attributable to its large amounts of undeveloped land and open water.</p>	<p>Tiburon’s open space and beauty. Consistent with the General Plan’s residential land use designation the project proposes 18.29 acres (35.0 percent of the site) of common open space and 19.06 acres of private open space (10.48 acres on Lot 1 and 8.58 acres on the remaining 13 lots). Together the common and private open space would account for 71.5 percent of the site.</p>
<p><i>Policy OSC-3</i> The Town shall strive to secure, through trail easements that connect to other public trails or through other appropriate mechanisms, public access to those portions of open space land most appropriate for public use.</p>	<p><i>Consistent</i> – The project includes an offer of the grant of a public access easement. A public access easement is proposed along the west side of the project site (within Parcel B) and along the south side of the property (within Parcels B and C) parallel to Hacienda Drive.</p>
<p><i>Policy OSC-4</i> Public or private open space shall be permanently protected. It is the Town’s general policy that publicly-owned open space land will not be traded or sold.</p>	<p><i>Consistent</i> – It is the intent of the applicant that restrictions would be placed on the private open space, to include scenic and resource conservation easements. It is proposed to grant an open space easement to the Town over the common open space (Parcels A, B, and C).</p>
<p><i>Policy OSC-5</i> The Town hereby establishes a goal that a minimum of 50 percent of the area of lands designated as Planned Development - Residential shall be preserved as permanent open space.</p>	<p><i>Consistent</i> - The project proposes both private open space (19.06 acres consisting of 10.48 acres on Lot 1 [Rabin private open space] and 8.58 acres on the remaining 13 lots and common open space (18.29 acres). The total open space (37.35 acres) comprises 71.5 percent of the project site.</p>
<p><i>Policy OSC-6</i> The Town prefers clustering of lots in new subdivision design to maximize the preservation of open space to the greatest extent feasible. However, where the Town determines that a project would better conform to the goals and policies of the General Plan, “estate lot” type development (i.e. large homes on large lots) may be considered. Easement, deed restriction, or other appropriate mechanism acceptable to the Town shall be used to preserve open space within common areas or individual lots.</p>	<p><i>Consistent</i> – The project does not propose “estate lot” type development as described in this policy. Rather the project proposes to restrict construction of the main housing units to an area within a residential use area. As described above, 37.35 acres of the site (71.5 percent) would be in open space.</p>
<p><i>Policy OSC-7</i> Where possible, land that is proposed for preservation as permanent open space shall be contiguous to existing open space and / or open space areas that may in the future be permanently preserved.</p>	<p><i>Consistent</i> - Town-owned open space along the Middle Ridge borders the project site to the south and east. A portion of the proposed common open space (in Parcel A) would be contiguous to the Town-owned open space.</p>

Applicable Goal / Policy	Consistency Issue(s)
<i>Policy OSC-9</i> Undeveloped ridgelines have overriding visual significance to the Town. In balancing open space interests with development interests, the protection of predominantly undeveloped ridgelines shall have the highest priority.	<i>Inconsistent</i> - In addition to the Tiburon Ridge, Resolution No. 2859 identifies two significant ridgelines located within the project boundaries. As proposed, development on Lot 4 and Lot 5 would encroach into the vertical offset of the Tiburon Ridge.
<i>Policy OSC-10</i> Development and the construction of buildings and yard improvements associated with development, including landscaping and trees, shall be set back a minimum of 150 horizontal feet of either side of Tiburon Ridge.	<i>Consistent</i> - As proposed no building construction and / or yard improvements would occur within 150 horizontal feet from either side of the Tiburon Ridge.
<i>Policy OSC-11</i> Development and the construction of buildings and yard improvements associated with development, including landscaping and trees, shall be set back a minimum of 50 vertical feet of either side of Tiburon Ridge, measured from the highest point of the roofline of a structure or tree.	<i>Inconsistent</i> - As proposed, development on Lot 4 and Lot 5 would occur within 50 vertical feet of the nearest peak elevation of the Tiburon Ridge.
<i>Policy OSC-12</i> Development shall be set back from Significant Ridgelines. Setbacks shall be based on an evaluation of the following characteristics: local and regional visual prominence, ability to connect to existing or potential open space, potential to act as a neighborhood separator, views of and views from, length, height, presence of trees, presence of unusual physical characteristics, highly visible open slopes, significant vegetation, sensitive habitat, special silhouette or back-drop features, difficulty of developing or accessing, and integrity of the ridgeline land form.	<i>Inconsistent</i> – Exhibit 4.0-2 shows the location of the Tiburon Ridge and Significant Ridgelines (5 and 6) on the project site. As discussed above for <i>Policy OSC-11</i> the project would include development within 50 vertical feet of the nearest peak elevation of the Tiburon Ridge. As proposed, portions or all of the proposed houses on Lots 3, 4, 7-12, and 14 would approach the crests of Ridgelines 5 and 6. Furthermore, other lots may develop landscaping, fences, walls, and paved driveways that encroach into ridgeline areas. However, specific setbacks for Ridgelines 5 and 6 would be evaluated during the development review process.
<i>Policy OSC-13</i> Roads and utilities constructed along or across the Tiburon Ridge or Significant Ridgelines shall be strongly discouraged. If no other vehicular access is viable, crossing of ridges shall be minimized and shall be as near to perpendicular to the ridgeline as possible.	<i>Inconsistent</i> – The project does not propose to construct any roads along or across the Tiburon Ridge. However, the project proposes to construct roads that would encroach into the areas of Significant Ridgelines 5 and 6. As designed, these roads are not limited to perpendicular crossings of the ridgelines.
<i>Policy OSC-17</i> Development shall not encroach in sensitive wildlife habitats, limit normal range areas, or create barriers to wildlife that cut off or substantially impede access to food, water, or shelter, or cause	<i>Consistent with Mitigation</i> – Proposed development would adversely affect opportunities for wildlife movement across the site, restricting access to common open space areas and protected wetlands.

Applicable Goal / Policy	Consistency Issue(s)
<p>damage to fisheries or fish habitats. Access to environmentally sensitive marshland and adjacent habitat shall be restricted, especially during spawning and nesting seasons.</p>	<p>Implementation of Mitigation Measure 5.5-4 together with other habitat protection measures would reduce adverse effects to native habitat and wildlife resources, providing consistency with this General Plan policy.</p>
<p><i>Policy OSC-20</i> Buffer zones of at least 100 feet shall be provided, to the maximum extent feasible, between development and wetland areas.</p>	<p><i>Consistent with Mitigation</i> – Proposed development would directly affect some wetlands and would not conform with the recommended setback distance in other locations. Although the project attempts to avoid much of the sensitive wetlands and drainages, additional refinement in the proposed approach to landslide remediation and other details would be necessary. Implementation of Mitigation Measure 5.5-3(a) through 5.5-3(c) would ensure consistency with this policy of the General Plan.</p>
<p><i>Policy OSC-21</i> Development and construction shall comply with all federal and state regulations regarding jurisdictional waters and wetlands.</p>	<p><i>Consistent</i> – Proposed development would be required to comply with all applicable regulations, and evidence of compliance would be provided to the Town before issuance of a grading permit. Some additional avoidance and details on compensatory mitigation would be necessary.</p>
<p><i>Policy OSC-22</i> In its review of applications for development, the Town shall require open space buffers of at least 50 feet on each side of the top of the bank of perennial, intermittent, and ephemeral streams on properties less than five acres and of at least 100 feet on each side of the top of the bank on properties greater than five acres, to minimize disturbance of natural vegetation and maintain the environmental and scenic attributes of the corridor. Where modifications of corridors is required for flood control or crossings, such modifications shall be made in an environmentally sensitive manner that enhances, replaces or retains vegetation.</p>	<p><i>Consistent with Mitigation</i> – Proposed development would directly affect some drainages and would not conform with the recommended setback distance in other locations. Although the project attempts to avoid much of the sensitive wetlands and drainages, additional refinement in the proposed approach to landslide remediation and other details are necessary. Implementation of Mitigation Measure 5.5-3(a) through 5.5-3(c) would ensure consistency with this policy of the General Plan.</p>
<p><i>Policy OSC-25</i> A diversity and abundance of wildlife and marine life shall be protected and maintained. The Town shall strive to preserve and protect to the greatest extent feasible wildlife habitat in the open spaces, shorelines, marshes, mudflats, and other biologically sensitive areas.</p>	<p><i>Consistent with Mitigation</i> – Proposed development would adversely affect opportunities for wildlife movement across the site, restricting access to common open space areas and possibly limiting viability of the site for some wildlife species. Implementation of Mitigation Measure 5.5-4 together with other habitat protection measures would reduce adverse effects to native habitat and wildlife resources,</p>

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	providing consistency with this General Plan policy.
<i>Policy OSC-26</i> To the maximum extent feasible, and as required by federal and state laws, development and construction shall not affect special status species or special communities.	<i>Consistent with Mitigation</i> – Proposed development would adversely affect some sensitive resources, including areas of native serpentine bunchgrass, wetlands, and occurrences of special-status species such as Marin western flax and Tiburon buckwheat. Although the project attempts to avoid much of these sensitive resources, additional refinement to proposed grading, lot layout, and mitigation would be necessary. Implementation of Mitigation Measures 5.5.-1 through 5.5-5 would serve to protect and fully mitigate potential impacts on sensitive biological resources, providing consistency with this policy of the General Plan.
<i>Policy OSC-27</i> The Town shall strongly discourage development on slopes exceeding 40%.	<i>Consistent</i> – As shown on the PDP Existing and Proposed Slope Analysis, the proposed project building envelopes and roadways generally avoid existing slopes that exceed 40 percent.
<i>Policy OSC-28</i> Principal vista, view points, and view corridors on land subject to development shall be identified and preserved to the maximum extent feasible.	<i>Consistent</i> - As discussed in Exhibit 4.0-5 Consistency with Tiburon Hillside Design Guidelines the proposed project would be consistent with goals intended to <i>Preserve Access to Views</i> .
<i>Policy OSC-29</i> Open Space views from key roadways, including Tiburon Boulevard, Trestle Glen Boulevard, and Paradise Drive, shall be protected through the permitting process.	<i>Consistent – Impact 5.8-2 (View Looking West from Paradise Drive)</i> evaluates the view from Paradise Drive. As discussed, the project would not adversely affect this view.
<i>Policy OSC-30</i> Development shall be encouraged in areas where it least interferes with views of and views from open space to the maximum extent feasible.	<i>Inconsistent</i> - The proposed development would preserve open space along the Tiburon Ridge at the southern boundary, along the western boundary, and south of Paradise Drive. The amount of public and private open space conserved would preserve views of open space on the project site. Additionally, the preserved open space would include public trail easements, which would provide access to outboard viewpoints. However, as discussed in <i>Impact 5.8-1 (View Looking North from Middle Ridge Open Space)</i> the proposed project would result in a significant visual impact from this location.
<i>Policy OSC-31</i> The preservation of visual qualities, views, and the view potential of the natural and built environment shall be a major	<i>Consistent</i> - The proposed project design borrows from the natural elements of the project site. Natural appearing construction materials

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consideration of the Town in any development project review.	such as wood and stone, vegetated roofs, and design strategies that hide structure mass function to limit the project’s obstruction of the natural environment. With regard to view potential of the building environment, the project would result in a well designed upscale neighborhood, not unlike adjacent developments, with characteristics of high quality architecture and harmony with nature.
<i>Policy OSC-32</i> The Town shall protect visual access to the bayfront and scenic vistas of water and distinct shorelines through its land use and development review procedures, to the greatest extent feasible.	<i>Consistent</i> - The project proposes to construct 13 new single family residences with detached accessory structures and residential landscaping. As illustrated in Exhibits 5.8-5 and 5.8-7 the proposed building strategies, height limits, and landscaping would preserve views across the project site, and as a result would not obstruct visual access / views of the bay and shorelines.
<i>Policy OSC-33</i> Protected trees, as defined in the Municipal Code, tree stands, and tree clusters shall be preserved to the maximum extent feasible.	<i>Consistent with Mitigation</i> – Proposed development would adversely affect areas of native tree cover and would result in the loss of an estimated 107 trees that meet the definition as a protected tree under the Municipal Code. Although the project attempts to avoid many of the protected trees on the site, additional refinement to proposed grading, lot layout, and mitigation would be necessary. Implementation of Mitigation Measure 5.5-5(b) would provide consistency with this policy of the General Plan.
<i>Policy OSC-34</i> The Town shall protect natural habitat, and natural wooded areas shall be preserved to the maximum extent feasible.	<i>Consistent with Mitigation</i> – Proposed development would adversely affect some sensitive resources, including areas of native tree cover. Although the project attempts to avoid much of the sensitive natural habitat on the site, additional refinement to proposed grading, lot layout, and mitigation would be necessary. Implementation of Mitigation Measures 5.5.-1 through 5.5-5 would serve to protect and fully mitigate potential impacts on sensitive biological resources, providing consistency with this policy of the General Plan.
<i>Policy OSC-35</i> To the maximum extent feasible, grading shall be kept to a minimum and every effort shall be made to retain the natural features of the land including ridges, rolling landforms, knolls,	<i>Consistent</i> – The project building envelopes are sited in areas that attempt to avoid the steepest slopes and landslides, which would reduce the amount of grading necessary for the building envelopes. However, to satisfy the Town’s Landslide Mitigation Policy significant grading

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vegetation, trees, rock outcropping, and water course.	would be associated with landslide repair, which would disturb some of the natural landforms, including ridges, vegetation, trees and water courses.
<i>Policy OSC-36</i> The Town values the retention of natural landforms. Therefore, site grading that is not required by the Town’s Landslide Mitigation Policy is to be avoided to the maximum extent feasible.	<i>Consistent</i> – The project building envelopes and roadways are sited in areas that attempt to avoid the steepest slopes and landslides. Development would result in grading required to create accessible and relatively level building envelopes, however, the grading would not be considered excessive.
<i>Policy OSC-37</i> Where grading is required to stabilize areas of geologic instability, its natural vegetation and habitat shall be restored to the graded area to the maximum extent feasible.	<i>Consistent with Mitigation</i> – Although the project attempts to avoid much of these sensitive vegetation and habitat resources additional refinement to proposed grading, lot layout, and mitigation would be necessary. Implementation of Mitigation Measures 5.5.-1 through 5.5-5 would serve to protect and fully mitigate potential impacts on sensitive biological resources, providing consistency with this policy of the General Plan.
<i>Policy OSC-38</i> Where grading is required, it shall be performed in a manner which minimizes, to the maximum extent feasible, the impact on adjacent properties, water quality, and air quality.	<i>Consistent with Mitigation</i> – With implementation of measures included in the PDP, including the Preliminary Erosion Control Plan and Mitigation Measure 5.4-2 impacts of grading would be reduced to a less-than-significant level.
<i>Policy OSC-39</i> Slope created by grading shall be at a slope angle determined to have long-term stability for the materials being used, not exceeding 30 percent wherever possible. Final contours and slopes shall reflect natural land features, including natural vegetation.	<i>Consistent</i> – Grading for landslide repairs would involve constructing slopes that would be similar to the slope angles and slope contours that were present prior to grading. Landslide repairs would improve the long-term slope stability as required by the Town’s Landslide Mitigation Policy. Miller Pacific Engineering Group proposes that the uppermost five feet of a cut slope be rounded to existing topography to a maximum slope of 3:1 (34 percent). In addition, all constructed fill slopes with a maximum gradient of 2:1 (50 percent) would need to be evaluated and designed for long-term stability.
<i>Policy OSC-40</i> The visual impact of retaining walls and similar engineering elements shall be reduced in size and scope to the maximum extent feasible by minimizing their use and requiring	<i>Consistent</i> – Retaining walls would be required for construction of the roadways and for portions of some building envelopes and repair of some landslides. It appears that the use of walls has been reduced in

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appropriate visual screening.	size and scope to the maximum extent feasible. Standard Town conditions of approval would require the planting of vegetative screens in front of walls.
<i>Policy OSC-47</i> The town shall protect significant geological, ecological, archaeological and paleontological resources and historic sites.	<i>Consistent with Mitigation</i> - There are no known geological, archaeological, paleontological resources or historical sites within the project boundary. Ecological resources are present on the site and these sensitive biological resources and natural habitats would be impacted. Although the project attempts to avoid much of these sensitive vegetation and habitat resources, additional refinement to proposed grading, lot layout, and mitigation would be necessary. Implementation of Mitigation Measures 5.5.-1 through 5.5-5 would serve to protect and fully mitigate potential impacts on sensitive biological resources, providing consistency with this policy of the General Plan.
<i>Policy OSC-51</i> Where impervious surface construction and storm drain system installation and / or hillside stabilization (e.g. landslide repair) are proposed as part of development proposals, or wherever such stabilization is required by the Town to protect public safety, the Town shall require project applicants to analyze the impacts of these drainage pattern modifications on groundwater recharge and on downslope water wells and their yields. In the event impacts are likely, modifications to the proposed project, including possible downsizing, should be considered.	<i>Consistent – Section 5.4 Hydrology and Water Quality</i> analyses the impact of the proposed project on groundwater. <i>Impact 5.4-3 (Impacts on Groundwater Levels and Groundwater Recharge)</i> concludes that these impacts would be less-than-significant.
<i>Policy OSC-52</i> Water quality should be maintained or enhanced in order to promote the continued environmental health of natural waterway habitats.	<i>Consistent with Mitigation</i> – As discussed in <i>Impact 5.4-4 (Impacts on Water Quality)</i> project stormwater contaminated with heavy metals and petrochemical residues would result in significant water quality impacts. In addition to measures in the Preliminary Erosion Control Plan, Mitigation Measure 5.4-4 includes measures to reduce water quality impacts to a less-than-significant level.
<i>Policy OSC-54</i> The Town shall promote the adoption and implementation of <i>Start at the Source-Design Guidance Manual for Stormwater Quality Protection</i> and the most recent follow-up publication <i>Using Site Design Techniques to Meet Development</i>	<i>Consistent</i> – The PDP includes both a Preliminary Grading & Drainage Plan and a Preliminary Erosion Control Plan. The project includes several low-impact development (LID) techniques to detain excess

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<i>Standards for Stormwater Quality: A Companion Document</i> , both of which apply to new development and redevelopment projects. These documents stress the incorporation of runoff and other pollution source controls into the project design process.	stormwater from developed impervious surfaces.
<i>Policy OSC-56</i> The Town shall promote the reduction of particulate matter from construction sites, roads, parking lots, and other sources through best management practices (BMPs).	<i>Consistent</i> – The PDP includes a Construction Management Plan. This plan contains Air Quality Control Measures consistent with most of those recommended by the BAAQMD to reduce temporary construction air quality impacts.
<i>Policy OSC-57</i> The town shall require the use of feasible control measures to reduce PM ₁₀ , NO _x , and diesel particulate matter related to construction activities.	<i>Consistent with Mitigation</i> – Mitigation Measure 5.3-1 requires revisions to the Construction Management Plan to reduce construction related air emissions.
<i>Policy OSC-63</i> The Town shall integrate energy efficiency, conservation, and other green building incentives into the zoning permit and building permit processes.	<i>Consistent</i> – The PDP proposes to incorporate sustainable design features into the design of the individual houses.
<i>Policy OSC-64</i> The use of native plants for landscaping shall be encouraged and the planting of invasive, exotic species shall be discouraged.	<i>Consistent with Mitigation</i> – The PDP includes a conceptual landscape plan. On-site landscaping would utilize primarily native plant species which are compatible with the existing vegetation on the project site. However, some species identified in the conceptual landscape plan would be inappropriate and additional emphasis on use of native species would be preferable. Implementation of Mitigation Measures 5.5-1(b) and 5.5-2 would ensure consistency with this General Plan policy.
<i>Policy OSC-65</i> The removal of invasive, exotic species, such as broom and pampas grass, shall be required as a condition of approval for new developments.	<i>Consistent</i> – Standard Town conditions of approval would require removal of invasive exotics.
<i>Policy OSC-66</i> New developments shall be required to ensure ongoing removal of invasive, exotic species through home owners associations, covenants, conditions and restriction (CC&Rs), or other appropriate mechanisms.	<i>Consistent</i> – Standard Town conditions of approval would require ongoing removal of invasive exotics.

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<i>Circulation Element</i>	
<i>Goal C-A</i> To maintain and improve the roadway system to a measurable standard of effectiveness and safety to accommodate circulation between activity centers within the Planning Area and to and from U.S. Highway 101.	<i>Consistent</i> – Based on the analyses in this EIR (see Section 5.1 Transportation) project-generated traffic volumes would not adversely affect the three intersections studied plus Tiburon Boulevard.
<i>Goal C-C</i> To maintain all existing, as well as to design all future, residential streets with consideration of a combination of residents’ safety, cost of maintenance, and protection of residential quality of life.	<i>Consistent with Mitigation</i> – The project site would be served by Paradise Drive, a “collector street” which carries residential, through, and recreational traffic. Due to the narrow winding roadway, safety conflicts exist involving autos, bicyclists, and pedestrians. Project-generated traffic would be small (124 daily trips), however, new users would contribute cumulatively to existing safety conditions. Mitigation Measure 5.1-7 would require widening the roadway shoulder along the property frontage to improve bicycle safety. Traffic-generated noise levels attributable to the project would not be significant.
<i>Goal C-D</i> To provide an adequate means of circulation for emergency vehicles.	<i>Consistent</i> – The two on-site roads would be consistent with standards established by the Tiburon Fire Protection District (TFPD).
<i>Goal C-E</i> To improve the circulation system for pedestrians and bicyclists, including safety enhancements.	<i>Consistent with Mitigation</i> – Project site residents would contribute slightly to the number of bicyclists using Paradise Drive. The project also would add motor vehicle traffic to the roadway, which has limited areas for motorists to pass bicyclists given the narrow width and frequent curves. This additional increment of motor vehicle and bicycle traffic would exacerbate already constrained conditions. Mitigation Measure 5.1-7 would, however, require widening the roadway shoulder along the property frontage to improve bicycle safety.
<i>Goal C-F</i> To minimize traffic congestion.	<i>Consistent</i> – Based on the analyses in this EIR (see Section 5.1 Transportation) project-generated traffic volumes would not adversely affect the three intersections studied plus Tiburon Boulevard.
<i>Goal C-H</i> To cooperatively plan for the maintenance and improvement of Paradise Drive.	<i>Consistent</i> – Implementation of the project would not prevent the maintenance and improvement of Paradise Drive.
<i>Goal C-J</i> To provide facilities and incentives to encourage non-auto	<i>Inconsistent</i> – The project does not include facilities or incentives to

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travel throughout the Planning Area.	encourage non-auto travel throughout the Planning Area.
<i>Policy C-1</i> Land use decisions shall take into consideration potential traffic and circulations impacts.	<i>Consistent</i> – Information in this EIR about existing, existing-plus-project, cumulative, and cumulative-plus-project traffic conditions will enable town officials to take traffic considerations into account when making decisions about the project. Project-generated traffic volumes would result in less-than-significant impacts on intersections and roadways studied in the EIR.
<i>Policy C-2</i> All new projects shall be required to pay a pro rata share of needed traffic improvements in accordance with the burden created by such new projects.	<i>Consistent</i> – The project would be required to pay the Town’s Traffic Mitigation Fee.
<i>Policy C-4</i> In connection with the ridgeline policies of the Open Space & Conservation Element, the Town shall ensure that no new streets, driveways, or utilities are installed along or over the Tiburon Ridge or Significant Ridgelines except for the use of emergency services, or where no other access is viable.	<i>Inconsistent</i> – As proposed, the project would include construction of roads that would travel along Significant Ridgelines 5 and 6. The design of these roadways is not limited to perpendicular crossings. The proposed project would not include construction of new streets or installation of new utilities along the Tiburon Ridge.
<i>Policy C-9</i> The Town strongly discourages gated subdivisions. This policy is not intended to prevent single-family homeowners from installing gates.	<i>Consistent</i> – The project is not proposed as a gated subdivision.
<i>Policy C-10</i> Street lights shall be installed only at intersections or where required for safety purposes. Light sources shall be of a warm, subdued nature and should be down-lights and / or properly shielded.	<i>Consistent</i> – Street lights are proposed along both the Main Road and the Upper Road for safety purposes. Mitigation Measure 5.8-4 requires that all lights be downcast and shielded from off-site view.
<i>Policy C-17</i> Scenic views from Paradise Drive shall be preserved wherever possible.	<i>Consistent</i> – Housing units would generally not be visible from Paradise Drive and where visible would not adversely block scenic views. The project would not obstruct outward views from Paradise Drive.
<i>Policy C-18</i> Where appropriate, scenic overlooks should be established along Paradise Drive.	<i>Consistent</i> – No appropriate scenic overlooks along Paradise Drive exist adjacent to the project site.
<i>Policy C-19</i> New driveways and roadways intersecting Paradise Drive shall be kept to the minimum possible and be situated in safe locations. To meet this objective, to the extent feasible, multiple residences shall	<i>Consistent</i> – Site access to the proposed 13 new single-family homes would be provided by a single new roadway from Paradise Drive. The existing driveway serving the Rabin property would continue to

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be served by a single access from Paradise Drive.	exclusively serve the existing house. It is noted that the driveway is an existing facility while the new project entrance road would provide site access consistent with this policy.
<i>Policy C-20</i> Turn-outs and widened shoulders on Paradise Drive should be created where possible to protect the health and safety of its users.	<i>Consistent with Mitigation</i> – Mitigation Measure 5.1-7 requires a consistent-width shoulder along Paradise Drive directly abutting the project site.
<i>Safety Element</i>	
<i>Goal SE-B</i> To identify hazardous areas and to discourage to the maximum extent feasible development of areas subject to hazards including, but not limited to, geotechnical hazards, unstable slopes and flood-prone areas.	<i>Consistent</i> – Slope stability and landsliding constitute the primary hazard on the site. Eighteen landslides have been identified on the site. Consistent with the Town’s Landslide Mitigation Policy, mitigation has been proposed for the site landslides. The EIR assesses the landslides and their proposed repair and also discusses conformance with the Town’s Landslide Mitigation Policy.
<i>Goal SE-C</i> To ensure safe subdivision and building design.	<i>Consistent with Mitigation</i> – Mitigation measures are proposed to ensure safe subdivision and building design. Future site development shall comply with all applicable seismic design provisions of the most currently accepted Building Code in effect at the time the applicant or individual lot owner applies for a building permit from the Town.
<i>Policy SE-1</i> The Town shall permit development only in those areas where potential danger to the health, safety, and welfare of the residents of the community can be avoided or adequately mitigated.	<i>Consistent with Mitigation</i> – This EIR has evaluated potential hazards to residents of Tiburon. This EIR has identified measures to mitigate significant hazard from development on the site.
<i>Policy SE-2</i> The Town shall require development and construction to be located, designed, and implemented to avoid, eliminate, or reduce geologic and non-geologic hazards.	<i>Consistent with Mitigation</i> – With implementation of the EIR’s mitigation measures, development would avoid, eliminate or reduce geologic and non-geologic hazards.
<i>Policy SE-3</i> The Town shall continue to require detailed geotechnical investigations for development proposals. Such investigations shall determine the actual extent of geotechnical hazards, specify adequate repair / improvement techniques, describe optimum design for structures and improvements, and set forth any special requirements for the sites.	<i>Consistent</i> – Kleinfelder, Inc. and Miller Pacific Engineering Group have performed detailed site-specific landslide assessments and geotechnical investigations at the site for the applicant. These reports have been reviewed by Herzog Geotechnical (the Town’s Geotechnical Consultant).

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<i>Policy SE-4</i> Development allowed within areas of potential geologic hazard shall neither be endangered by, nor contribute to, the hazardous conditions on the site or on surrounding properties.	<i>Consistent</i> – The 18 landslides on the project site would be mitigated consistent with the requirements of the Town’s Landslide Mitigation Policy.
<i>Policy SE-5</i> Development in areas subject to landsliding shall comply with the Town’s Landslide Mitigation Policy. The Town shall require physical improvements to landslides and to potential landslide areas in instances where avoidance is not feasible or appropriate, as determined through the development review process.	<i>Consistent</i> – The Town’s Landslide Mitigation Policy requires repair, improvement, or avoidance (or a combination) of all landslides on the site. The conceptual stabilization repair plans have been reviewed to ensure conformance with the Town’s Landslide Mitigation Policy.
<i>Policy SE-7</i> The Town shall discourage development on slopes exceeding 40% wherever possible.	<i>Consistent</i> – As shown on the PDP Existing and Proposed Slope Analysis, the proposed project building envelopes and roadways generally avoid existing slopes that exceed 40 percent
<i>Policy SE-8</i> Development located below or in the path of gullies which are highly susceptible to debris flow mudslides shall be strongly discouraged.	<i>Consistent</i> – Development would not be sited below or in the path of gullies which are highly susceptible to debris flow mudslides.
<i>Policy SE-9</i> The Town shall require new development and / or construction where feasible, to be outside Special Flood Hazard Areas. Construction proposed within Special Flood Hazard Areas shall comply with the Town’s Flood Damage Prevention Ordinance (Municipal Code Chapter 13D).	<i>Consistent</i> – The project site is not within a 100-year flood hazard area.
<i>Policy SE-11</i> Drainage facilities within new subdivisions shall be designed to accommodate a 100-year storm.	<i>Consistent</i> – Analysis of the applicant’s peak flow and detention storage analyses shows that proposed facilities would be adequate to maintain post-development peak flow rates at pre-development levels and to mitigate any peak flow impacts. This analysis was based on 100-year peak flow rates.
<i>Policy SE-12</i> On-site detention of stormwater runoff shall be utilized to ensure that post-development peak flow rates from a site resulting from both the two-year and 100-year design rainstorms are not increased by new subdivisions or other permitted development projects.	<i>Consistent</i> – Proposed cisterns would be adequate to store sufficient runoff to enable the project to maintain site peak flow rates at pre-project levels for the 100-year design rainstorm.
<i>Policy SE-13</i> To the extent that new subdivisions are responsible for exceeding the capacity of any existing stormwater drainage system, the	<i>Consistent</i> – Based on the analyses completed as a part of this EIR, peak flow runoff from the project site would not exceed capacity of

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applicant shall be responsible for the cost of improvements to the system such that the capacity is not exceeded upon project completion.	existing downstream drainage culverts.
<i>Policy SE-17</i> New development shall provide sufficient water supply and equipment for fire suppression to ensure that the requirements for minimum fire flow and the size, type and location of water mains and hydrants set forth in the Uniform Fire Code and by local ordinance are met.	<i>Consistent with Mitigation</i> – According to the MMWD the two existing Mount Tiburon water tanks would be adequate for both domestic and fire flow requirements. Mitigation is included to redesign the on-site water supply system so that Lot 14 would have adequate domestic service. The TFPD has stated that it would be able to serve the project site.
<i>Policy SE-20</i> The Town shall require provision of defensible space in all projects where fire hazard is possible. On-going maintenance of defensible space buffers in new development projects shall be assured in a form satisfactory to the Town and the Fire District prior to construction of improvements.	<i>Consistent</i> – This EIR evaluates wildland-building fire exposure impacts. The proposed project would incorporate the ordinance criteria of the TFPD and the fire safe practices of FIRESafe Marin.
<i>Noise Element</i>	
<i>Goal N-A</i> To ensure that residential areas are quiet and that noise levels in public and commercial areas remain within acceptable limits.	<i>Consistent</i> – On-site noise measurement conducted as a part of the EIR preparation confirmed the site’s very quiet noise environment. Existing noise levels are compatible for residential use. The noise generated from the proposed houses would be of the same character and level as current neighborhood noises. The traffic data indicated that noise levels would not measurably increase (increase would be less than one dBA) on area roadways as a result of the project. Noise sources on the project site would not generate a significant adverse impact on existing residences in the vicinity of the project.
<i>Policy N-1</i> The Town shall use the Noise and Land Use Compatibility Guidelines contained herein to determine where noise levels in the community are acceptable or unacceptable.	<i>Consistent</i> – Same as Goal N-A.
<i>Policy N-2</i> The Town should use the Noise and Land Use Compatibility Guidelines to determine acceptable uses, and to require noise attenuation methods in noise-impacted areas.	<i>Consistent with Mitigation</i> – Existing noise levels are compatible for residential uses. The noise generated from the proposed houses would be of the same character and level as current neighborhood noises. During project implementation construction noise levels would be significant. This EIR identified measures to mitigate construction noise

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	levels, but this would be a short-term significant unavoidable impact.
<i>Policy N-3</i> Environmental reviews (environmental impact reports, initial studies / negative declarations) of projects within the Tiburon Planning Area will be required to, where appropriate, include an acoustical analysis of the project’s potential to cause a noise impact.	<i>Consistent</i> – This EIR has evaluated potential noise impacts of the proposed project. Additionally, this EIR has identified measures to mitigate significant construction noise impacts.
<i>Parks & Recreation Element</i>	
<i>Goal PR-A</i> To provide sufficient land and facilities for a balanced system of parks and recreation opportunities that serve all ages.	<i>Consistent</i> – This residential subdivision proposes no publicly-owned parks or recreational facilities. Instead it would create 14 residential lots (one existing and 13 new). The existing lot and 11 of the new lots would consist of a residential use area and private open space elsewhere on the lot. Two of the lots would consist of only a residential use area. The entire project site has been designated by the Town for residential use – not park or recreational use.
<i>Policy PR-1</i> Sufficient park land and recreational facilities shall be maintained over time. A ratio of 5.0 acres of park land per 1,000 persons is established for the Planning Area pursuant to the Quimby Act.	<i>Consistent</i> – No park or recreation facility is designated in the General Plan to be located within the project site. The applicant, therefore, would be required to pay in lieu park fees to improve existing Town parks.
<i>Policy PR-2</i> The Town shall continue to require new parkland dedication and / or collection of in-lieu fees during the development review process.	<i>Consistent</i> – No park or recreation facility is designated in the General Plan to be located within the project site. The applicant, therefore, would be required to pay in lieu park fees to the Town.
<i>Housing Element</i>	
<i>Goal H-A</i> Establish a Town leadership role in providing a mix of housing types that matches the needs of people of all ages, income levels and special needs.	<i>Consistent</i> – Consistent with Town requirements the applicant proposes to make an in-lieu payment to satisfy the project’s affordable housing requirement.
<i>Policy H-3 Affordable Housing In-Lieu Fee Fund and Other Funding Sources.</i> Continue to collect and expend affordable housing in-lieu fees for meritorious affordable housing projects, as set forth in Appendix A. Strengthen current housing in-lieu fee provisions as specified in Program H-22 and seek other funding to augment these in-lieu fees.	<i>Consistent</i> – The applicant proposes to make an in-lieu payment to satisfy the Town’s affordable housing requirement.

Significant Ridgelines

Tiburon Ridge crosses a portion of the project site. In addition to the Tiburon Ridge, the *Tiburon General Plan* designates two significant ridgelines on the project site.⁷ These ridgelines were previously designated in Town Resolution No. 2859 as Ridgelines 5 and 6.⁸ **Exhibit 4.0-2** shows the location of the Tiburon Ridge and the two significant ridgelines on the project site. As discussed above, Policy OSC-10 states that development and other improvements associated with development, including landscaping and trees, shall be set back a minimum of 150 horizontal feet of either side of Tiburon Ridge. Policy OSC-11 states that development and other improvements associated with development, including landscaping and trees, shall be set back a minimum of 50 vertical feet of either side of Tiburon Ridge. **Exhibit 4.0-2** shows both the 150 horizontal feet setback and the 50 vertical feet setback for Tiburon Ridge on the project site.

As discussed above in **Exhibit 4.0-1**, no building construction and / or yard improvements would occur within 150 horizontal feet from either side of the Tiburon Ridge. Development on Lot 4 and Lot 5 would, however, occur within 50 vertical feet of the nearest peak elevation of the Tiburon Ridge. All of the proposed development on Lot 4 and the proposed detached garage on Lot 5 would occur within the 50 vertical feet setback of the Tiburon Ridge.

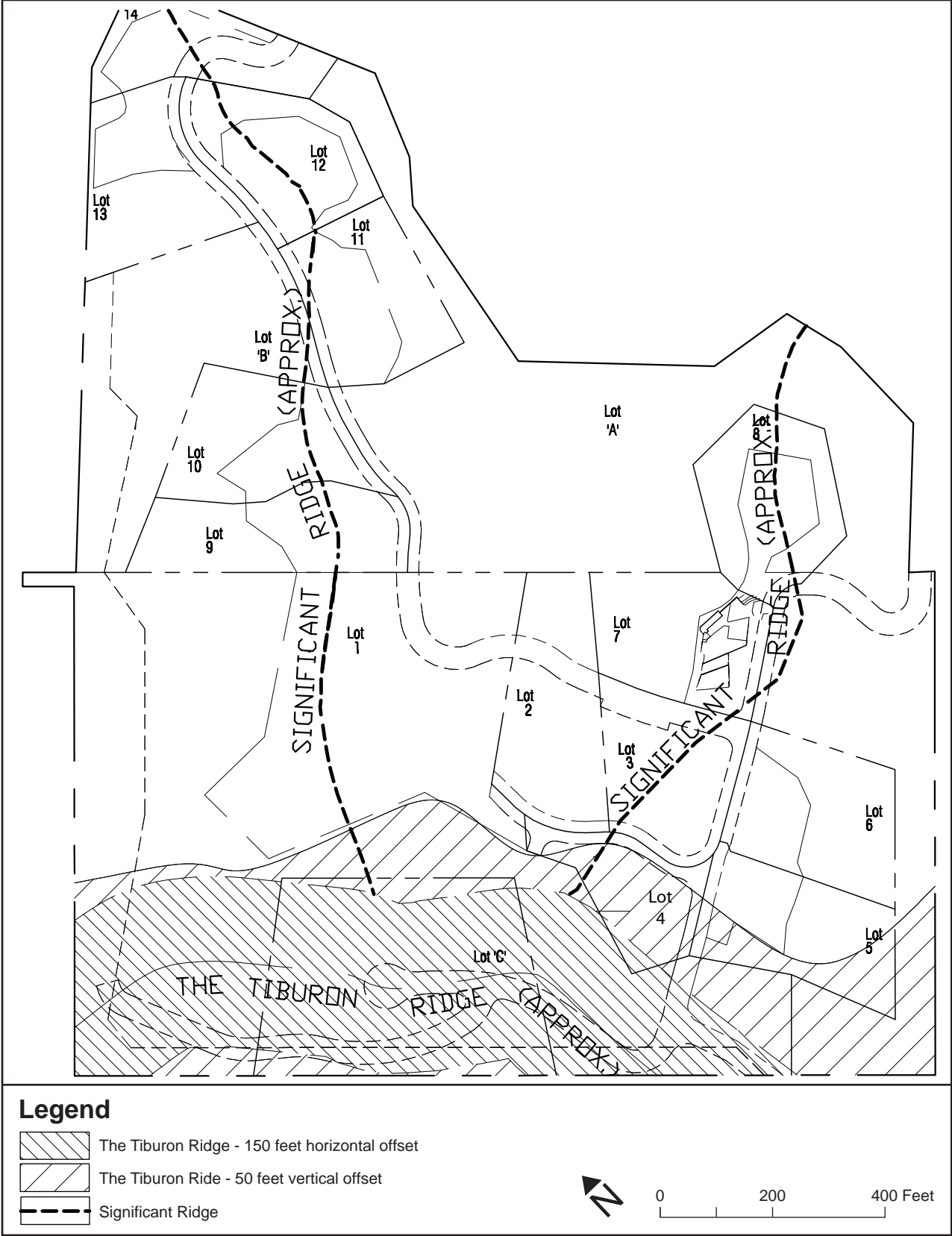
Policy OSC-12 establishes development set backs from Significant Ridgelines. Policy OSC-13 states that construction of roads and utilities along or across the Tiburon Ridge or Significant Ridgelines shall be strongly discouraged. As discussed above in **Exhibit 4.0-1** the proposed project would be inconsistent with both Policy OSC-12 and OSC-13.

Exhibit 4.0-3 addresses the 16 criteria Resolution No. 2859 enumerates in relation to the proposed PDP.

⁷ *Tiburon General Plan Figure 3.3-1 Prime Open Space Characteristics*

⁸ Resolution No. 2859 A Resolution of the Town Council of the Town of Tiburon Designating Significant Ridgelines Pursuant to Provisions of the Tiburon General Plan and Tiburon Zoning Ordinance, adopted May 20, 1992.

**Exhibit 4.0-2
Ridges**



Source: CSW/ST 2, 2009

Exhibit 4.0-3
Resolution Number 2859

<i>Resolution 2859 -- Significant Ridgelines</i>	
<p>The Town of Tiburon recognizes that each significant ridgeline has different qualities and characteristics. The significance of each ridgeline shall be determined during the development review process using the following criteria</p>	<p>The Town of Tiburon Resolution No. 2859 identifies two Significant Ridgelines (5 and 6) that are located within the project site. Exhibit 4.0-2 shows the location of the Tiburon Ridge and the two significant ridgelines on the project site. The 16 criteria listed by Resolution No. 2859 are discussed below in relation to the two significant ridgelines present on the project site.</p>
<p>Visual prominence.</p>	<p>As discussed in <i>Section 5.8 Visual Quality</i> three viewpoints, chosen because of proximity, viewshed, and accessibility, have been used for the analysis of visual qualities of the project site. The visual prominence of the ridgelines is discussed as seen from these viewpoints.</p> <p>The western slope of Ridgeline 5 can be seen in the horizon of Viewpoint No. 3 (see Exhibit 5.8-8). Views of the ridgeline from the west are obstructed by dense patches of coast live oak woodlands on the western slope. Near the northern boundary of the project site trees give way to grassland and the ridgeline is more visible. However, at this location the ridge elevation is lower and less visually prominent. The eastern view of Ridgeline 5 can be seen in the horizon of Viewpoint No. 2 (see Exhibit 5.8-6), however when viewed from this distance the ridgeline does not appear to be visually prominent.</p> <p>Ridgeline 6 can be seen from Viewpoint No. 1 (see Exhibit 5.8-4) and viewpoint No. 2 (see Exhibit 5.8-6). Ridgeline 6 is downslope from the location of Viewpoint No. 1, and it is difficult to discern the characteristics of the ridge. Viewpoint No. 2 offers a better view of Ridgeline 6. The most visually prominent portion of Ridgeline 6 is an exposed grassland area located just west of proposed building site for Lots 3, 4, 7, and 8. Other views of the ridge are obstructed by wooded areas of coast live oak and exotic trees.</p>

<p>Ability to connect existing / potential open space.</p>	<p>Open space connectivity through Ridgeline 5 is impeded by the existing residence located on Lot 1. It should be noted that west of Ridgeline 5 the proposed public trail easement would provide connectivity of public and private open space.</p> <p>Ridgeline 6 has potential to provide a connection from the Tiburon Ridge open space to proposed common open space (Lot A), located in the northeastern portion of the project site just south of Paradise Drive.</p>
<p>Potential to act as a neighborhood separator.</p>	<p>The slopes of Ridgelines 5 and 6 are relatively subtle, and lack the physical characteristic of steep topography that would isolate residential development from neighboring areas.</p>
<p>Inboard and outboard views.</p>	<p>Both ridgelines offer outboard panoramic views of San Francisco Bay from grassland locations, where views are not obstructed by trees.</p> <p>As discussed above (<i>Visual Prominence</i>), views of these ridgelines lack steep physical characteristics and are obstructed by wooded areas, which hampers the quality of inboard views.</p>
<p>Length.</p>	<p>Ridgeline 5 is approximately 1,600 feet long when measured from the Tiburon Ridge to the northwest project boundary. Ridgeline 6 is approximately 1,100 feet long when measured from the Tiburon Ridge to the northeast project boundary.</p>
<p>Height.</p>	<p>Ridgeline 5 has an elevation of 420 feet at the point it branches off from the Tiburon Ridge, and slopes downward to 150 feet at the northern boundary of the project site.</p> <p>Ridgeline 6 has an elevation of 420 feet where it branches from the Tiburon Range, and slopes downward to 170 feet at the northern boundary of the project site.</p>
<p>Wooded or Unwooded.</p>	<p>Both ridgelines have a combination of wooded and exposed grassland</p>

	areas.
Ability to link with Bay Trail.	Paradise Drive is designated as an unimproved section of the Bay Trail. ⁹ Both ridgelines possess the physical ability to connect open space on the Tiburon Ridge to Paradise Drive.
Unusual physical characteristics.	Neither of Significant Ridgelines 5 and 6 contain prominent rock outcroppings, vertical cliffs, or other unusual physical characteristics.
Highly visible open slopes.	Both ridgelines have areas where trees give way to grasslands and the slopes are highly visible. However, as discussed above (<i>Visual Prominence</i>), views of subtle topography features that lack stark vertical features are more dominant.
Significant vegetation.	Ridgeline 5 has patches of coast live oak and pine forest with exotic species. Smaller vegetation includes coastal scrub. Ridgeline 6 has areas where exotic trees blend in with coast live oak. The northern portion of Ridgeline 6 is dominated by coast live oak. Smaller vegetation includes patches of Coastal Scrub, Serpentine Bunch Grass, and limited occurrences of Marin Dwarf Western Flax and Tiburon Buckwheat.
Sensitive environmental habitat.	Marin Dwarf Western Flax and Tiburon Buckwheat are special status plant species.
Special silhouette or backdrop features.	Ridgelines 5 and 6 lack visual prominence and do not feature special silhouette or backdrop features.
Difficulty of developing or accessing.	Ridgelines 5 and 6 do not pose barriers to development. Portions of Ridgeline 5 are developed with a single family residence, and both ridgelines have an existing access road.
Integrity of the ridgeline landform.	With exception to developed areas, the integrity of each ridgeline landform is intact.

⁹ Bay Trail Map - Marin, www.baytrail.org

4.2 ZONING

The Zoning Map of the Tiburon Municipal Code (Chapter 16) designates the Rabin property Residential Planned Development (RPD).¹⁰ Because the SODA property is not within the Town boundaries the property does not have a Town zoning designation. It is proposed to prezone the SODA property in anticipation of annexation to the Town. The appropriate zoning designation would be RPD, with a density not to exceed 0.4 dwelling unit per acre.

Exhibit 4.0-4 assesses the consistency of the *Alta Robles Residential Development* with the Town of Tiburon's Zoning Ordinance.

¹⁰ Town of Tiburon Zoning Map, Section 16-2.16 of the Tiburon Municipal Code.

Exhibit 4.0-4
Consistency with Town of Tiburon Zoning Ordinance

Town of Tiburon Code Provision	Consistency Issue(s)
<i>Chapter 16: Zoning -- Residential Planned Development Zone (RPD)</i>	
Section 16-2.7 The Residential Planned Development (RPD) Zone is intended to protect and preserve open space as a limited and valuable resource without depriving owners of a reasonable use of their property for residential purposes. ...	<i>Consistent</i> - The Precise Development Plan (PDP) designates land outside of individual residential use areas as private open space that would generally remain undeveloped open space and be retained in a natural condition. In addition, the PDP proposes 18.29 acres of common open space.
... The regulations of the Zone are designed to insure, to the extent feasible, the conservation of natural resources and the retention of land in its natural or near natural state in order, among other things, to assist in the containment of urban sprawl and protect the community from the hazards of fire, flood, seismic, and other catastrophic activity, and to otherwise implement the goals and policies of the Tiburon General Plan.	<i>Consistent</i> - The PDP would confine on site development with 14.86 acres devoted to residential use areas (approximately 28 percent of the total site area). Development in conformance with Tiburon Fire Protection District (TFPD) requirements would protect the community from fire hazards. The project would not create or contribute to downstream flooding. Implementing the proposed landslide repair program would result in stabilization of all geologic hazard areas on site.
Section 2.7.1 Principal Uses Permitted ... single-family dwelling.	<i>Consistent</i> - The PDP would subdivide the site into 14 residential lots (one with an existing single family house and 13 to be developed with one single-family house). No non-residential development would occur with project implementation.
Section 2.7.2 Conditional Uses Permitted	<i>Consistent</i> - The PDP does not identify any other uses on this residential subdivision than development of single-family homes with accessory structures.
Section 2.7.3 Land and Structure Regulations. Density: Maximum residential densities for developed land in the RPD zone shall be as established by the adopted Master and / or Precise Plans for the development, as finalized by the recorded subdivision map(s) for the development. ... Maximum residential densities for undeveloped land in the RPD zone shall be as established on the Zoning Map, and shall in	<i>Consistent</i> - Town approval of the proposed PDP would establish the number of lots to be created. The applicant has requested approval of a 14-lot subdivision, less than the maximum number of housing units identified by the <i>General Plan</i> land use designation.

<i>Town of Tiburon Code Provision</i>	<i>Consistency Issue(s)</i>
no case exceed the density established in the Tiburon General Plan. ...	
Section 2.7.3 Land and Structure Regulations. Building height limit: 30 feet for main building and 15 feet for accessory buildings, unless otherwise specified in an applicable Precise Development Plan. ...	<i>Consistent</i> - The PDP provides characteristics of the individual house designs. With the exception of Lot 5 with a building height of 16 feet one inch, the building heights would range from 21 feet eight inches on Lot 12 to 29 feet one inch on Lot 8. Accessory structures should not exceed 15 feet above natural grade.
Section 2.7.3 Required yards: Lot area, lot width, lot coverage, and required yards shall be as approved in applicable Precise Development Plans for the development.	<i>Consistent</i> - The PDP (see Sheet SP-30A) defines the setback distances for each proposed house (Lots 2 through 14) from lot lines.
Section 2.7.3 Floor area ratio: As provided in Section 4.2.8, unless otherwise specified in an applicable Precise Development Plan.	<i>Consistent</i> - Although not specifically stated in the PDP, information is provided to determine proposed floor area ratio for Lots 2 through 14.
<i>Chapter 16: Zoning -- Site Plan and Architectural Review</i>	
Section 4.2.1 Purpose. The purpose of the Site Plan and Architectural Review is to determine compliance with this chapter and to promote the orderly development of the Town, the preservation of its unique visual character, the stability of land values and investment, and the public health, safety and welfare by preventing the erection of structures, and additions or alterations thereto, which are unsightly and detract from the aesthetic character of the neighborhood or which are not properly related to their sites, adjacent uses, or traffic circulation in the vicinity; and by preventing the indiscriminate clearing of property, excessive grading, and the unnecessary destruction of mature trees and / or mature shrubbery.	<i>Consistent</i> - Approval of the PDP would create 14 residential lots. Construction of “structures” on each individual lot will require Site Plan and Architectural Review consistent with the Town’s Zoning Ordinance.
Section 4.2.7 Guiding Principles in the Review of Applications. In reviewing site plans for Site Plan & Architectural Review, the acting body shall consider the following principles as they may apply:	
(a) Site Plan Adequacy: Proper relation of a project to its site, including that it promotes orderly development of the community, provides safe and reasonable access, and will not be detrimental to the public health, safety, and general welfare.	<i>Consistent</i> – The proposed project generally respects existing natural conditions on the project site. Low-density residential development on the site would be consistent with the existing neighborhood character. Site access would be provided by a new roadway from Paradise Drive.

Town of Tiburon Code Provision	Consistency Issue(s)
	The on site roads would conform with Tiburon Fire Protection District's standards. The addition of project-generated motor vehicle traffic and bicyclists would add incrementally to cumulative conditions on Paradise Drive due to existing conflicts between motorists and bicyclists.
(b) Site Layout in Relation to Adjoining Sites: The location of proposed improvements on the site in relation to the location of improvements on adjoining sites, with particular attention to view considerations, privacy, adequacy of light and air, and topographic or other constraints on development imposed by particular site conditions.	<i>Consistent</i> – Development as proposed on the project site takes into account development on adjacent sites. Although development would be visible from some nearby residential areas (for example see Exhibit 5.8-9 for a photosimulation looking east from Acacia Drive) views from existing homes would not be blocked. The proposed homes would not interfere with light or air access of nearby residents, such as along Hacienda Drive.
(c) Neighborhood Character: The height, size, and / or bulk of the proposed project bears reasonable relationship to the character of existing buildings in the vicinity. A good relationship of a building to its surroundings is important. For example, in neighborhoods consisting primarily of one-story homes, second-story additions shall be discouraged, or permitted with increased setbacks or other design features to minimize intrusion on the neighborhoods.	<i>Inconsistent</i> – The PDP proposes the construction of 13 single family homes that would range from 6,300 square feet to 7,980 square feet. Except for Lot 7, which is proposed to be a three-story house, the other 12 houses would be two stories. Except for Lot 5 (with a building height of 16 feet one inch) the building heights would range from 21 feet eight inches to 29 feet one inch. Although the number of stories and building heights would be similar to other houses in the area, the proposed houses would be somewhat larger in terms of square feet than the existing homes in the vicinity. Single family homes along Hacienda Drive range in size from 2,400 to 5,100 square feet. Single family homes in the Acacia Drive subdivision range in size from 3,700 to 6,300 square feet.
(d) Floor Area Ratio: The relationship between the size and scale of improvements and the size of the property on which the improvements are proposed. This concept is known as “floor area ratio”.	<i>Consistent</i> - Although not specifically stated in the PDP, information is provided to determine proposed floor area ratio for Lots 2 through 14.
(e) Grading and Tree Removal: The extent to which the site plan reasonably minimizes grading and / or removal of trees, significant vegetation, or other natural features of the site, such as rock outcroppings or watercourses.	<i>Consistent with Mitigation</i> – Proposed development would adversely affect occurrences of special-status species, native serpentine grasslands, wetlands and oak woodlands. Although the project attempts to avoid much of these sensitive resources, additional refinement would be necessary, and compensatory mitigation would be required.

Town of Tiburon Code Provision	Consistency Issue(s)
	Implementation of Mitigation Measures 5.5.-1 through 5.5-5 would serve to protect and fully mitigate potential impacts on sensitive biological resources, providing consistency with this aspect of the zoning code.
(f) Compatibility of Architectural Style and Exterior Finish: The architectural style and exterior finish are harmonious with existing development in the vicinity and will not be in stark contrast with its surroundings.	<i>Consistent</i> - The proposed architectural designs would achieve harmony with the natural environment. As proposed, the project would utilize naturally appearing building materials that blend in with the landscape.
(g) Landscaping: Proposed landscaping, insofar as it is used appropriately to prevent erosion; to protect the privacy of adjoining sites; and to mitigate the visual and noise impacts of development. Applicants are encouraged to use native and drought-resistant landscaping. Proposed landscape shall be used which will at maturity minimize primary view obstruction from other buildings.	<i>Consistent</i> – The PDP includes a Preliminary Planting Plan that includes planting guidelines. Mitigation measures are recommended to emphasize the use of native plant species indigenous to the site and surrounding area (Mitigation Measure 5.5-2) and to clearly indicate the location replacement tree plantings on the site (Mitigation Measure 5.5-5(b)).
(h) Lighting: Proposed lighting, insofar as it should not invade privacy of other properties, or produce glare or light pollution; yet provide adequate illumination for safety and security purposes. ...	<i>Consistent</i> - The PDP states that exterior lighting would be limited to low energy and hooded lamps with the minimum amount necessary to safely illuminate points of access and outdoor living areas. Exterior lighting would generally be avoided in areas which are visible from surrounding properties and roadways, unless necessary for safety or security.
(j) Appropriate Use of Building Envelope: 11 In Planned Residential (RPD and RMP) zones, building envelopes are generally intended to provide a larger-than-needed area for flexibility in the appropriate siting of a main structure and its accessory structures. The building envelope should not be interpreted as an area intended to be “filled” by a main structure and its accessory structures.	<i>Consistent</i> – The PDP identifies a Residential Use Area (sometimes referred to as a building envelop area) for each of the 13 proposed lots. The Residential Use Areas appear to provide adequate areas for siting of the main building.

¹¹ Section 4.02,07(i), Overall Property Improvement, relates to sites where existing development is located and would not apply to the project examined in this EIR.

Town of Tiburon Code Provision	Consistency Issue(s)
<i>Chapter 16 -- Zoning Chapter 4.2-8 Floor Area Ratio Guidelines</i>	
<p>Properties in the residential planned development (RPD zone) are subject to the guidelines in the following table, unless otherwise specified in a precise development plan or other permits.</p> <p>Property less than 7,500 square feet - 35 percent of the property area plus an additional 600 square feet of garage or carport.</p> <p>Property 7,500 square feet through 60,000 square feet - Ten percent of the property plus 2,000 square feet plus an additional 600 square feet of garage or carport.</p> <p>Property more than 60,000 square feet - 8,000 square feet plus an additional 750 square feet of garage or carport.</p>	<p><i>Consistent</i> – Except for the existing residential lot, proposed lots would range in size from 1.0 acre (43,560 square feet) to 1.67 acres (72,745 square feet). The house sizes proposed in the PDP would be consistent with these guidelines.</p>
<i>Chapter 16 -- Zoning Chapter 4.8.4 Precise Development Plan Principles</i>	
<p>(a) Significant open space shall be preserved, through dedication or other means acceptable to the Town, consistent with policies of the Open Space and Conservation Element of the Tiburon General Plan.</p>	<p><i>Consistent</i> - Approximately 37 acres (71 percent of the project site) located outside of the residential use areas would be designated for open space. The PDP proposes the use of voluntary dedications to ensure that the open space would be permanently protected.</p>
<p>(b) Preservation of the natural features of the land shall be achieved to the maximum extent feasible through minimization of grading and sensitive site design. Features worthy of preservation include ridgelines, prominent knolls, desirable native vegetation, trees, significant rock outcroppings, water courses, and riparian corridors.</p>	<p><i>Consistent with Mitigation</i> – Proposed development would adversely affect areas of native tree cover and would result in the loss of an estimated 107 trees that meet the definition as a protected tree under the Municipal Code. Although the project attempts to avoid many of the protected trees on the site, additional refinement to proposed grading, lot layout, and mitigation would be necessary. Implementation of Mitigation Measure 5.5-5(b) would provide consistency with this aspect of the zoning code.</p>
<p>(c) Slopes created by grading should not exceed 30 percent. Final contours and slopes should reflect natural land features.</p>	<p><i>Inconsistent</i> – Grading for landslide repairs would involve constructing slopes that would be similar to the slope angles and slope contours that were present prior to grading. Landslide repairs would improve the long-term slope stability as required by the Town’s Landslide Mitigation Policy. Miller Pacific Engineering Group proposes that the uppermost five feet of a cut slope be rounded to existing topography to</p>

<i>Town of Tiburon Code Provision</i>	<i>Consistency Issue(s)</i>
	a maximum slope of 3:1 (34 percent). In addition, all constructed fill slopes with a maximum gradient of 2:1 (50 percent) would need to be evaluated and designed for long-term stability.
(d) Every reasonable effort shall be made to preserve view corridors, mature trees, rare plants, significant flora and fauna, areas of historical significance, access corridors, and habitats of endangered species.	<i>Consistent with Mitigation</i> – Proposed development would adversely affect some sensitive resources, including areas of native tree cover. Although the project attempts to avoid much of the sensitive natural habitat on the site, additional refinement to proposed grading, lot layout, and mitigation would be necessary. Implementation of Mitigation Measures 5.5.-1 through 5.5-5 would serve to protect and fully mitigate potential impacts on sensitive biological resources, providing consistency with this aspect of the zoning code.
(e) Location of development well below ridgelines shall be achieved, in conformance with <i>General Plan</i> and other policies.	<i>Inconsistent</i> – Exhibit 4.0-2 shows the location of the Tiburon Ridge and the two Significant Ridgelines (5 and 6) on the project site. As proposed, development on Lot 4 and Lot 5 would encroach into the vertical offset of the Tiburon Ridge. Furthermore, portions or all of the proposed houses on Lots 2,3,6,7 and 14 would approach the crests of Ridgelines 5 and 6.
(f) Prominence of development and construction should be minimized by appropriate location of grading and placing of buildings so that they are screened by wooded areas, rock outcroppings, and depressions in topography or other features.	<i>Consistent</i> – Based on the photomontages prepared as a part of this EIR (see Section 5.8 Visual Resources) the locations of the individual houses appear generally appropriate for the site.
(g) Due consideration shall be given to avoidance of areas posing geologic hazards.	<i>Inconsistent</i> – The project site is mapped as being underlain by 18 landslides. Complete avoidance of all of the landslides on the site would not be possible. Subdivision and development of the site would be required to comply with the Town’s Landslide Mitigation Policy. The applicant has provided a landslide repair program that has been reviewed and found to be consistent with Town policy by the Town’s geotechnical consultant.
(h) Minimization of significant adverse impacts, as detailed in the Environmental Impact Report, if one is required.	<i>Consistent</i> - Implementation of measures to mitigate significant adverse impacts identified in this EIR would be required, if the Town approves or conditionally approves the project.

Town of Tiburon Code Provision	Consistency Issue(s)
(i) Roads shall be designed for minimum slopes, grading, cutbacks, and fill. Narrowing of roadways may be allowed to reduce grading, retaining walls, and other scarring of the land.	<i>Consistent</i> - The Main Road and the Upper Road would each be 28-foot wide (two 12-foot wide travel lanes with two foot shoulders on both sides). Road grades on the Main Road would range from 6.3 percent to a maximum of 18.0 percent. Road grades on the Upper Road would range from 1.4 percent to 17.4 percent. Roads have been designed to minimize cut and fill.
(j) Proposed arrangement of residential units and design of circulation system shall provide harmonious transition from and be compatible with neighboring development and open space. Monotony in design shall be avoided.	<i>Consistent</i> – The nearest residential areas are along Hacienda Drive (to the south) and Acacia Drive (to the west). Access to the project site would be provided by a new roadway from Paradise Drive. The site access would be completely independent from the nearby residential areas. Based on the individual home designs submitted for each of the 13 proposed new lots it is unlikely that the designs would be monotonous.
(k) Adequate consideration shall be given to the need for privacy and with minimum visual and aural intrusion into the indoor and outdoor living areas from other living areas.	<i>Consistent</i> – Individual houses would be a significant distance from existing homes and thus would not intrude into the indoor and outdoor living areas from other living areas.
(l) Improvements shall be placed so as to minimize noise intrusion of noise on nearby areas.	<i>Consistent</i> - Existing noise levels are compatible for residential use. The noise generated from the proposed houses would be of the same character and level as current neighborhood noises. Permanent noise sources on the project site would not generate a significant adverse impact on existing residences in the vicinity of the project.
(m) Landscaping shall be designed so as to result in the least possible disturbance of natural and / or open areas and shall be compatible with the natural setting. Consideration shall be given to fire protection, water conservation, protection of views and trail areas, and buffering of noise.	<i>Consistent with Mitigation</i> – Consideration has been given to fire protection, water conservation, protection of views and trail areas. Proposed development would, however, adversely affect some sensitive resources, including areas of native serpentine bunchgrass, wetlands, and occurrences of special-status species such as Marin western flax and Tiburon buckwheat. Although the project attempts to avoid much of these sensitive resources, additional refinement to proposed grading, lot layout, and mitigation would be necessary. Implementation of Mitigation Measures 5.5.-1 through 5.5-5 would serve to protect and fully mitigate potential impacts on sensitive biological resources,

<i>Town of Tiburon Code Provision</i>	<i>Consistency Issue(s)</i>
	providing consistency with this aspect of the zoning code.
(n) Utilities shall be underground, and street lights, if needed, shall be of low intensity and low in profile.	<i>Consistent</i> - Gas, electric, telephone, and cable television would be located underground. Existing and proposed on-site street lights are shown on the PDP Preliminary Utility Plan. In general, light fixtures would be mounted at low elevations and fully shielded to direct lighting downward to the immediate area underneath the fixture.
(o) Materials and colors used in improvements shall blend into the natural environment to the extent reasonably possible.	<i>Consistent</i> - Exterior building facades would have materials that blend in with the natural surrounding environment. These materials would include wood siding, natural stone materials, and vegetated roofs.
(p) Consistency with other goals and policies of the <i>General Plan Elements</i> shall be demonstrated.	The project's conformance with the <i>Town of Tiburon General Plan</i> goals and policies is summarized in Exhibit 4.0-1 .

4.3 TOWN OF TIBURON DESIGN GUIDELINES FOR HILLSIDE DWELLINGS

The Town would use the *Town of Tiburon Design Guidelines for Hillside Dwellings (Hillside Guidelines)* to review detailed development projects on individual Alta Robles lots upon approval or conditional approval, if approved, of the proposed Precise Development Plan. **Exhibit 4.0-5** assesses the consistency of the *Alta Robles Residential Development* with the *Hillside Guidelines*.

Exhibit 4.0-5
Consistency with Tiburon Hillside Design Guidelines

Design Goals / Principles	Consistency
<i>Goal 1. Reduce Effective Bulk</i>	
1. Cut building into hillside.	<i>Consistent</i> - The earthen building strategy, which is one of two building design strategies proposed for the project, places the structures into the hillside and would maintain harmony with the topography of the site. (Lots 11, 12, 13, 14 utilize the earthen building strategy)
2. Terrace building using slope.	<i>Consistent</i> - The terraced building strategy, which is the other building design strategy proposed for the project, uses a stepped building composition that integrates the structures with the slope of the hillside. (Lots 2 thru 10 utilize the terraced building strategy)
3. Reduce effective mass with vertical and horizontal articulation.	<i>Consistent</i> - Vertical articulation is provided in the terraced building strategy by “stepping” upper stories and detached structures up-slope and back into the hillside. This reduces the presence of the upper stories, and the overall vertical mass of the structure. The earthen building strategy uses the natural terrain as an articulation element to break up the vertical mass of the structures exposed façade. Roofs are rounded and consist of native vegetation, giving the home the appearance of usable underground space and effectively reducing vertical mass. Horizontal articulation is provided in the terraced building strategy where sections of the building floor plan are angled to provide a different view and break up the horizontal plane. The use of detached structures and highly visible usable outdoor spaces, such as decks and pool areas, provide additional articulation. Angled linear floor plans provide horizontal articulation for the earthen building strategy. The horizontal mass is further reduced by digging the structure into the hillside.

Design Goals / Principles	Consistency
4. Follow hillside contours.	<p><i>Consistent</i> - Although some grading and fill would be required for construction, the proposed residences are designed to blend in with the contour pattern of the lot they are located on. The terraced building design would have a stepped building composition and flat roofs, which would minimize visual obstruction of the hillside contour pattern. Residences featuring the earthen building strategy would be dug in to maximize harmony with the hillside. However, the earthen building strategy would require some reforming of the site's topography to accommodate the building. The roof style used in the earthen building strategy would be sloped to visually replicate hillside contours.</p>
5. Follow contours with horizontal elements	<p><i>Consistent</i> - Both building strategies have horizontal elements that blend in with the hillside. The terrace building strategy uses multiple single story elements with flat roofs that do not obstruct hillside contours. The earthen building strategy uses linear footprints that flow with the hillside contours.</p>
6. Avoid roof overhangs and downhill cantilevers	<p><i>Inconsistent</i> - Buildings are designed to avoid downhill cantilevers. Building mass is either placed up-slope with the terraced building strategy or dug into the earth with the earthen building strategy. Roof overhangs are not bulky and typically do not project beyond the footprint of the building. The proposed design does have some instances where structure elements are projecting towards the downhill slope. Examples of these are:</p> <p>Lot 14 - The first story roof overhang does extend towards the downhill slope, and beyond the building footprint.</p> <p>Lot 4 - Has a second story deck that cantilevers from the building and overhangs a portion of the lot's downhill slope.</p> <p>Roof deck on Lot 7 and second story deck on Lot 11 are other examples of structural elements that cantilever over a portion of the downhill slope.</p>

Design Goals / Principles	Consistency
7. Avoid large retaining walls.	<i>Inconsistent</i> - Retaining walls would be used for both lot development and house construction. As shown in Exhibit 3.0-13 wall heights and lengths would vary as needed. Retaining walls for house development would typically be screened by the residence. Retaining walls up to 21 feet high would be needed for lot development. It may be necessary to incorporate screening and design methods that would reduce the appearance of these walls.
8. Use materials to reduce bulk.	<i>Consistent</i> - A variety of building materials, such as patterns of wood, concrete steel, glass, natural colored local stone, brick masonry, and cement plaster, are used to break up bulky elevations. Wood panel siding and vegetated roofs are an example of materials used to blend in with the surrounding hillside. Stucco and shotcrete are used at lower building elevations where the view is less prominent.
9. Use underground spaces to reduce bulk.	<i>Consistent</i> - Both the earthen building design and terraced building design have rooms located below ground, which effectively reduces building mass.
10. Balance horizontal elements of the structure with vertical accent elements. Avoid single form solutions to building envelopes.	<i>Consistent</i> - Both the terraced building strategy and the earthen building strategy successfully avoid single form solutions without introducing additional vertical elements.
<i>Goal 2. Reduce Environmental Impact</i>	
1. Use form and materials which blend with texture of environment.	<i>Consistent</i> - The stepped building composition of the terraced building strategy and underground living spaces of the earthen building strategy result in building forms that blend in with the texture of the environment by minimizing obstruction. Proposed building materials, such as wood siding and vegetated roofs, create a natural aesthetic that enhances the building harmony with the environment.
2. Do not use large expanses of single material.	<i>Consistent</i> - The proposed design features well articulated buildings that avoid large expanses of single material.

Design Goals / Principles	Consistency
3. Use native materials wherever possible.	<i>Consistent</i> - Building materials would include wood, natural colored local stone, and vegetated roofs, all of which would allow the building to blend in with the hillsides. Synthetic materials, such as stucco and shotcrete, are used at lower building elevation where they are less prominent.
4. Use non-reflective materials.	<i>Consistent with Mitigation</i> - As proposed, some residences would have large expanses of glass windows and metal railings with glass panels, which could reflect light. Mitigation Measure 5.8-1 requires use of glass that has a Visible Light Reflectance / Reflection value of less than nine percent for all exterior glass.
5. Screen structural and mechanical elements (solar panels).	<i>Consistent</i> – Solar panels are integrated with roof forms. In cases where structural support elements are exposed, such as pier foundations for decking, the exposed elements are well screened so as not to be visually obtrusive.
6. Control window placement for privacy and view.	<i>Consistent</i> - The PDP includes building envelope areas and individual home designs for each of the 13 proposed lots. The project site is located in an area that offers scenic views of the San Francisco Bay and open space. The design of each proposed home, combined with the location of the building envelope would orient the residences towards view opportunities, and not towards private adjacent residences. Therefore window placement would focus views towards scenic viewpoints while preserving the privacy of neighbors.
7. Use energy-saving features. A. Earth berms, shaded walls. B. Place windows for optimum utilization of sun. C. Solar panels.	<i>Consistent</i> – Building design strategies feature <ul style="list-style-type: none"> • Earth berms and thermal mass engineering for energy efficiency • Photovoltaic panels will help generate electricity for houses • Solar hot water panels help heat water for house and pools • Windows and shading devices control day lighting and solar gain • Skylights and clerestories promote stack effect heat

Design Goals / Principles	Consistency
	<p>evacuation</p> <ul style="list-style-type: none"> • Glazing designed to optimize day lighting and control solar gain • Energy star rated appliances are specified • Low energy lighting lamps and fixtures are specified
<p>8. Landscaping designed to enhance dwelling, screen it from view, screen other homes from view by the occupants, and offers protection from sun, wind, and fire.</p> <ul style="list-style-type: none"> A. Landscape with foresight. B. Use natural and planned landscape. C. Use earth formations to minimize impact. D. Use native drought-resistant plants. 	<p><i>Consistent</i> – A Preliminary Planting Plan has been prepared for the proposed project. The planting plan uses the Marin Fire Safe Guidelines for Defensible Space as the primary source for establishing landscaping procedures for the proposed project.</p> <p>A) <i>Consistent</i> - The species type of new landscaping would be such that, at maximum height, landscaping will not block scenic views.</p> <p>B) <i>Consistent</i> - Landscaping generally would utilize native plant species. Existing trees and natural vegetation would be retained where possible.</p> <p>C) <i>Consistent</i> - Reformation of earth forms would be necessary for lot development. This activity would be minimized to insure the proposed projects overall compatibility with the natural terrain. However reformed area would provide opportunity to enhance the planned landscaping.</p> <p>D) <i>Consistent</i> – 80 percent of the introduced landscaping would be California native species tolerant to drought.</p>
<p>9. Design for acoustic privacy</p>	<p><i>Consistent</i> – With exception of Lot 1, which would be 14.99 acres, lot sizes would range from 1.00 to 1.67 acres. The lot sizes would provide plenty of separation between noise generating outdoor uses located within residential use areas and neighboring residences.</p>
<p>10. Avoid sprawling plans.</p>	<p><i>Consistent</i> - Primarily proposed building footprints are compact and avoid sprawl. Lots 4, 5, and 6 feature detached building footprints where garage structures and / or barn structures are detached from the primary building.</p>

Design Goals / Principles	Consistency
11. Site buildings to avoid prominence.	<i>Consistent</i> – Buildings generally are located to blend in with the surrounding environment.
12. Provide adequate vehicular access.	<i>Consistent</i> – Adequate vehicular access would be provided.
13 Height limits A. Limit B. Variances	A) <i>Consistent</i> – Proposed building heights would not exceed 30 feet for main building and 15 feet for accessory buildings. B) <i>Consistent</i> No variances are requested.
<i>Goal 3. Preserve Access to Views</i>	
1. Locate new structures for minimum interference.	<i>Consistent</i> - The Precise Development Plan outlines building envelopes that, if approved by the Town, would establish the area in which each of the proposed homes could be located. Property owners would be able to anticipate future buildout of the other proposed homes, and choose exact locations within the proposed building envelope in order to preserve viewsheds.
2. Plan landscaping to avoid view blocks A. Tree types and placement. B. Do not block views of distant neighbors.	<i>Consistent</i> - The Preliminary Planting Plan is designed so that (A) the location and species type of trees would, at mature tree height, not block scenic views of significant natural features (such as Tiburon Ridge and San Francisco Bay), which would (B) help respect the primary viewsheds available to surrounding residents and users of the public open space.
3. Preserve existing views A. Site building away from existing structures. B. Cut corner of building if necessary.	A) <i>Consistent</i> - Public and private open space would provide buffers between the proposed development and existing neighborhoods. B) <i>Consistent</i> - The proposed development is consistent with the concept of “cutting corners”. The project consists of design elements, such as the terraced and under ground footprints, that reduce structure mass and minimize view obstruction.
4. Design for quality, not quantity, of view.	<i>Consistent</i> - Each of the proposed building envelopes allow the opportunity to capitalize on quality viewshed such as San Francisco Bay and Tiburon Ridge.

Design Goals / Principles	Consistency
5. View framing.	<i>Consistent</i> - The proposed residences have floor plans that open up to downhill views. With the large lot sizes individual homes would be sited within the residential use area to allow designs to frame high quality views without obstructing views of neighboring residents.
6. Maximize both view and privacy	<i>Consistent</i> - The proposed building designs and Preliminary Planting Plan allow for maximum view framing while preserving privacy.
7. Avoid partial view blockage <ul style="list-style-type: none"> A. Protect views in major rooms. B. Foreground, middleground, backgrounds. C. Center of view. D. Do not block major feature of view. E. Do not block small view. F. Measure view blockage problem. 	A) <i>Consistent</i> – Individual house designs have been proposed to avoid blocking of views from adjacent residences. B) <i>Consistent</i> - The terraced building strategy and earthen building strategy have design elements that reduce structure height. These elements include the layered building composition of the terraced building strategy, and the underground spaces of the earthen building strategy, both of which reduce structure height and visible mass, which protects the views of neighboring residences. C) <i>Consistent</i> - Proposed building envelopes are strategically located to prevent obstruction of the center view for neighboring residences. D) <i>Consistent</i> - The proposed project is designed to maximize views of key viewsheds in the area. E) <i>Consistent</i> - As proposed each residential lot would maximize respect for the view from the neighboring lots. F) <i>Consistent</i> - The footprint of each proposed residence would be shown on each lot. Story poles would be used so each lot purchaser can visualize surrounding development and measure potential view blockage problems.
8. Views across a vacant lot are often considered to be a “borrowed” view. A borrowed view is one which is temporary in nature and which may reasonably be expected to change upon development.	<i>Consistent</i> – Existing views across the project site are shown in Exhibit 5.8-4 (from Middle Ridge Open Space) and Exhibit 5.8-8 (from Acacia Drive). As shown in the photosimulations (Exhibits 5.8-5 and 5.8-8) views of San Francisco Bay and beyond would not be significantly affected by the proposed project.

4.4 TOWN OF TIBURON BICYCLE AND PEDESTRIAN MASTER PLAN 2008 UPDATE

The *Town of Tiburon Bicycle and Pedestrian Master Plan 2008 Update*¹² provides for a town-wide network of bicycle and pedestrian facilities, including sidewalks, paths, bike lanes and bike routes. The plan includes bicycle- and pedestrian-related programs and support facilities intended to ensure bicycling and walking become viable transportation options for people who live, work and recreate in Tiburon.

Bicycle facilities in the Town of Tiburon are discussed in *Section 5.1 Transportation*. In the vicinity of the project site Paradise Drive is identified as a Class III Bikeway.¹³

The *Town of Tiburon Bicycle and Pedestrian Master Plan 2008 Update* includes a discussion of improvements to Class III bikeways and for potential “Rural Roads” treatments.¹⁴ Safety improvements are discussed for Paradise Drive. It is stated that where on-street parking exists, Shared Roadway Markings should be installed. Where feasible, consistent with the *County of Marin Unincorporated Areas Bicycle and Pedestrian Master Plan*, Paradise Drive should be periodically widened to meet the Caltrans recommended minimum of four feet. Widening should be considered where needed at the following types of locations:

- Turnouts: provided periodically to allow motorists to safely pass cyclists.
- Uphill side of the road: allows cyclists to move over as they slow down during climbs, enabling motorists to safely pass.
- Blind corners: Allows cyclists to move over and provides extra “shy zone” through turns with limited lane widths.

The *Alta Robles Residential Development* does not propose any bicycle improvements along Paradise Drive along the frontage of the project site. *Impact 5.1-7 (Project Impact on Bicycle Facilities and / or Safety)* does discuss the project’s impact to bicycle safety. Mitigation Measure 5.1-7 does provide for bicycle improvements along Paradise Drive consistent with the *Town of Tiburon Bicycle and Pedestrian Master Plan 2008 Update*.

¹² *Town of Tiburon Bicycle and Pedestrian Master Plan 2008 Update*, Alta Planning + Design, 2008.

¹³ Class III Bikeway (Bicycle Route) – provides for a right-of-way designated by signs or pavement markings for shared use with motor vehicles.

¹⁴ *Town of Tiburon Bicycle and Pedestrian Master Plan 2008 Update*, Alta Planning + Design, 2008, page 26 and Figure 5-1.

4.5 PARADISE DRIVE VISIONING PLAN

The *Paradise Drive Visioning Plan*¹⁵ was prepared by Marin County together with the residents of the neighborhoods along Paradise Drive. The *Paradise Drive Visioning Plan* includes goals and actions for the following topics:

- Parks, Recreation and Open Space
- Land Use
- Traffic
- Public Safety and Utilities
- Sewers and Wastewater Treatment
- Annexation
- Governance
- The Romberg Center

Although never formally adopted by the Marin County Board of Supervisors the *Paradise Drive Visioning Plan* is intended to be used as a basis for the community to petition for action on part of governmental agencies and respond collectively to issues that affect the vision for the community.¹⁶

Exhibit 4.0-6 assesses the consistency of the *Alta Robles Residential Development* with the Paradise Drive Visioning Plan.

¹⁵ *Paradise Drive Visioning Plan*, The Marin County Community Development Agency - Planning Division, February 1999. The *Paradise Drive Visioning Plan* was accepted by the Marin County Board of Supervisors February 9, 1999.

¹⁶ *Paradise Drive Visioning Plan*, The Marin County Community Development Agency - Planning Division, February 1999, page 3.

Exhibit 4.0-6
Consistency with Paradise Drive Visioning Plan

Visioning Goals / Actions	Consistency
<i>Goal I-2 To provide safe and convenient local pathways for pedestrians within the community.</i>	
Explore opportunities for providing local pathways near the road as a safe convenient alternative to walking on the side of Paradise Drive.	<i>Consistent with Mitigation</i> - It is proposed to improve the existing fire road as the main access to the project site. The project does not propose any Paradise Drive frontage improvements for bicycle or pedestrian use. Mitigation Measure 5.1-7 does, however, provide measures to improve bicycle safety along Paradise Drive.
<i>Goal I-3 To use a variety of techniques to maintain the rural character of the Paradise Drive area, including taxation for public open space acquisition to preserve land from development.</i>	
Maintain a pattern of low density residential development. ¹⁷	<i>Consistent</i> - The PDP would subdivide the 52.21 acre site into 14 residential lots for a resulting density of one unit per 3.73 acres. The <i>General Plan</i> designates the site for up to a maximum of 20 units.
Preserve trees, vegetation, and other natural features that contribute to the area's rural visual appearance.	<i>Consistent with Mitigation</i> – Proposed development would adversely affect some sensitive resources, including areas of native tree cover. Although the project attempts to avoid much of the sensitive natural habitat on the site, additional refinement to proposed grading, lot layout, and mitigation would be necessary. Implementation of Mitigation Measures 5.5.-1 through 5.5-5 would serve to protect and fully mitigate potential impacts on sensitive biological resources, providing consistency with this policy of the Visioning Plan.
Maintain the rural visual character of the hillsides and provide visual access to the Bay.	<i>Consistent</i> – Proposed residential development on the site would not block views of the Bay from off-site. Exhibits 5.8-4 through 5.8-9 show the potential visibility of the homes and illustrate the extent to which the site's rural character would be maintained.

¹⁷ Goal II-1 designates low density as one unit per 2.5 acres.

<i>Visioning Goals / Actions</i>	<i>Consistency</i>
Maintain a pattern of residential development (homes within a rural landscape) to promote the rural character.	<i>Consistent</i> - Surrounding land uses include undeveloped land and low-density single-family residential development. Low-density residential development as proposed on the site (one housing unit per 3.73 acres) would be consistent with the existing neighborhood character and identity.
Limit the bulk and mass of new residential structures.	<i>Consistent</i> - Individual home designs have been submitted for each of the 13 proposed new houses. The houses would all be constructed within the 30-foot building height and are generally limited to two stories.
Design homes in a rural style to blend into the existing landscape.	<i>Consistent</i> – As a part of the PDP application, individual home designs have been submitted for each of the 13 proposed new lots. Two residential building types are proposed – earthen buildings and terraced buildings. Exhibits 5.8-4 through 5.8-9 illustrate the extent to which the houses would blend into the existing landscape.
Maintain the current rural circuitous alignment of Paradise Drive while providing for traffic, bicycle, and pedestrian safety improvements.	<i>Consistent</i> - No changes to the alignment of Paradise Drive are proposed. Mitigation Measure 5.1-4 does require some grading to provide adequate sight distance at the entrance road. Mitigation Measure 5.1-7 does require a consistent-width shoulder along Paradise Drive, directly abutting the project site, to provide for additional safety for bicyclists.
<i>Goal II-1 To preserve the rural character along Paradise Drive.</i>	
On larger, subdividable parcels of land, continue the current designation of low and very low density development, with low density defined as 1 unit per 2.5 acres and very low density as 1 unit per 10 acres or lower.	<i>Consistent</i> - The PDP would subdivide the 52.21 acre site into 14 residential lots for a resulting density of one unit per 3.73 acres. The <i>General Plan</i> designates the site for up to a maximum of 20 units.
Recognize and protect the differences in rural character of the areas north and south of Trestle Glen. The area south of Trestle Glen will continue to have a much more rural character than the area to the north.	<i>Consistent</i> – The project site is south of Trestle Glen. As discussed for Goal I-3 the proposed project would generally maintain the rural character south of Trestle Glen, consistent with other development in the area.
Develop design standards which take into consideration...the extensive tree cover south of Trestle Glen and which avoid a suburban style of	<i>Consistent</i> – The PDP includes preliminary architectural and landscape design guidelines. Implementation of the guidelines would

<i>Visioning Goals / Actions</i>	<i>Consistency</i>
development and gated communities.	avoid a suburban style of development. The project is not proposed as a gated subdivision.
Plan new development to minimize the number of roadways and driveways onto Paradise Drive for safety and to reduce the need for grading and paving.	<i>Consistent</i> - Site access to the proposed 13 new single-family homes would be by a single new roadway from Paradise Drive. The existing driveway serving the Rabin property would continue to serve the existing house.
Maintain rural road standards with low intensity street lighting and no sidewalks.	<i>Consistent.</i> The two on-site roads would be 24-foot wide (two 12-foot wide lanes) with no sidewalks. The PDP does include the location of street lights. In general, street lights would be provided for safety and security.
<i>Goal II-2 To reduce the visual impact of new development.</i>	
Continue using planned district zoning which encourages clustering and siting of development to minimize visual and environmental impacts.	<i>Consistent</i> – The <i>Tiburon General Plan</i> land use designation for both the SODA and Rabin properties is Planned Development – Residential (PD-R).
Develop design standards to define low visual impact.	<i>Consistent</i> - The PDP includes preliminary architectural and landscape design guidelines that would eventually be included in the covenants, conditions, and restrictions (CC&Rs).
Locate new development away from ridges and visually prominent subridge areas.	<i>Inconsistent</i> - As proposed, the project would include development within the 50 foot vertical offset of the Tiburon Ridge and on the two Significant Ridgelines located within the project site.
<i>Goal III-1 To maintain the rural character and configuration of Paradise Drive and improve safety for all users.</i>	
Create a system of off-road neighborhood paths for residents to use as an alternative to walking on the side of the road.	<i>Consistent with Mitigation</i> - It is proposed to improve the existing fire road as the main access to the project site. The project does not propose any Paradise Drive frontage improvements for bicycle or pedestrian use. Mitigation Measure 5.1-7 does, however, provide measures to improve bicycle safety along Paradise Drive. The project does propose a trail parallel to Hacienda Drive which would follow the alignment of the Town’s Tiburon Ridge Trail and would connect to the town-owned Middle Ridge open space. A trail

Visioning Goals / Actions	Consistency
	along the west side of the project site would connect to an adjacent property. The trails would facilitate access to the Ridge Trail.
Explore the possibility of improving the safety of Paradise Drive through more turnouts for passing, shoulder widening and paving, and speed bumps.	<i>Consistent with Mitigation</i> - It is proposed to improve the existing fire road as the main access to the project site. The project does not propose any Paradise Drive frontage improvements. Mitigation Measures 5.1-4 and 5.1-7 do, however, provide measures to improve safety along Paradise Drive.
<i>Goal III-2 To develop and maintain an accurate information base about existing and projected future traffic conditions to make well-informed decisions about land use and transportation.</i>	
Request the County and Tiburon to conduct traffic studies to project cumulative amounts of traffic from future development...Studies should include an evaluation of the capacity of Paradise Drive and whether the roadway can support the traffic from projected growth, including bicycle traffic.	<i>Consistent</i> - This EIR assesses the project's traffic impacts under existing and cumulative conditions.
<i>Goal IV-1 To provide adequate water for household use and fire protection.</i>	
Investigate options and implement solutions to provide water pressure adequate for firefighting and household use throughout the planning area.	<i>Consistent</i> – According to MMWD, the two existing Mount Tiburon water tanks would be adequate for both domestic and fire flow requirements. Mitigation is included to redesign the on-site water supply system so that Lot 14 would have adequate domestic service.
When new developments are built with a requirement for a tank for water storage, explore the possibility of allowing existing residences to connect to the tank.	<i>Consistent</i> - The project does not propose, nor require, a new water tank.
<i>Goal IV-2 To carry out vegetation management practices which reduce the risk of fire on public and private lands.</i>	
Educate private property owners about the need to manage vegetation on their property.	<i>Consistent</i> - The Tiburon Fire Protection District would review site and building plans for individual lots and would inspect the project annually.
<i>Goal IV-5 To have adequate and unobtrusive provision of utilities for all residents.</i>	
Underground utility lines whenever possible.	

<i>Visioning Goals / Actions</i>	<i>Consistency</i>
<p>When trenches for sewer and water lines are opened for repair or upgrading, use the opportunity to underground or install other utility lines such as telephone fiber optic, and electric power.</p>	<p><i>Inconsistent</i> – It is proposed to replace an existing water line in Hacienda Drive with a new water line. It is not, however, proposed to underground the existing overhead electric line along Hacienda Drive as a part of this project.</p>
<p><i>Goal V-1 To provide residents with environmentally-sound, cost-effective wastewater treatment systems.</i></p>	
<p>Coordination between the Romberg Tiburon Center (RTC), the County Parks Department, and near by properties to upgrade wastewater treatment facilities.</p>	<p><i>Consistent</i> - Sanitary District No. 5 has recently taken the necessary actions to upgrade the Paradise Cove treatment facility. This upgrade will modernize and replace outdated equipment and expand sewage disposal capacity to 30,000 gallons per day. The upgraded Paradise Cove plant has been designed to ensure that adequate treatment capacity will be available to meet the needs of the buildout of the service area.</p>
<p>New development on large properties should be served by sewers.</p>	<p><i>Consistent</i> - The project site is proposed to be connected to wastewater collection and treatment facilities operated by Sanitary District No. 5.</p>

4.6 MARIN LOCAL AGENCY FORMATION COMMISSION POLICIES

The Knox-Nisbet Act of 1963 required establishment of Local Agency Formation Commissions in every California county. These state-mandated regional agencies are designed to ensure that change in government organization - such as annexations or de-annexations of land or creation of new cities or special districts to provide urban services - occurs in an orderly manner which provides efficient and quality services and preserves open space land resources.

It is the mission of the Marin Local Agency Formation Commission (LAFCo) to promote and coordinate the efficient delivery of local governmental services and to encourage the preservation of open space and agricultural lands. Furthermore, it is the intent of the Marin LAFCo to strengthen the role of city governments in the provision of urban services. In the city-centered corridor of Marin County as designated in the Marin Countywide Plan, general-purposes governments are preferred over special districts for the provision of services.

Development of the *Alta Robles Residential Development* proposed project as proposed requires annexation of the SODA Property to the Town of Tiburon. In addition to the annexation to the Town of Tiburon, the proposed project would require annexation of the SODA property to Sanitary District Number 5.

The Marin LAFCo would be responsible to approve the annexation to the Town of Tiburon and Sanitary District Number 5.

Exhibit 4.0-7 assesses the consistency of the *Alta Robles Residential Development* with the relevant policies and standards of the Marin LAFCo.

Exhibit 4.0-7
Consistency with Marin LAFCo

Marin LAFCo Policies and Procedures	Consistency Issue(s)
<i>Agricultural Lands Policies</i>	
<p>Land which is currently engaged in the substantial production of food, fiber, or livestock, or is identified as agricultural land under Williamson Act contract shall not be annexed to a city or a sanitary sewer agency for the purpose of promoting urban development.</p> <p>Development of existing vacant or non-prime agricultural lands for urban uses within a city's and / or special district's jurisdiction or within a city's and / or special district's sphere of influence should be encouraged before any proposal is approved which would allow for or lead to the development of existing agricultural or open-space lands for nonagricultural or non open-space uses which are outside of the city's and / or special district's jurisdiction or outside of a city's and / or special district's sphere of influence.</p>	<p><i>Consistent</i> - The project site consists of two properties - the approximately 31 acre Rabin property and the approximately 21 acre SODA property. The Rabin property is located within the town of Tiburon. The SODA property is located in an unincorporated portion of Marin County within the Town of Tiburon's Sphere of influence. The SODA property is not in agricultural use and is not under a Williamson Act contract.</p> <p>Consistent with this policy it is proposed to annex the SODA property to the Town of Tiburon. Annexation of the SODA property would not lead to the development of existing agricultural or open-space lands for nonagricultural or non open-space uses which are outside of the Town's jurisdiction or outside of the Town's sphere of influence.</p>
<i>Prezoning Policy</i>	
<p>As required by State Law, applicants whose proposals include annexation to a city shall obtain prezoning approval from the city prior to submitting the annexation application to the Local Agency Formation Commission for consideration. The city shall be lead agency for environmental review in such cases, and proof of environmental document and certification shall accompany the application.</p>	<p><i>Consistent</i> - The Town is the lead agency for the preparation of this EIR and must certify the EIR as complete before considering any of the pending applications, including the proposed prezoning of the SODA property. Town approval of a Precise Development Plan would establish a planned district on the SODA property, thus prezoning its density. As shown in section 2.4 Administrative Actions, LAFCO would entertain the proposed annexation after certification of the EIR and prezoning of the SODA property by Tiburon.</p>
<i>Dual Annexation Policy</i>	
<p>Annexations of unincorporated land to special districts that provide services necessary for urban development shall require concurrent or subsequent annexation to a city if the land is located within the city's sphere of influence. The Commission may, however, defer the</p>	<p><i>Consistent</i> - It is proposed to annex the SODA property to the Town of Tiburon. Both the Rabin property and the SODA property are within the boundaries of the Marin Municipal Water District and Sanitary District No. 5. Implementation of the proposed project would not</p>

Marin LAFCo Policies and Procedures	Consistency Issue(s)
<p>requirement for annexation to the city if the Commission determines that each of the following conditions has been met:</p> <ol style="list-style-type: none"> 1. The County Board of Supervisors has adopted plans or policies specifically for the subject area that support the extension of urban services; and 2. All affected agencies have been notified and given adequate time to review and comment on the proposed annexation; and 3. Application of the policy at the present time would result in illogical boundaries or inefficient provision of local services. 	<p>require annexation to nay special district.</p>

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5.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

This chapter contains an analysis of the environmental topics identified by the Town of Tiburon's scoping process for the EIR (Notice of Preparation and Scoping Meeting) described in *Chapter 1.0 Introduction*. Environmental topics addressed in this chapter include:

- 5.1 Transportation
- 5.2 Air Quality
- 5.3 Noise
- 5.4 Hydrology / Water Quality
- 5.5 Biological Resources
- 5.6 Geology / Soils
- 5.7 Public Services
- 5.8 Visual Resources
- 5.9 Cultural Resources

Sections 5.1 through 5.9 of this chapter describe existing environmental conditions as they relate to each specific topic, identify potential impacts from implementing the *Alta Robles Residential Development*, and present mitigation measures required to reduce significant adverse impacts to a less-than-significant level. Where relevant, cumulative impacts of project buildout combined with other growth elsewhere in the study area are described in Sections 5.1 through 5.9, as discussed in *Section 3.3 Cumulative Development Assumptions*. Cumulative impacts are further discussed in *Section 7.2 Cumulative Impacts*.

FORMAT OF TOPICAL ANALYSES

Each of the topical impact assessments in this EIR (Sections 5.1 through 5.9) are organized as follows:

Environmental Setting

Existing conditions are described in the respective "setting" sections. These descriptions summarize information compiled during the study process to prepare the EIR. Background materials used in the EIR are referenced in footnotes and listed in *Section 8.3 Bibliography*.

Significance Criteria

Standards used to evaluate the magnitude of impacts are listed in the "significance criteria" subsections for each topic analyzed. Under CEQA, a *significant effect* is defined as a substantial or potentially substantial adverse change in the environment - namely, in any of the "physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance". The *State CEQA Guidelines* direct that the significance of impact be determined on the basis of scientific and factual data. The significance criteria were derived from the following main sources: the *State CEQA Guidelines*, *Town of Tiburon General Plan*, environmental documents prepared recently for other projects in the Town of Tiburon,

and the professional standards and practices of the technical analysts who conducted the EIR evaluations.

Impacts and Mitigation Measures

The “impacts and mitigation” subsections identify the level and type of impacts that are likely to result from implementation of the *Alta Robles Residential Development*.

All impacts are numbered consecutively by topic. Based on the significance criteria, each impact is identified as being either a **Significant Impact** or a **Less-than-Significant Impact**. Significant impacts are followed by feasible mitigation measures that are available to reduce the magnitude of impact. No mitigation measures are required for less-than-significant impacts. Mitigation measures also are numbered to correspond to the respective impacts.

For each significant impact where a feasible mitigation is identified, a conclusion is provided as to whether with the incorporation of the recommended mitigation measure the impact would be reduced to a less-than-significant level or whether it would be a **Significant Unavoidable Impact**. A significant unavoidable impact is a significant impact which cannot feasibly be avoided with mitigation. These include impacts which could be partly mitigated but could not be reduced to a less-than-significant level.

For each significant unavoidable impact identified in the Final EIR, the Town of Tiburon would be required to adopt Findings and a Statement of Overriding Considerations explaining the reasons for approving the project (if approved) despite the impacts identified.

5.1 TRANSPORTATION

Transportation - Environmental Setting

This section describes existing transportation conditions within the project study area as well as the methodology used to evaluate the potential transportation-related impacts of the proposed *Alta Robles Residential Development* project. Existing area conditions are the base by which the proposed project is measured for environmental impacts.

CIRCULATION NETWORK

The existing circulation network in the Town of Tiburon consists of roadways, trails, bicycle, pedestrian, bus, and ferry facilities. A description of the major transportation facilities, roadway segments, current traffic volumes, and alternative transportation modes are included in this section.

Town Streets and Roads

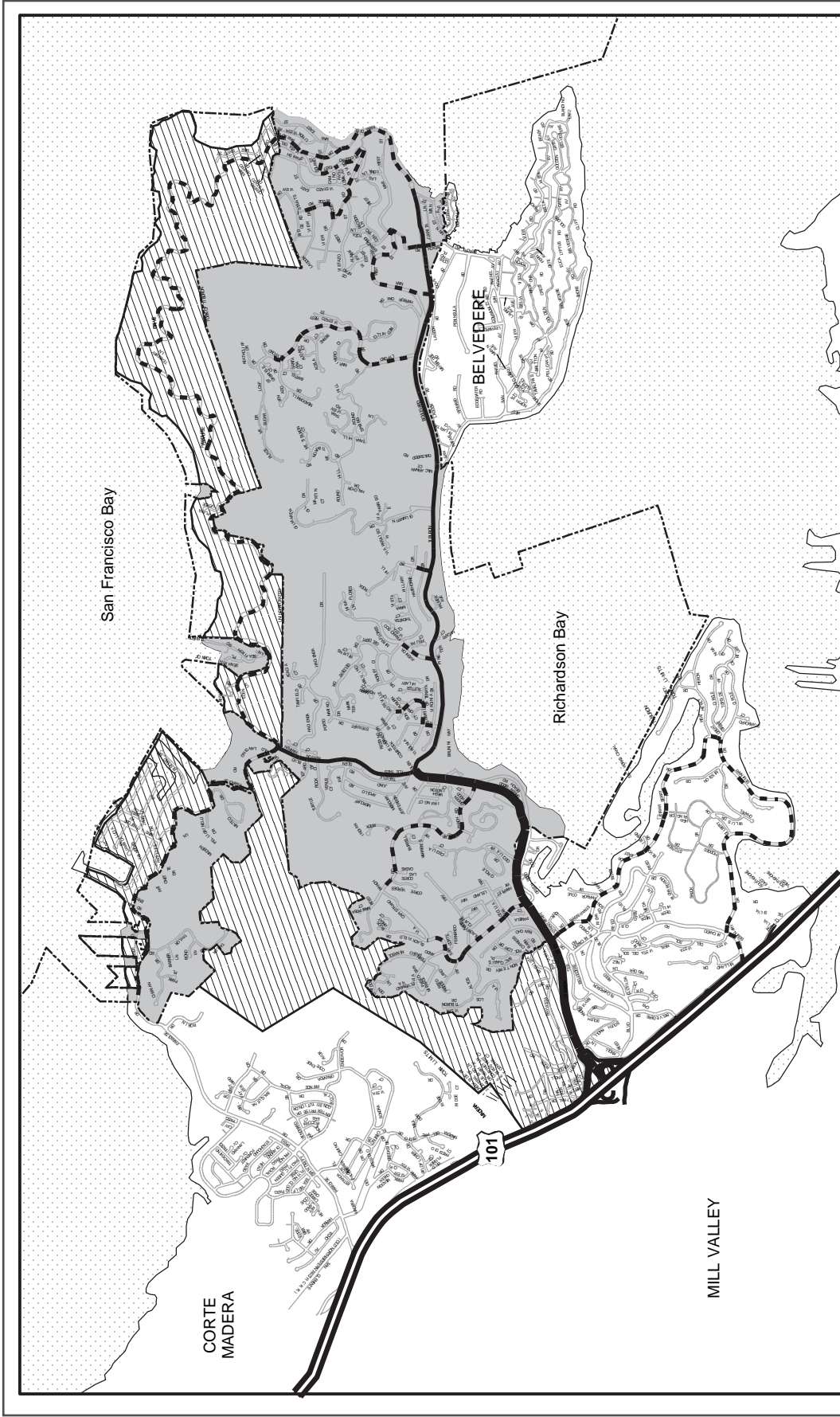
There are approximately 60 miles of highways, roads, and streets in the Tiburon Planning Area. These facilities range from U.S. Highway 101 (U.S. 101), which serves as the primary route between San Francisco and Marin and Sonoma counties and carries nearly 160,000 vehicles on a typical weekday, to local streets that serve individual homes in neighborhoods and carry fewer than 500 vehicles per day. Like most cities and towns, the roadway network is divided into functional classifications:

- Freeways connect regional activity centers.
- Arterials connect with major local activity centers and with freeways.
- Collectors take traffic from the local roadway network and channel it to the arterial roadway network.
- Local Streets serve adjacent residential and commercial property.

Exhibit 5.1-1 shows the roadway network providing access to the project site. The primary arterial and collector streets within Tiburon are:

- Tiburon Boulevard (State Route 131), a two- to four-lane roadway that connects U.S. 101 with much of the Town's circulation network as well as the adjacent communities of Belvedere, Strawberry, and Mill Valley. East of Trestle Glen Boulevard, this roadway is classified as a minor arterial; west of Trestle Glen Boulevard, it is classified as a major arterial.
- Trestle Glen Boulevard, is a two-lane minor arterial that runs on a north / south axis, connecting Tiburon Boulevard with
- Paradise Drive, a two-lane collector that serves the northern and eastern edges of the peninsula, forming a continuous loop with Tiburon Boulevard at a junction in the southeast corner of the peninsula.

**Exhibit 5.1-1
Study Area Roadways**



Legend

Road Classifications

- Freeway
- Major Arterial (4 lanes)
- Minor Arterial (2 lanes)
- Collector (2 lanes)

- Town of Tiburon
- Unincorporated Tributary Traffic Area

Source: Fehr & Peers, 2008 and Town of Tiburon

Paradise Drive

Paradise Drive is a winding roadway that provides direct access to the project site. Roadway width varies from 18 to 24 feet, with shoulders varying from zero to four feet wide. The exception to this shoulder width is the occasional turn-out with wider shoulders. For most of its length, shoulders on Paradise Drive are narrower than one-foot wide, and motorists share the road with bicycle and pedestrian traffic. In addition, the roadway pavement in the project vicinity is cracked and deteriorating. Although the posted speed limit is 25 miles per hour (mph), speed surveys found the observed “critical speed” (the speed at which 85 percent of motorists are driving) to be 31 to 32 mph.¹

Access from Paradise Drive to the project site is provided at two locations:

- The existing single-family house on the site is accessed via a steep, paved driveway that intersects Paradise Drive at the northeastern corner of the project site. The steep grade of the driveway does not meet standards for emergency vehicle access, and the intersection of this driveway with Paradise Drive is made at a location with limited sight distance. As proposed, the use of this driveway to provide access to the existing house on site would continue following completion of the project.
- Emergency vehicle access is provided by the 12-foot wide graded fire road with a lesser grade, located at the northwestern corner of the project site. The new single-family homes to be constructed with the proposed project would utilize this driveway for access.

In addition to the project site, there are approximately 850 existing parcels in the Tiburon Planning Area (approximately 275 currently within the Town of Tiburon) that can only be accessed by Paradise Drive. Subdivision of parcels in this area could result in up to another 150 parcels.² On a peninsula that is bisected by the Tiburon Ridge, maintaining Paradise Drive for access, including emergency access to the northeastern side of the peninsula, and as an alternative way on and off the peninsula, is critical. Most of Paradise Drive is maintained by the County of Marin.

Residents of the Paradise Drive area have expressed a desire to maintain Paradise Drive in the rural manner in which it currently exists.³ This would prevent substantial changes to the character of the roadway. Currently, there are a number of issues surrounding Paradise Drive, including long-term jurisdiction and the cost of maintenance and improvement (roadway, drainage, slide repairs, and wash outs) and concerns about safety, particularly of pedestrians and bicyclists.

Marin County Public Works researched the five-year collision rate for the approximately three-mile long segment of Paradise Drive (from milepost 4.31 to 7.22) and found it to be “below the state-wide average for conventional two-lane roads in both rolling and mountainous terrains.”⁴ There is no known data indicating that bicycle or pedestrian collision rates are higher than average on Paradise Drive.

1 Sorokko Property *Final Environmental Impact Report*, Leonard Charles and Associates, April 2008, page 4.5-10.

2 *Tiburon General Plan 2020 Draft EIR*, Town of Tiburon and Nichols • Berman, 2005, Page 4.2-9.

3 *Ibid.*

4 *Ibid.*

Transit Service

The locations of ferry and bus services in Tiburon are shown on **Exhibit 5.1-2**. Tiburon has the highest percentage of ferry commuters among Bay Area cities with ferry service; 8.4 percent of Tiburon commuters (a total of 352 residents) use the ferry as their primary means of travel to and from work.⁵ The privately funded Blue and Gold Fleet provides four morning commute trips from Tiburon to the San Francisco Ferry Building, and four return trips serving the afternoon commute. In addition, several trips each day serve the reverse commute direction and an additional seven daily trips connect with Sausalito and San Francisco's Pier 41.

A smaller percentage of Tiburon residents (1.8 percent) commute by bus, although this figure does not capture commuters that use the bus to reach the ferry terminal. Bus service is provided by Golden Gate Transit, which is operated by the Golden Gate Bridge, Highway, and Transportation District. Service reductions in 2003 resulted in a 30 percent decrease in bus service by the District. Three bus routes serve Tiburon (via Tiburon Boulevard):

- Route 8 (to and from San Francisco during commute hours, every 30 minutes)
- Route 9 (between Strawberry and the ferry terminal building during commute hours, every 45 to 60 minutes)
- Route 19 (hourly service throughout the day between Marin City and Tiburon). Route 9 provides service within one-half mile of the project site.

Bicycle Facilities

Caltrans standards provide for three distinct types of bikeway facilities, as generally described below:

- Class I Bikeway (Bicycle Path) - provides a completely separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.
- Class II Bikeway (Bicycle Lane) - provides a restricted right-of-way and is designated for the use of bicycles with a striped lane on a street or highway. Bicycle lanes are generally five feet wide. Adjacent vehicle parking and vehicle / pedestrian cross-flow are permitted.
- Class III Bikeway (Bicycle Route) - provides for a right-of-way designated by signs or pavement markings for shared use with motor vehicles.

Existing and proposed bikeways in Tiburon are shown on **Exhibit 5.1-3**.

⁵ *Census 2000*. Journey to Work data: <http://www.census.gov/population/www/socdemo/journey.html>. United States Census Bureau.

**Exhibit 5.1-2
Public Transit Network**



Legend

-  Marin County Local Route
-  Commuter Bus Route






0 .125 .25 Mile

Source: Fehr & Peers, 2008 and Town of Tiburon

**Exhibit 5.1-3
Bicycle Routes**



Legend

-  Class I Bike Route, Existing
-  Class II Bike Route, Proposed
-  Class III Bike Route, Proposed

Source: Fehr & Peers, 2008 and Town of Tiburon

Existing Bikeways

The existing bikeways within the Planning Area are:

- Class I bicycle path (Richardson Bay Linear Park Multi-Use Path) from Blackie's Pasture to Mar West Street.
- Class II bicycle lanes on Tiburon Boulevard (east of Mar West Street) and Paradise Drive (west of Mar West Street).

Proposed Bikeways

There are several planned bikeways within the Tiburon Planning Area:⁶

- Class II bicycle lanes on Trestle Glen Boulevard (from Tiburon Boulevard to Paradise Drive).⁷
- Class III bicycle routes on Tiburon Boulevard (from U.S. 101 to Greenwood Cove Road), Greenwood Cove Road and Greenwood Back Road (to Blackie's Pasture).
- Class III bicycle route on Paradise Drive (from Mar West Street to Corte Madera) that forms a portion of the San Francisco Bay Trail.

The remote and scenic qualities of Paradise Drive, as well as its challenging curvature, make it a popular route for bicyclists. However, in most locations, Paradise Drive has insufficient shoulder and travel lane widths to allow motorists to pass cyclists, particularly when cyclists are traveling in groups. Along most of the roadway's length, there is no refuge for pedestrians and bicyclists to move out of the path of passing or oncoming vehicles. Motorists frequently pass bicyclists by entering the opposing lane of traffic, oftentimes in areas with limited sight distance of on-coming traffic.

Bicycle Volumes on Paradise Drive

Weekday and weekend counts were conducted by Fehr & Peers (the EIR traffic consultant) of the number of bicyclists and motor vehicles traveling through the study area on Trestle Glen Boulevard and Paradise Drive in September 2007. Weekday observations were conducted during the typical AM and PM peak hours for motor vehicle traffic (7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM), and weekend observations were conducted between the hours of 10:00 AM and 6:00 PM.⁸

Exhibit 5.1-4 shows a comparison of bicycle and motor vehicles volumes on Paradise Drive, based on counts conducted at the existing fire access road. As shown, bicyclists outnumber vehicles on Paradise Drive on weekends before noon, while volumes of vehicles and bicyclists are relatively equal between noon and 1:00 PM. The counts indicate that between 80 and 136 bicyclists traveled on

⁶ *Tiburon General Plan 2020 Draft EIR, op. cit.*, Page 4.2-2.

⁷ A portion of Trestle Glen Boulevard currently features a five-foot path separated from the roadway by a raised curb. Although this facility may be utilized by bicyclists, inclusion of the raised curb would not be consistent with Class I or II facilities.

⁸ Weekday observations were conducted on Tuesday and Wednesday, September 25 and 26, 2007 and weekend observations were conducted on Saturday and Sunday, September 29 and 30, 2007, Fehr & Peers, 2007.

Paradise Drive during the weekend morning and weekend mid-day hours. By comparison, motor vehicle volumes adjacent to the project site do not exceed 80 to 113 vehicles per hour during *any* hour (including weekday peak hours).

**Exhibit 5.1-4
 Paradise Drive - Vehicle and Bicycle Volumes**

Time of Day	Weekday		Weekend			
			Saturday		Sunday	
	Vehicles	Bicycles	Vehicles	Bicycles	Vehicles	Bicycles
7 AM - 8 AM	67	10	--	--	--	--
8 AM - 9 AM	75	15	--	--	--	--
9 AM - 10 AM	--	--	--	--	--	--
10 AM - 11 AM	--	--	91	97	56	136
11 AM - 12 PM	--	--	82	84	58	88
12 PM - 1 PM	--	--	86	85	77	80
1 PM - 2 PM	--	--	113	46	97	62
2 PM - 3 PM	--	--	84	56	98	39
3 PM - 4 PM	--	--	115	47	84	49
4 PM - 5 PM	81	23	101	30	78	35
5 PM - 6 PM	83	15	82	26	73	17

Data was collected on Paradise Drive at the intersection with the existing fire access road on the following dates: Tuesday and Wednesday, September 25th and 26th, 2007, and Saturday and Sunday, September 29th and 30th, 2007.

Source: Fehr & Peers, 2007.

Pedestrian Facilities

While sidewalks are provided on some arterial and collector streets, including the Richardson Bay Linear Park Multi-Use Path, most local streets in Tiburon do not have sidewalks. The majority of pedestrian crossing locations in Tiburon are uncontrolled (not signalized) including some crossings on arterial streets (Tiburon Boulevard and Trestle Glen Boulevard).⁹

TRAFFIC OPERATIONS

This section describes existing conditions at the following three study intersections:

- Tiburon Boulevard / Trestle Glen Boulevard
- Trestle Glen Boulevard / Paradise Drive

⁹ Tiburon General Plan 2020 Draft EIR, *op. cit.*, Page 4.2-3.

- Paradise Drive / Proposed Project Entrance Road (existing fire access road)

The three intersections were selected because they are located on the primary access route to and from the project site and U.S. 101. At each study intersection, counts were conducted by Fehr & Peers (the EIR traffic consultant) of motor vehicle turning movements, as well as bicycle and pedestrian volumes.

Existing Traffic Volumes

Weekday morning and evening peak hour intersection counts were compiled for the AM (7:00 to 9:00 AM) and PM (4:00 to 6:00 PM) peak periods, as well as weekend data that was collected for an entire eight-hour period on a typical Saturday and Sunday between 10:00 AM to 6:00 PM. For each period of counts, the 60-minute period with the highest volume of motor vehicle traffic constitutes the “peak hour” for the purposes of the traffic analysis.

Exhibit 5.1-5 shows the existing lane configurations and traffic controls at each study intersection.

Exhibit 5.1-6 shows the existing motor vehicle volumes during the AM, PM, and weekend peak hours at each study intersection.

Exhibit 5.1-7 shows the existing bicycle volumes during the AM, PM, and weekend peak hours at each study intersection.

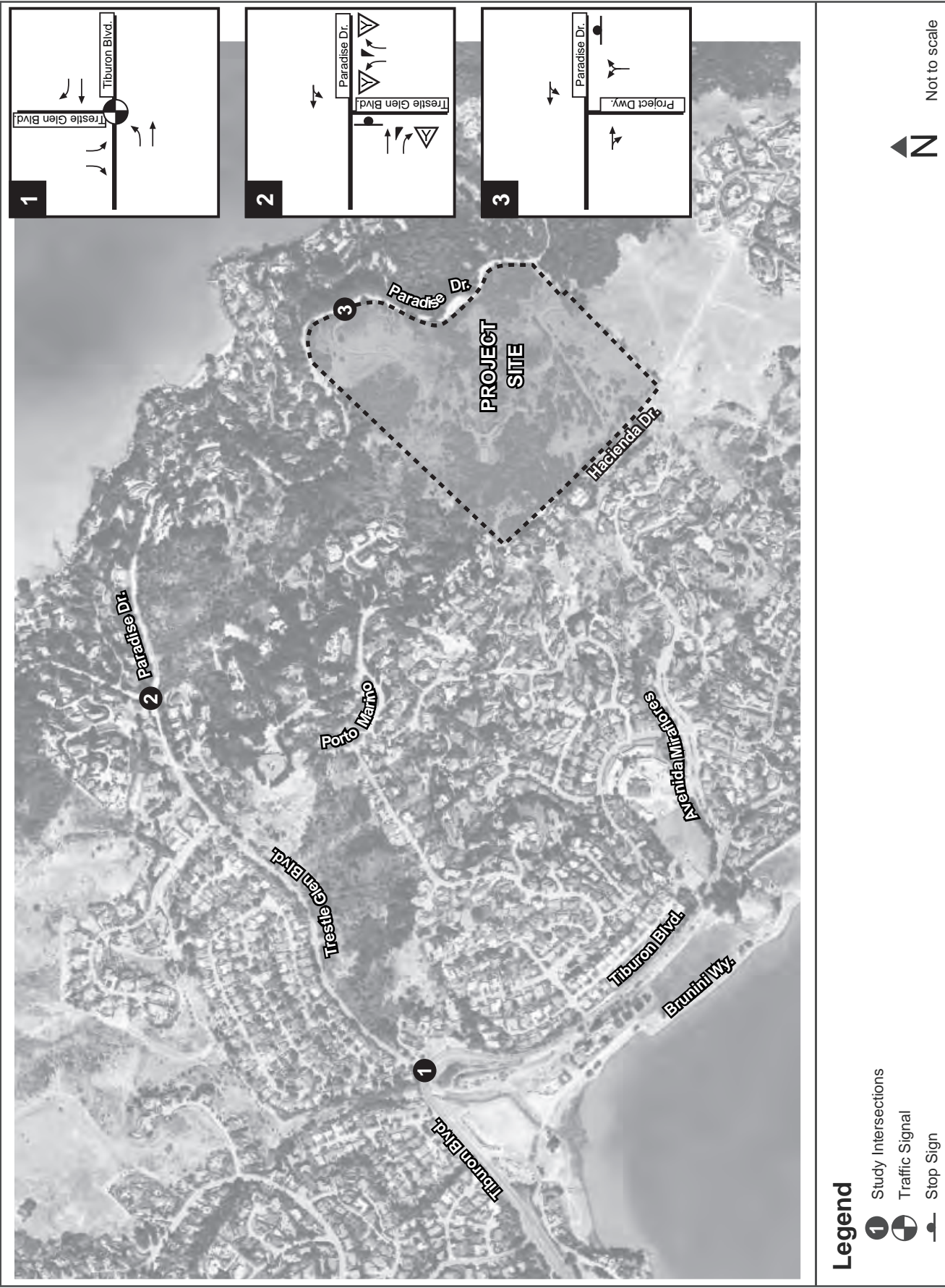
Exhibit 5.1-8 shows the existing pedestrian volumes during the AM, PM, and weekend peak hours at each study intersection.

The volumes reported represent the one-hour period with the highest traffic volume during weekday mornings and evenings, as well as the weekend. Because bicycle trips represent a significant portion of weekend trips along Paradise Drive and because the presence of bicycles along this narrow roadway oftentimes prevents vehicles from passing, bicycle traffic during the peak hour for motor vehicle traffic was included in the reported traffic volumes for the unsignalized intersections (Trestle Glen Boulevard / Paradise Drive and Paradise Drive / Project Entrance Road). Bicycle traffic at the intersection of Tiburon Boulevard / Trestle Glen Boulevard was excluded from reported traffic volumes, as Tiburon Boulevard is sufficiently wide to allow vehicles to pass bicyclists when needed.

Paradise Drive at the fire access road has existing two-way motor vehicle traffic volumes of about 80 vehicles per hour (vph) during the weekday AM and PM peak hours, and 125 vph during the weekend peak hour. Paradise Drive near its intersection with Trestle Glen Boulevard has two-way traffic volumes of approximately 455 vph during the AM and PM peak hour. Weekend peak hour traffic volumes at this intersection are approximately 310 vph. Tiburon Boulevard near its intersection with Trestle Glen Boulevard has two-way traffic volumes of approximately 2,650 vph during the weekday AM peak hour and approximately 2,200 during the weekday PM peak hour. Weekend peak hour traffic volumes at this intersection are approximately 2,100 vph.

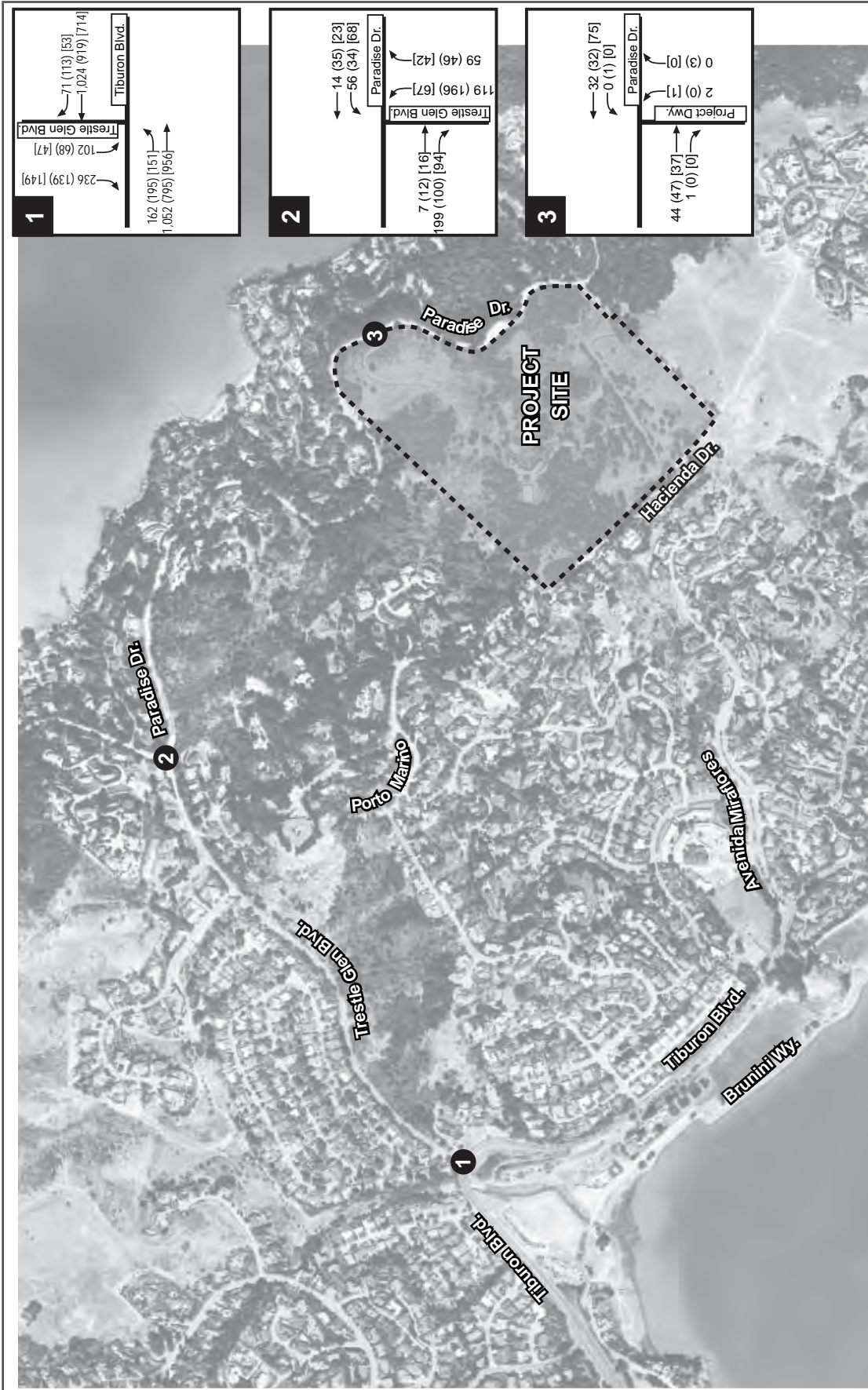
Despite the lack of pedestrian and bicycle facilities, the remote scenic qualities of Paradise Drive, along with its challenging terrain, make it an attractive route for scenic and recreational drivers and

Exhibit 5.1-5
Study Intersections, Existing Lane Configuration, and Traffic Control



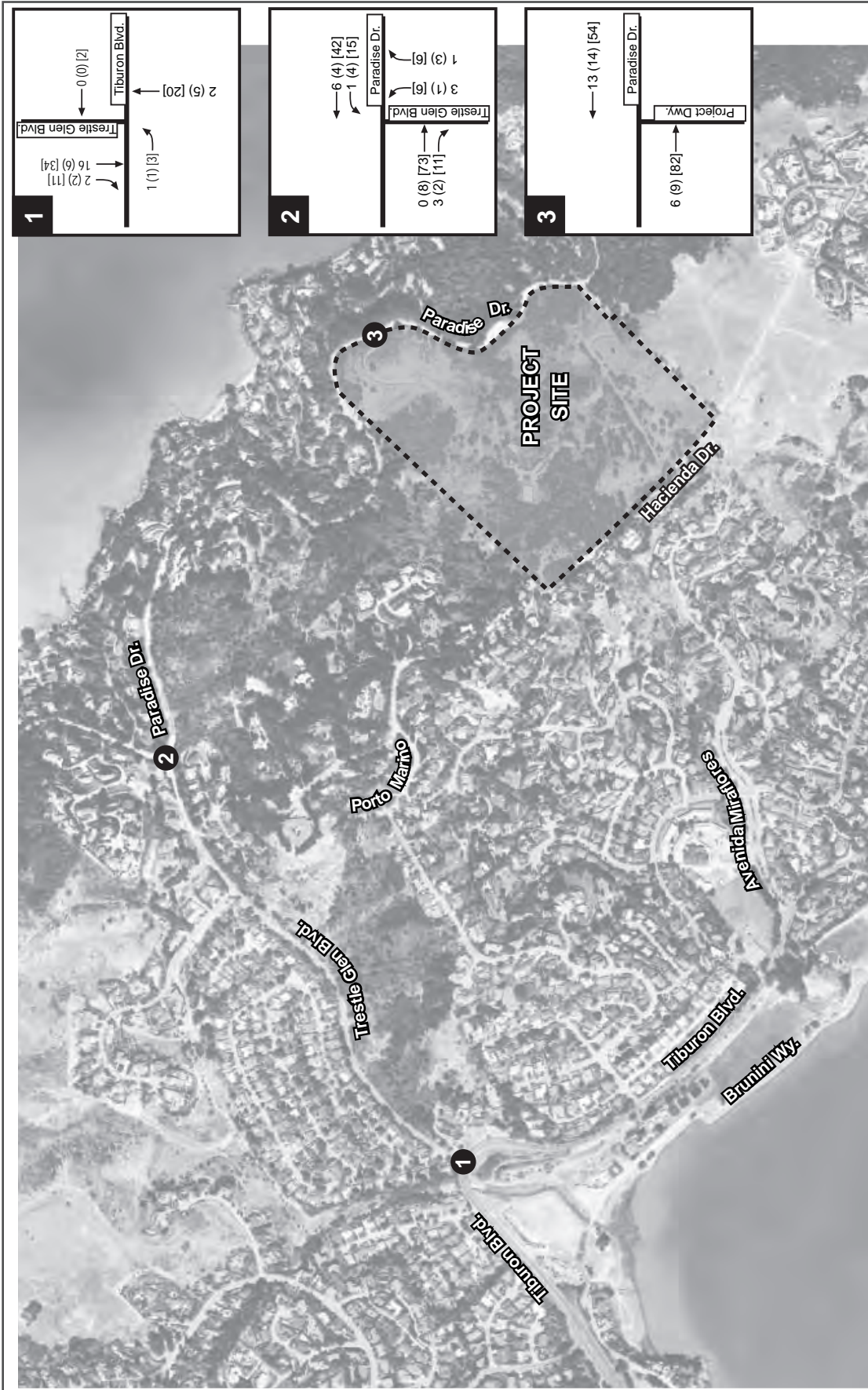
Source: Fehr & Peers, 2008 and Town of Tiburon

Exhibit 5.1-6
Existing Conditions Peak Hour Traffic Motor Vehicle Volumes



Not to scale

Exhibit 5.1-7
Existing Conditions Peak Hour Bicycle Volumes



Legend

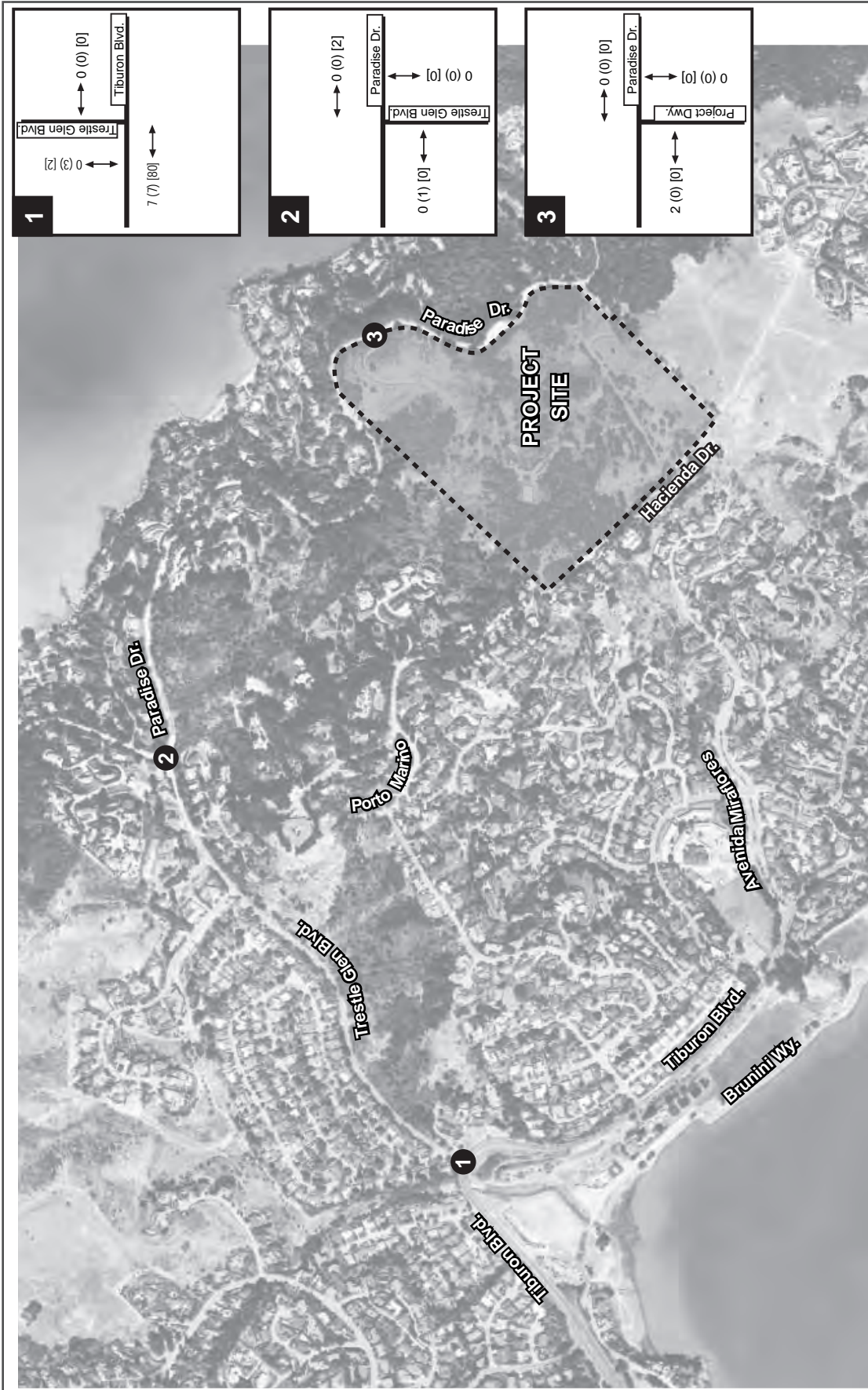
- 1** Study Intersections
- XX (YY) [ZZ] AM (PM) [Weekend]



Not to scale

Source: Fehr & Peers, 2008 and Town of Tiburon

Exhibit 5.1-8
Existing Conditions Peak Hour Pedestrian Volumes



Legend

- 1** Study Intersections
- XX (YY) [ZZ] AM (PM) [Weekend]



Not to scale

Source: Fehr & Peers, 2008 and Town of Tiburon

runners.¹⁰ In addition, skilled bicyclists consider Paradise Drive to be a critical link in the Marin County bicycle touring circuit.¹¹ As discussed in the *Sorokko Property Draft EIR*, motorists oftentimes encounter problems attempting to pass bicyclists on Paradise Drive. Motorists who encounter bicyclists must slow to the speed of the bicyclists through the narrower road segments; however, observations conducted by Fehr & Peers indicate that drivers sometimes do not wait for a safe location to pass, but instead bypass bicyclists by entering the opposing lane of traffic, endangering themselves as well as the bicyclists and other drivers.

Level of Service Methodology

The traffic volume data collected in September 2007 was used in analyzing the traffic Level of Service (LOS) at each study intersection. LOS is a qualitative assessment of perceived traffic conditions by motorists and it generally reflects driving conditions such as travel time and speed, freedom to maneuver, and traffic interruptions. LOS uses quantifiable traffic measures such as average speed, intersection control delay, and volume-to-capacity ratio to determine driver satisfaction. Reported for individual intersections, LOS is designated by a range of letters, with “A” representing the most favorable conditions (free flow) and “F” representing the least favorable conditions (jammed with excessive delays). **Exhibit 5.1-9** describes the characteristics of each LOS designation.

**Exhibit 5.1-9
 Level of Service Definitions**

Level of Service	Driver's Perception
A / B	LOS A / B is characterized by light congestion. Motorists are generally able to maintain desired speeds on two and four lane roads and make lane changes on four lane roads. Motorists are still able to pass through traffic-controlled intersections in one green phase. Stop-controlled approach motorists begin to notice absence of available gaps.
C	LOS C represents moderate traffic congestion. Average vehicle speeds continue to be near the motorist's desired speed for two and four lane roads. Lane change maneuvers on four lane roads increase to maintain desired speed. Turning traffic and slow vehicles begin to have an adverse impact on traffic flows. Occasionally, motorists do not clear the intersection on the first green phase.

¹⁰ *Tiburon Glen Revised Draft EIR*, Town of Tiburon and Nichols • Berman, May 2003, page 5.5-9.

¹¹ *Sorokko Property Draft EIR, op. cit.*, page 4.5-5.

Exhibit 5.1-9 (continued)
Level of Service Definitions

D	LOS D is characterized by congestion with average vehicle speeds decreasing below the motorist's desired level for two and four lane roads. Lane change maneuvers on four lane roads are difficult to make and adversely affect traffic flow like turning traffic and slow vehicles. Multiple cars must wait through more than one green phase at a traffic signal. Stop-controlled approach motorists experience queuing due to a reduction in available gaps.
E	LOS E is the lowest grade possible without stop-and-go operations. Driving speeds are substantially reduced and brief periods of stop-and-go conditions can occur on two and four lane roads and lane changes are minimal. At signalized intersections, long vehicle queues can form waiting to be served by the signal's green phase. Insufficient gaps on the major streets cause extensive queuing on the stop-controlled approaches.
F	LOS F represents stop-and-go conditions for two and four lane roads. Traffic flow is constrained and lane changes minimal. Drivers at signalized intersections may wait several green phases prior to being served. Motorists on stop-controlled approaches experience insufficient gaps of suitable size to cross safely through a major traffic stream.

Source: Fehr & Peers, 2007; and 2000 Highway Capacity Manual

The method of determining LOS differs for signalized and unsignalized (stop-controlled) intersections.

Signalized Intersections

Signalized intersection traffic conditions and resulting LOS is determined using the Highway Capacity Manual (HCM) methodology.¹² This operations analysis uses the intersection characteristics mentioned above to estimate the control delay per vehicle. Control delay is the portion of the total delay attributed to signal operations and includes initial deceleration, queue move-up time, stopped delay, and acceleration delay. Using this methodology, the LOS for a signalized intersection is based on the control delay per vehicle measured in seconds.

Unsignalized Intersections

Unsignalized intersections (all-way stop-controlled and side-street stop-controlled) are evaluated using the HCM methodology.¹³ Operations are defined by the average control delay per vehicle (measured in seconds) for each stop-controlled movement. This incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, the delay reported in this study is represented for the worst-case minor approach. For all-way stop-controlled intersections the level of service is represented by the average control delay for the whole intersection.

Exhibit 5.1-10 shows the average delay per vehicle (in seconds) within each LOS category for both signalized and unsignalized intersections.

¹² *Highway Capacity Manual - Special Report 209*, Chapter 16, Transportation Research Board, 2000.

¹³ *Ibid.*

Exhibit 5.1-10
Level of Service Criteria for Signalized And Unsignalized Intersections

Level of Service	Signalized Intersection Control Delay per Vehicle (Seconds)	Unsignalized Intersection Control Delay per Vehicle (Seconds)
A	≤ 10.0	≤ 10.0
B	>10.0 and ≤ 20.0	>10.0 and ≤ 15.0
C	>20.0 and ≤ 35.0	>15.0 and ≤ 25.0
D	>35.0 and ≤ 55.0	>25.0 and ≤ 35.0
E	>55.0 and ≤ 80.0	>35.0 and ≤ 50.0
F	>80.0	>50.0

Source: 2000 Highway Capacity Manual

Minimum Acceptable Standards

LOS standards for intersections in Tiburon are based on the following:

- The *Tiburon General Plan* stipulates that intersections should operate at LOS C or better, with some exceptions. One such exception is the Tiburon Boulevard / Trestle Glen Boulevard intersection, where LOS D is allowable for the PM peak hour. ¹⁴
- The *Marin County Congestion Management Program (CMP)*, developed by the Transportation Authority of Marin (TAM) stipulates that urban and suburban arterials within the County should operate at LOS D or better, while highways such as U.S. 101 should operate at LOS E or better. ¹⁵

Existing Level of Service

Exhibit 5.1-11 shows the LOS and corresponding delay at each study intersection.

¹⁴ *Tiburon General Plan*, Town of Tiburon, adopted September 7, 2005 and revised through March 31, 2006.

¹⁵ *Marin Congestion Management Program, Draft Report Update*, Transportation Authority of Marin, 2007.

Exhibit 5.1-11
Intersection Level of Service - Existing Conditions

Intersection Number	Location	Traffic Control	AM		PM		Weekend	
			Delay	LOS	Delay	LOS	Delay	LOS
1	Tiburon Blvd. / Trestle Glen Blvd.	Signalized	21.2	C	13.8	B	12.1	B
2	Paradise Dr. / Trestle Glen Blvd.	Side-street Stop	3.5	A	3.5	A	2.4	A
3	Paradise Dr. / Proposed Project Entrance Road	Side-street Stop	N/A	A	N/A	A	N/A	B

Source: Fehr & Peers, 2007.

As shown above:

- The signalized Tiburon Boulevard / Trestle Glen Boulevard intersection operates at LOS C during the AM peak hour and LOS B during the PM and weekend peak hours. These results indicate the intersection is operating acceptably during each of the peak hours.
- The stop-controlled Trestle Glen Boulevard / Paradise Drive intersection operates at LOS A during each of the peak hours.
- The intersection of Paradise Drive with the proposed project entrance road (currently a fire access road) operates with no delay since the road location is not used by private vehicles, and east-west traffic volumes on Paradise Drive are relatively light. These operational characteristics are consistent with LOS A during each of the peak hours.

REGULATORY FRAMEWORK

There are several regional agencies that have jurisdiction in regard to traffic and transportation issues. Below is a review of those agencies as well as recent planning initiatives they have taken to improve regional transportation networks.¹⁶

Metropolitan Transportation Commission

The majority of federal, State, and local financing available for transportation projects is allocated at the regional level by the Metropolitan Transportation Commission (MTC), the transportation planning, coordinating, and financing agency for the nine-county Bay Area. The current regional transportation plan, *Transportation 2030*,¹⁷ specifies a detailed set of investments and strategies throughout the

¹⁶ Additional Town of Tiburon plans, including the *Tiburon General Plan* and the *Town of Tiburon Bicycle and Pedestrian Master Plan 2008 Update* are discussed in **Chapter 4.0 Land Use and Planning**.

¹⁷ *Transportation 2030 Plan for the San Francisco Bay Area*, Metropolitan Transportation Commission, February 2005.

region from 2005 through 2030 to maintain, manage, and improve the surface transportation system. The plan specifies how anticipated federal, State, and local transportation funds will be spent in the Bay Area during the next 25 years. Most of this “committed funding” will go toward protecting the region’s existing transportation infrastructure. The Golden Gate Bridge seismic retrofit project, the Golden Gate Bridge moveable median barrier project, improvements to Sir Francis Drake Boulevard, and acquisition and upgrade of Sonoma-Marín Rail station sites are projects with committed funding. Interchange improvements at U.S. 101 and Tiburon Boulevard are included in the list of priority projects in Marin County, which is intended to be partially funded with developers’ fees.

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is the regional agency with the authority to develop and enforce regulations for the control of air pollution throughout the Bay Area. The Clean Air Plan is BAAQMD’s plan for reducing the emissions of air pollutants that lead to ozone. BAAQMD has also published CEQA Guidelines for the purpose of evaluating the air quality impact of projects and plans. One of the criteria that the Guidelines describe is that plans, including General Plans, must demonstrate reasonable efforts to implement transportation control measures included in the Clean Air Plan that identify local governments as the implementing agencies.

On-road motor vehicles are the largest source of air pollution in the Bay Area. To address the impact of vehicles, the California Clean Air Act requires air districts to adopt, implement, and enforce transportation control measures. Many of these measures are either currently being pursued by the Town or are included in the *Tiburon General Plan*.¹⁸

Transportation Authority of Marin

The Transportation Authority of Marin (TAM) is a 12-member board comprised of representatives from the Marin County Board of Supervisors and the City or Town Council of each local government in Marin County. Formerly known as the Marin County Congestion Management Agency, TAM is required to prepare, update, and monitor a Congestion Management Program (CMP) that does the following:

- Identifies a network of transportation facilities, maintains level of service standards for highways and roadways, and monitors congestion levels periodically.
- Establishes performance measures to evaluate current and future multi-modal system performance for the movement of people and goods.
- Identifies and encourages alternatives to the single occupant vehicle through the use of Transportation Demand Management (TDM) techniques.
- Develops a process to determine the impacts of local development decisions on the regional transportation network, facilitating integration of decisions about land development, transportation investment and air quality.
- Develops a computer travel model and database to be used for estimating future transportation needs and impacts.

¹⁸ Consistency with the Clean Air Plan is discussed in *Section 5.2 Air Quality*.

- Develops and updates a seven year capital improvement program to promote the goals of the CMP.

The 2003 Marin County Congestion Management Program was adopted in January 2004. Roads in the Planning Area which are part of the CMP network are Tiburon Boulevard and U.S. 101.

TAM is required by state law to biannually determine whether the County and its cities and towns conform to the requirements of the CMP. For a local jurisdiction to conform to the CMP, the following requirements must be met:

- Maintaining the highway LOS standards.
- Participating in a program to analyze the impact of land-use decisions, including the estimate of the costs associated with mitigating these impacts.
- Participating in adoption and implementation of a Deficiency Plan when highway and roadway LOS standards are not maintained on portions of the designated system.

Nonconformance with the CMP could result in the loss of an increment of gasoline tax subvention funds and not having projects programmed in the Regional Transportation Improvement Program (RTIP).

Transportation Vision for Marin County

In addition to the CMP, in 2003, TAM produced *Moving Forward, A 25-Year Transportation Vision for Marin County*, the purpose of which “is to act as a blueprint that will guide development of a detailed implementation or expenditure plan that establishes priorities against a framework of financial opportunities and constraints”. *Moving Forward* provides a framework for an integrated multi-modal transportation system that would reduce congestion by increasing transportation choices for all people in Marin County. Among the benefits highlighted for Tiburon include congestion relief at the Tiburon Boulevard / U.S. 101 interchange, expanded ferry service to San Francisco, and late night subsidized taxi service.¹⁹

Transportation Sales Tax Expenditure Plan

In November 2004, Marin County voters approved Measure A, the Traffic Relief and Better Transportation Act. Measure A is expected to generate \$331.6 million over 20 years, and the money will be used to implement the Transportation Vision through the Transportation Sales Tax Expenditure Plan developed by TAM, the Marin County Board of Supervisors, and the Marin County Transit District. The goals of the Expenditure Plan are to sustain and enhance local bus services, maintain and improve the existing roadway infrastructure, and directly address current and emerging local congestion problems.²⁰

19 *Moving Forward, a 25-Year Transportation Vision for Marin County*, Marin County Congestion Management Agency, Marin County Board of Supervisors, and Marin County Transit District, February 2003.

20 Marin County Transportation Sales Tax Expenditure Plan, County of Marin, May 6, 2004.

Water Transit Authority

The Water Transit Authority (WTA) was formed in October 1999 and charged with creating a plan for new and expanded water transit services and related ground transportation terminal access services. It was further mandated that the WTA study ridership demand, cost-effectiveness and expanded water transit's environmental impact. In the Final Implementation & Operations Plan, approved in July 2003, the WTA recommends new ferry service to several new cities, including Richmond, Berkeley, and Redwood City, and to enhance the service already provided to those cities which currently have service, including Tiburon. The WTA also has the authority to assume operation of ferry systems in order to enhance service and consolidate the many varied ferry service operators into one organization.

Town of Tiburon Traffic Mitigation Fee Program & Planned Improvements

The Town of Tiburon first established a Traffic Mitigation Fee (TMF) Program in 1980 that was later updated in 1995. Following an update to the *Tiburon General Plan* in 2005, it was necessary to update the fee program again, since the updated General Plan identifies new future development and circulation improvements that were not contained in the 1995 fee program. The TMF fee is based on the number of PM peak hour trips generated by each new project, and the fee varies between designated areas of Town (known as "traffic analysis zones"). The updated fee program was adopted by the Town Council in January 2007. The *Tiburon General Plan* calls for the following improvements that are incorporated into the TMF program:

- Add a second westbound lane on Tiburon Boulevard approaching the intersection with Trestle Glen Boulevard.
- Add a merge / acceleration lane for traffic turning left from Reed Ranch Road onto Tiburon Boulevard. (This proposed improvement has been completed.)
- Consider applying to Caltrans for installation of a traffic signal at Stewart Drive/Tiburon Boulevard to improve safety.
- Consider adding a merge / acceleration lane for traffic turning left from Gilmartin Drive onto Tiburon Boulevard, and / or a dedicated right turn only lane from southbound Gilmartin Drive to westbound Tiburon Boulevard.
- Signalize Mar West Street and Tiburon Boulevard intersection when signal warrants are met.
- Where Tiburon Boulevard intersects the Frontage Road immediately east of U.S. 101: Add a third northbound Frontage Road lane, resulting in one left turn lane, a combined left / through lane, and one right turn lane; or add a third westbound Tiburon Boulevard through lane; or add a third northbound Frontage Road lane and a third westbound Tiburon Boulevard through lane.
- Add a merge / acceleration lane for traffic turning left from Cecilia Way onto Tiburon Boulevard.

Transportation - Significance Criteria

The criteria for determining whether the proposed project results in impacts to transportation, and whether or not those impacts are significant or less-than-significant, are based on the regulatory framework described in the previous section. These criteria were refined based on discussions with Town staff and precedence established by previous studies in Tiburon.

The proposed project would have a significant transportation impact if it would result in any of the following conditions:

SIGNALIZED INTERSECTIONS

The project would have a significant impact to signalized intersections if vehicle traffic generated by the project would result in any of the following:

- At a signalized intersection operating acceptably (LOS C or better), result in an increase in average vehicle control delay of five seconds or more and an unacceptable level of service.
- At a signalized intersection already operating unacceptably (LOS D or poorer), result in an increase in average vehicle control delay of five seconds or more.
- Increased project or cumulative traffic volumes that would, in the opinion of the EIR traffic analyst, create a major safety problem at any location analyzed.

UNSIGNALIZED INTERSECTIONS

The project would have a significant impact to unsignalized intersections if vehicle traffic generated by the project would result in any of the following:

- At an unsignalized intersection, result in an increase in delay of five seconds or more and result in the Caltrans peak hour signal warrant being met.

Delay is based on the average control delay at all-way stop-controlled intersections.

Delay is based on the worst minor approach delay at side-street stop-controlled intersections.

- Increased project or cumulative traffic volumes that would, in the opinion of the EIR traffic analyst, create a major safety problem at any location analyzed.

REGIONAL ROADWAYS

The project would have a significant regional roadway impact if the project would result in exceedance of the LOS standards established by the Transportation Authority of Marin (TAM) on designated congestion management program (CMP) facilities. TAM established LOS standards for U.S. 101 (LOS E or better is acceptable) and Tiburon Boulevard (LOS D or better is acceptable). Based on these standards a significant impact would occur if:

- LOS on U.S. 101 would deteriorate from LOS E to F as a result of project traffic.
- LOS on Tiburon Boulevard would deteriorate from LOS D to E during the weekday PM peak hour as a result of project traffic.

TRANSIT

Transit impacts would be significant if the project:

- Resulted in disruption to existing transit services or facilities. This would include disruptions caused by proposed project driveways on transit streets, impacts to transit stops / shelters, and impacts to transit operations from traffic improvements proposed or resulting from the proposed project.
- Interfered with planned transit services or facilities.
- Increased trips to / from the project site that would create demand for public transit services above that which is provided or planned.
- Resulted in conflicts or inconsistencies with adopted transit system plans, guidelines, policies or standards.

BICYCLE IMPACTS

Bicycle impacts would be significant if the project:

- Disrupted existing bicycle facilities.
- Increased project or cumulative traffic volumes that would, in the opinion of the EIR traffic analyst, create a hazard for bicyclists.
- Interfered with planned bicycle facilities. This would include failure to dedicate right-of-way for planned on- and off-street bicycle facilities included in an adopted Bicycle Master Plan.
- Resulted in conflicts or inconsistencies with adopted bicycle system plans, guidelines, policies or standards.

PEDESTRIAN IMPACTS

Pedestrian impacts would be significant if the project:

- Disrupted existing pedestrian facilities. This would include adding new vehicular, pedestrian or bicycle traffic to an area experiencing pedestrian safety concerns such as an adjacent crosswalk or school.
- Increased project or cumulative traffic volumes that would, in the opinion of the EIR traffic analyst, create a hazard for pedestrians.

- Interfered with planned pedestrian facilities.
- Resulted in conflicts or inconsistencies with adopted pedestrian system plans, guidelines, policies or standards.

SITE ACCESS, INTERNAL CIRCULATION, AND PARKING

Site access, internal circulation, and parking impacts would be significant if the project:

- Resulted in inadequate emergency access.
- Resulted in on-site circulation, access, and parking areas that fail to meet industry standard design guidelines.
- Provided an insufficient quantity of on-site parking for vehicles.
- Increased off-site parking demand above what is provided in the immediate project area.
- Provided an insufficient quantity of on-site parking for bicycles.
- Resulted in the lack of, inaccessible, and / or unsafe pedestrian connections between buildings and adjacent streets and transit facilities.

CONSTRUCTION

Construction impacts would be significant if traffic generated during project construction were to:

- Result in damage to roads that provide access to the project site, such as pavement damage resulting from travel by overweight vehicles.
- Result in conditions on any public right-of-way that, in the judgment of the EIR traffic analyst, are unsafe.
- Result in a shortage of parking during periods of construction on streets near the project site, due to the parking of vehicles (including construction workers' private vehicles) on or near the project site.
- Interfere with circulation by pedestrians, bicyclists, motorists or public transit vehicles such that passage by any of those modes is substantially hindered or requires use of alternate route(s).

Transportation - Impacts and Mitigation Measures

PROJECT TRIP GENERATION

In order to analyze the impact of project-generated traffic on streets providing the primary access routes to and from the project site, a forecast was developed to predict the number of motor vehicle trips that would be generated by the proposed project. As described in **Chapter 3.0 Description of the Proposed Project**, the project would consist of 13 new single-family homes on the project site. Based on the proposed project, the trip generation forecast was prepared for daily and peak hour conditions, including the weekend peak hour. The project trip generation forecast was based on the trip generation rates shown in **Exhibit 5.1-12**.²¹

The project trip generation forecast is shown in **Exhibit 5.1-13**. The proposed project would generate 124 daily vehicle trips, including ten AM and 15 PM peak hour trips. During the weekend peak hour, the project would generate 13 vehicle trips.

Exhibit 5.1-12
Trip Generation Rate

Land Use	ITE Land Use Code	Units	Daily	AM Peak Hour			PM Peak Hour			Weekend Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Residential	210	Dwelling Units (DU)	9.57	0.22	0.56	0.78	0.70	0.44	1.14	0.51	0.43	0.94

Source: Fehr & Peers, 2008.

Exhibit 5.1-13
Project Trip Generation Forecast

Land Use	ITE Land Use Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour			Weekend Peak Hour		
					In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Residential	210	13	DU	124	3	7	10	9	6	15	7	6	13

Source: Fehr & Peers, 2008.

²¹ Weekday PM peak hour trip generation rates were obtained from *Tiburon Traffic Mitigation Fee (TMF) Program Update*, November 2006, prepared by Fehr & Peers for the Town of Tiburon. Daily, AM peak hour and Weekend peak hour trip generation rates were obtained from *Trip Generation*, 7th Edition, published by the Institute of Transportation Engineers.

PROJECT TRIP DISTRIBUTION

The likely direction and route of trips to and from the project site were obtained from the Town of Tiburon traffic model. These trips were assigned to and from U.S. 101 via Trestle Glen Boulevard and Tiburon Boulevard, consistent with the Town’s PM peak hour traffic model. The number of project trips anticipated to travel through each study intersection during the AM, PM, and weekend peak hours is shown on **Exhibit 5.1-14**.

Impact 5.1-1 Existing-plus-Project Impact on Signalized Intersections

Project traffic would increase peak hour traffic volumes at the signalized Trestle Glen Boulevard / Tiburon Boulevard intersection. The intersection would operate at an acceptable LOS under existing-plus-project conditions. This would be a less-than-significant impact.

EXISTING-PLUS-PROJECT CONDITIONS

Project-related trips were added to existing AM and PM peak hour and weekend volumes to obtain existing-plus-project volumes. The resulting existing-plus-project traffic volumes are shown in **Exhibit 5.1-15**. Intersection LOS at the signalized Tiburon Boulevard / Trestle Glen Boulevard intersection under existing and existing-plus-project conditions is shown in **Exhibit 5.1-16**. **Exhibit 5.1-16** shows that the signalized intersection would continue to operate at acceptable levels under existing-plus-project conditions. Furthermore, LOS would not change at the Tiburon Boulevard / Trestle Glen Boulevard intersection with the addition of project traffic. Average delay would increase by less than one second per vehicle under each scenario. The project’s impact on signalized study intersections under existing-plus-project conditions would be less-than-significant.

Exhibit 5.1-16

Signalized Intersection Level of Service - Existing-plus-Project Conditions

Intersection	Delay / LOS ^a (Seconds / Vehicle) ^b											
	Existing Conditions						Existing Plus Project Conditions					
	AM Peak Hour		PM Peak Hour		Weekend Peak Hour		AM Peak Hour		PM Peak Hour		Weekend Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Tiburon Blvd. / Trestle Glen Blvd.	21.2	C	13.8	B	12.1	B	21.9	C	14.4	B	12.6	B

Note: **Bold** indicates unacceptable LOS.

^a LOS = Level of Service

^b Delay in seconds calculated using the *Highway Capacity Manual*.

Source: Fehr & Peers, 2008

Mitigation Measure 5.1-1 No mitigation would be required.

Exhibit 5.1-14
Project Trip Distribution and Assignment



Legend

- 1** Study Intersections
- XX (YY) [ZZ] AM (PM) [Weekend]



Not to scale

Source: Fehr & Peers, 2008 and Town of Tiburon

Exhibit 5.1-15
Existing Plus Project Conditions Peak Hour Traffic Motor Vehicle Volumes



Legend

- 1** Study Intersections
- XX (YY) [ZZ] AM (PM) [Weekend]



Not to scale

Source: Fehr & Peers, 2008 and Town of Tiburon

Impact 5.1-2 Cumulative-plus-Project Impact on Signalized Intersections

Cumulative-plus-project conditions would increase peak hour traffic volumes at the signalized Tiburon Boulevard / Trestle Glen Boulevard intersection. The intersection would operate at an unacceptable LOS during the AM peak hour under cumulative conditions, with or without the project. While not significant alone, the additional increment of motor vehicle traffic generated by the project would contribute to the cumulative impact. Since project traffic would result in less than a five second increase in average delay, the project's contribution to the cumulative impact would be less than cumulatively considerable. This would be a less-than-significant cumulative impact.

CUMULATIVE CONDITIONS

In order to evaluate potential impacts resulting from future development in Tiburon, an analysis of cumulative traffic conditions was conducted. Cumulative traffic volumes are based on the Town of Tiburon's PM peak hour traffic model, which forecasts the growth in traffic that would be generated by buildout of the *Tiburon General Plan*. Since the traffic model does not include traffic growth forecasts for the AM or weekend peak hours, cumulative traffic during those peak hours was derived by determining the percent increase in PM peak hour traffic at each intersection, and applying the same rate of growth to the AM and weekend hours. The resulting cumulative traffic volumes (including project trips) are shown on **Exhibit 5.1-17**.

Exhibit 5.1-18 shows intersection LOS at the signalized Tiburon Boulevard / Trestle Glen Boulevard intersection under cumulative conditions, with and without the project. LOS is shown for the existing lane configuration, and for the planned configuration called for in the *Tiburon General Plan*, which will consist of adding a second through lane in the westbound direction.

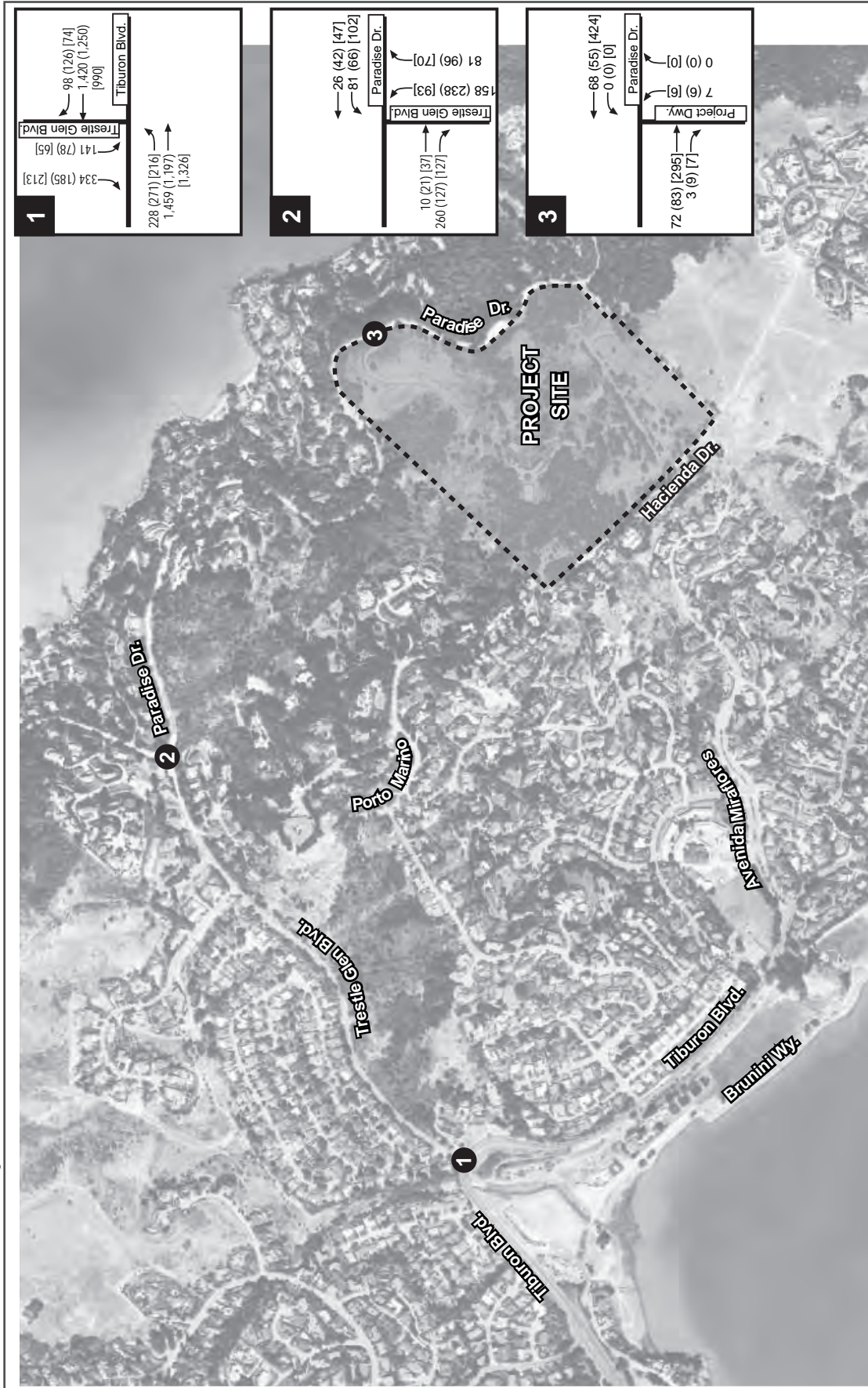
Exhibit 5.1-18 shows that with cumulative conditions the intersection would operate acceptably, with or without the project, during the PM and weekend peak hours.

Exhibit 5.1-18 shows that with cumulative conditions, with and without the project, the Tiburon Boulevard / Trestle Glen Boulevard signalized intersection would operate unacceptably during the AM peak hour. The intersection would operate at LOS F during the AM peak hour with the existing lane configuration. Following the installation of planned improvements, the intersection would still operate unacceptably, at LOS D, during the AM peak hour. This would be a significant cumulative impact.

With the existing lane configuration, the addition of project traffic would increase the average delay by less than five seconds (from 87.5 seconds to 89.8 seconds for a change of 2.3 seconds). Following the installation of planned improvements, the addition of project traffic would increase the average delay by less than five seconds (from 42.2 seconds to 43.4 seconds for a change of 1.2 seconds). Because the additional delay caused by the proposed project would be less than the significance criteria for signalized intersections (an increased in average vehicle control delay of five seconds or more) the project's contribution to the cumulative impact would be less than cumulatively considerable.

Mitigation Measure 5.1-2 Mitigation of the cumulative impact would require the installation of a second through lane in the eastbound direction at the Tiburon Boulevard / Trestle Glen Boulevard intersection (in addition to the planned lane in the westbound direction).

**Exhibit 5.1-17
Cumulative Plus Project Conditions Peak Hour Traffic Motor Vehicle Volumes**



Legend

- 1** Study Intersections
- XX (YY) [ZZ] AM (PM) [Weekend]



Not to scale

Source: Fehr & Peers, 2008 and Town of Tiburon

Significance After Mitigation Implementation of this mitigation measure would reduce this cumulative impact to a less-than-significant level. This improvement, however, is not currently planned, is not included in the Town’s TMF program, and would likely require alterations to the open space and bicycle trail adjacent to the roadway. Implementation of this mitigation measure, therefore, may be infeasible. This would be a significant unavoidable cumulative impact.

Responsibility and Monitoring The Town of Tiburon would be responsible to implement Mitigation Measure 5.1-2.

Exhibit 5.1-18
Signalized Intersection Level of Service - Cumulative Conditions

Intersection	Delay / LOS ^a (Seconds / Vehicle) ^b											
	Cumulative Without Project Conditions						Cumulative Plus Project Conditions					
	AM Peak Hour		PM Peak Hour		Weekend Peak Hour		AM Peak Hour		PM Peak Hour		Weekend Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Tiburon Blvd. / Trestle Glen Blvd. (existing configuration)	>80 (87.5)	F	26.9	C	21.0	C	>80 (89.8)	F	28.5	C	21.9	C
Tiburon Blvd. / Trestle Glen Blvd. (planned configuration) ^c	42.2	D	13.0	B	17.9	B	43.4	D	15.6	B	18.5	B

Note: **Bold** indicates unacceptable LOS (LOS D or worse for signalized intersections). At intersections operating unacceptably without the project, the impact would be significant if the project were to increase delay by five seconds or more.

a LOS = Level of Service

b Delay in seconds calculated using the *Highway Capacity Manual*.

c Planned configuration reflects the addition of a second westbound through lane, as called for by the Tiburon General Plan.

Source: Fehr & Peers, 2008

Impact 5.1-3 Existing-plus-Project and Cumulative Impacts on Unsignalized Intersections
 Project traffic and cumulative-plus-project conditions would increase traffic at the unsignalized Paradise Drive / Trestle Glen Boulevard and Paradise Drive / Project Entrance Road intersections. Each intersection would continue to operate at an acceptable LOS. This would be a less-than-significant project impact and a less-than-significant cumulative impact.

EXISTING-PLUS-PROJECT CONDITIONS

Project-related impacts to the unsignalized study intersections were evaluated similarly to the signalized intersections. Project-related trips were added to existing AM, PM, and weekend peak hour volumes to obtain existing-plus-project volumes. **Exhibit 5.1-19** shows intersection LOS at the

unsignalized Paradise Drive / Trestle Glen Boulevard and Paradise Drive / Project Entrance Road intersections under existing and existing-plus-project conditions. Following the addition of project traffic, delay at each unsignalized study intersection would increase by less than one second, and Caltrans signal warrants for peak hour conditions would not be triggered. Therefore, project impacts to delay and LOS at unsignalized intersections under existing-plus-project conditions would be less-than-significant.

Exhibit 5.1-19
Unsignalized Intersection Level of Service - Existing-plus-Project Conditions

Intersection	Delay / LOS ^a (Seconds / Vehicle) ^b											
	Existing Conditions						Existing Plus Project Conditions					
	AM Peak Hour		PM Peak Hour		Weekend Peak Hour		AM Peak Hour		PM Peak Hour		Weekend Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Paradise Drive / Trestle Glen Boulevard ^c	11.8	B	16.1	C	10.5	B	11.8	B	16.1	C	10.5	B
Paradise Drive / Project Entrance Road ^d	---	A	---	A	---	A	0.3	A	0.2	A	0.2	A

Note: **Bold** indicates unacceptable LOS.

a LOS = Level of Service

b Delay in seconds calculated using the *Highway Capacity Manual*.

c Treated as a side-street stop-controlled intersection (LOS based on side-street delay from the west leg of the intersection).

d Side-street stop controlled intersection; LOS is based on delay approaching from the side street (Project Access Road).

Source: Fehr & Peers, 2008

CUMULATIVE CONDITIONS

As with the signalized study intersection, cumulative impacts to the unsignalized study intersections were evaluated based on assumptions about future development in Tiburon. Project-related trips were added to cumulative (without project) AM and PM peak hour and weekend volumes to obtain cumulative-plus-project volumes. Since the Town of Tiburon traffic model contains growth forecasts for the PM peak hour (but not the AM or weekend peak hours), a growth factor was used to forecast AM and weekend peak hour traffic growth resulting from development in Tiburon (derived from the percent increase in PM peak hour volumes, compared with existing volumes).

Exhibit 5.1-20 shows intersection LOS at the unsignalized Paradise Drive / Trestle Glen Boulevard and Paradise Drive / Project Access Road intersections under cumulative conditions, with and without the project. Following the addition of project traffic, delay at each unsignalized study intersection would increase by less than one second, and Caltrans signal warrants would not be triggered. Therefore, cumulative impacts to delay and LOS at unsignalized intersections would be less-than-significant.

Exhibit 5.1-20
Unsignalized Intersection Level of Service - Cumulative Conditions

Intersection	Delay / LOS ^a (Seconds / Vehicle) ^b											
	Cumulative Without Project Conditions						Cumulative Plus Project Conditions					
	AM Peak Hour		PM Peak Hour		Weekend Peak Hour		AM Peak Hour		PM Peak Hour		Weekend Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Paradise Drive / Trestle Glen Boulevard ^c	13.0	B	16.1	C	11.0	B	13.0	B	19.0	C	11.0	B
Paradise Drive / Project Access Road ^d	---	A	---	A	---	A	0.3	A	0.2	A	0.2	A

Note: **Bold** indicates unacceptable LOS.

^a LOS = Level of Service

^b Delay in seconds calculated using the *Highway Capacity Manual*.

^c Evaluated as a side-street stop-controlled intersection (LOS based on side-street delay from the west leg of the intersection).

^d Side-street stop controlled intersection; LOS is based on delay approaching from the side street (Project Access Road).

Source: Fehr & Peers, 2008

Based on the analysis described above, existing-plus-project and cumulative-plus-project impacts to delay and LOS at the unsignalized study intersections would be less than significant.

Mitigation Measure 5.1-3 No mitigation would be required.

Impact 5.1-4 Safety Impact Due to Inadequate Sight Distance Approaching the Unsignalized Intersection of Paradise Drive with the Project Entrance

Visibility for drivers approaching the intersection of Paradise Drive with the project entrance road would not meet the AASHTO standard for stopping sight distance and would, in the opinion of the EIR traffic analyst, result in a potentially unsafe condition. This would be a significant impact.

Field observations conducted by Fehr & Peers show that the proposed entrance road (the Main Road) would be visible for less than 220 feet when approaching from the east on Paradise Drive. Based on the prevailing speed of vehicles traveling on Paradise Drive, the entrance road would be placed at a location that would not provide adequate stopping sight distance for westbound motorists. Approaching from the west, the entrance road would be visible for approximately 220 feet, thus providing adequate sight distance for eastbound motorists.

“Sight distance” refers to the minimum distance that a driver traveling at “critical speeds” (the speed below which 85 percent of the vehicles are traveling) must have to see a vehicle entering the road from a side street or driveway and to be able to stop without colliding with the vehicle. **Exhibit 5.1-21** shows the minimum sight distance requirements according to vehicle speed and roadway grade, based

on American Association of State Highway and Transportation Officials (AASHTO) design standards.²²

Exhibit 5.1-21
Minimum Sight Distance Standards

Vehicle Speed (mph)	Stopping Sight Distance (feet)			
	Grade			
	0%	3%	6%	9%
15	80	80	82	85
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287

Source: AASHTO Geometric Design of Highways and Streets, 2004

The measured critical speed for this section of Paradise Drive is 31 to 32 mph.²³ Based on AASHTO standards, these vehicle speeds require a minimum stopping distance of approximately 220 feet.

Access to the project site would be provided by improving the existing fire access road that intersects Paradise Drive between Seafirth Road and Paradise Cove.²⁴ The entrance road would intersect Paradise Drive at an approximate 90-degree angle. Approaching the road from the west, the road would be visible from a distance of approximately 220 feet, consistent with the ASHTO standard. However, when approaching from the east due to the curvature of Paradise Drive, the road would not be visible until drivers would be within approximately 110 feet. **Exhibit 5.1-22** shows the current extent of the sight distance approaching the entrance road in both directions.

Therefore, sight lines for drivers approaching the entrance road from the east on Paradise Drive would not meet minimum stopping sight distance requirements based on prevailing travel speeds. The curvature of the roadway and existing terrain on the project side of the roadway prevents greater visibility. Additional factors affecting movements in and out of the entrance road include the narrow shoulders on either side of the road that slope downward into a drainage ditch.

In the opinion of the EIR traffic analysts, this would be a significant impact due to potentially unsafe conditions at the unsignalized intersection of the entrance road and Paradise Drive.

²² A Policy on Geometric Design of Highways and Streets, Chapter III, Stopping Sight Distance, American Association of State Highway and Transportation Officials, 2004.

²³ Sorokko Property Final Environmental Impact Report, *op. cit.*, page 4.5-10.

²⁴ As described in **Chapter 3.0 Description of the Proposed Project**, site access would be provided by a new roadway from Paradise Drive. The intersection with Paradise Drive would be at the existing fire road access with Paradise Drive. This road is referred to as the Main Road.

**Exhibit 5.1-22
Sight Distance Approaching Project Entrance**



Legend

 Project Entrance (Proposed)

 Sight Distance Approaching Project Entrance¹

¹ Project entrance should have minimum sight distance of 220 feet in order to allow vehicles to safely stop, based on prevailing speed of 32 miles per hour (mph) on Paradise Drive.



Not to scale

Source: Fehr & Peers, 2008 and Town of Tiburon

Mitigation Measure 5.1-4 A minimum of 220 feet of sight distance shall be provided for vehicles approaching the entrance road traveling west on Paradise Drive. This could be achieved by cutting back a portion of the hillside east of the entrance road so that the entrance would be visible to westbound motorists from a distance of at least 220 feet. A retaining wall, approximately 90 feet in length and ranging in height up to eight feet would likely be required. **Exhibit 5.1-23** shows the extent of the mitigation measure.

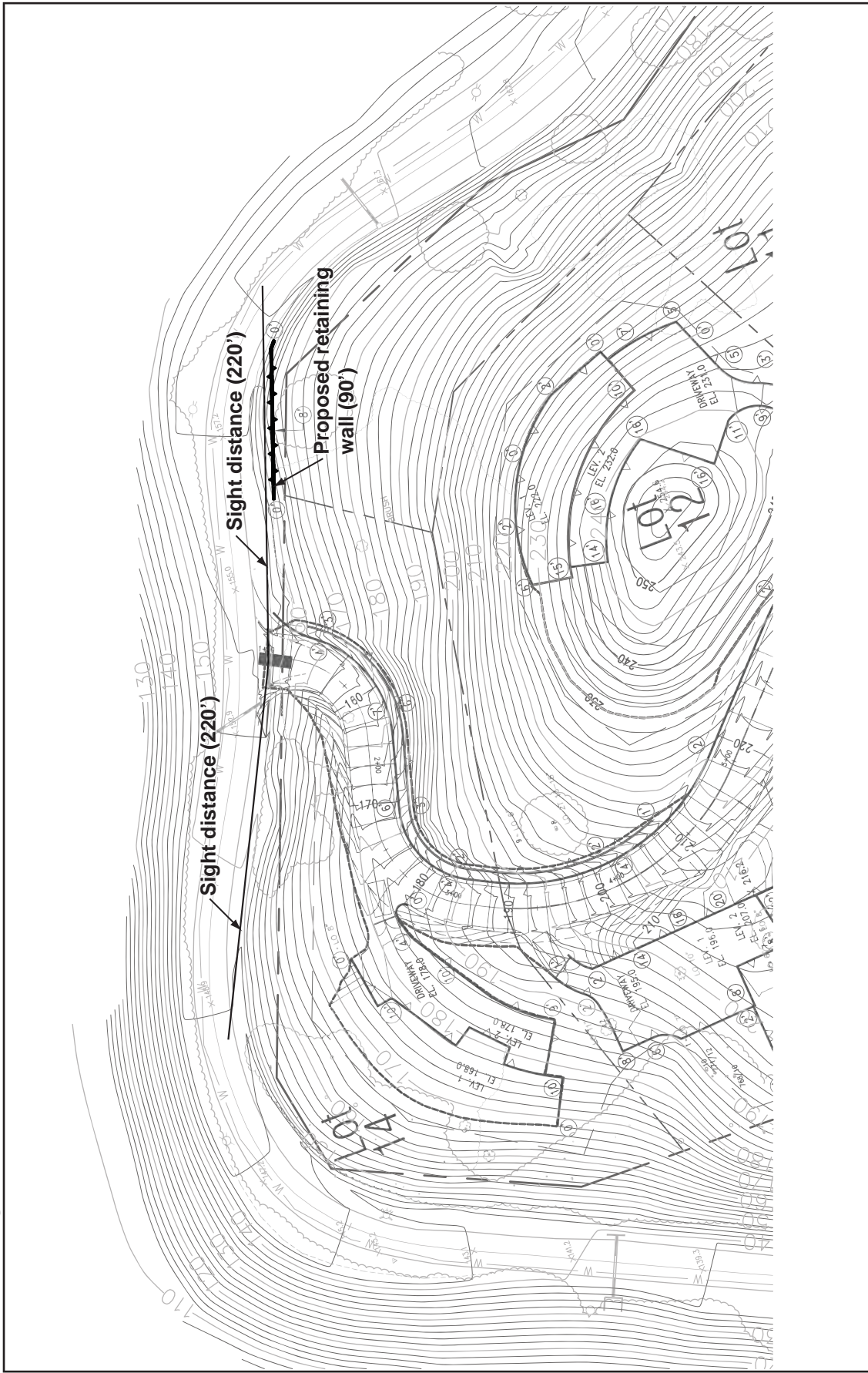
As an alternative to Mitigation Measure 5.1-4 the EIR analysts investigated potential alternative locations for access from Paradise Drive. However, due to the slope of the project site, it would not be possible to provide an adequate access road at an alternative location that would meet access requirements (particularly related to the required slope necessary for access by fire trucks and emergency vehicles) without extensive grading that would conflict with community goals related to the rural character of Paradise Drive. Therefore, in balancing the interests of providing access to the site, while minimizing the need to substantially alter the project frontage, alternate access locations were determined to be infeasible.

Significance After Mitigation Implementation of this mitigation measure would provide adequate stopping sight distance for westbound motorists approaching the proposed entrance road, in compliance with the AASHTO recommended sight distance. Based on the prevailing speed of 31 to 32 miles per hour, a stopping sight distance of 220 feet is required in order to comply with the AASHTO standard. Implementation of Mitigation Measure 5.1-4 would reduce this impact to a less-than-significant level.

Mitigation Measure 5.1-4 also would allow motorists, bicyclists and pedestrians exiting the project entrance road to view motorists approaching the project entrance at a distance of 220 feet.

Responsibility and Monitoring The applicant would be responsible for design and installation of this measure in cooperation with Marin County and the Town of Tiburon. Marin County and the Town of Tiburon would be responsible for implementing and / or overseeing construction (as funded by the project applicant), and would also be responsible for maintenance upon completion of the improvements.

**Exhibit 5.1-23
Preliminary Sight Distance Study**



Impact 5.1-5 Impact on Regional Roadways

The project would generate trips that would travel on two facilities that are designated as routes of regional significance as part of the County Congestion Management Program (CMP): Tiburon Boulevard and U.S. 101. The Tiburon General Plan 2020 EIR identified a significant unavoidable impact to U.S. 101 resulting from regional growth, including growth within Tiburon which includes the proposed project. This would be a significant cumulative impact.

TIBURON BOULEVARD

The project would generate ten AM and 15 PM peak hour trips, as shown on **Exhibit 5.1-13**. Project-generated peak hour trips would include travel on Tiburon Boulevard, a regional roadway that is part of the Marin County Congestion Management Program (CMP) network. The Marin County CMP identifies the weekday PM peak hour as the period of analysis, and LOS D or better is acceptable for arterial segments such as Tiburon Boulevard.²⁵ As described in *Impact 5.1-1 Existing-plus-Project Impacts on Signalized Intersections* and *Impact 5.1-2 Cumulative Impacts on Signalized Intersections* the Tiburon Boulevard / Trestle Glen Boulevard intersection would operate at LOS C during the PM peak hour under cumulative conditions, with or without the project, following installation of the planned improvement at that location (installation of a second through lane in the westbound direction). As demonstrated by the LOS analysis at that intersection, delay would remain virtually unchanged, and LOS would not degrade, following the addition of project trips. Furthermore, the project would contribute to the Town's Traffic Mitigation Fee program, thus providing a "fair share" contribution towards funding of planned roadway improvements on Tiburon Boulevard. Therefore, impacts to the designated CMP facility, Tiburon Boulevard, would be less-than-significant.

U.S. 101

Project trips also would ultimately utilize another County CMP facility, U.S. 101, for regional travel. The *Tiburon General Plan 2020 EIR* previously identified a significant unavoidable impact to U.S. 101 resulting from regional development, including development within Tiburon (including development of the project site).²⁶ The addition of trips generated by development on the project site would represent a relatively small proportion of overall growth on the U.S. 101 corridor. Project trips would constitute approximately 0.1 percent of overall traffic (U.S. 101 carries approximately 15,000 vehicles during the PM peak hour). Although the proposed project would add very little traffic to the U.S. 101 corridor it would add an increment of cumulative traffic which was previously identified as a significant unavoidable cumulative impact.

Mitigation Measure 5.1-5 Same as Mitigation Measure 4.2-4 in the *Tiburon General Plan 2020 EIR*. Maintain an active role in the Transportation Authority of Marin and / or U.S. 101 Corridor planning program with the purpose of ensuring that improvements enhance inter-city movement. Corridor improvements could include additional travel lanes in some segments, operational improvements at interchanges, and measures to reduce vehicle trips (such as regional transit improvements). Ultimately, implementation of such measures is outside the jurisdiction of the Town of Tiburon.

²⁵ *Marin County Congestion Management Program: 2007 Report Update*, Transportation Authority of Marin, October 2007, page 6.

²⁶ *Tiburon General Plan 2020 Draft EIR*, *op. cit.*

Significance After Mitigation Same as for Mitigation Measure 4.2-4 in the *Tiburon General Plan 2020 EIR*. Since congestion on U.S. 101 is largely a regional issue and the Town does not have the necessary jurisdiction or resources to ensure that measures are implemented to reduce congestion on the corridor, this is a significant unavoidable impact.

Responsibility and Monitoring Same as for Mitigation Measure 4.2-4 in the *Tiburon General Plan 2020 EIR*. The Town of Tiburon shall be responsible for ensuring continued collaboration with regional agencies, while Caltrans and TAM shall be responsible for implementing and securing full funding for improvements.

Impact 5.1-6 Project Impact on Transit

Project related traffic would not adversely impact transit operations. Increase in demand for transit generated by the proposed project would be met by existing services. This would be a less-than-significant impact.

The nearest transit line to the project site, bus route 9 (operated by Golden Gate Transit), provides service along Stewart Drive near the south side of the project. The portion of the route nearest the project site is approximately one-half mile away, with no direct vehicular travel route between the site and the nearest bus stop. The proposed project includes a public trail which would extend along the site's western and southern edges. The proposed trail would connect to Hacienda Drive, providing pedestrian access to the public transit service on Stewart Drive.

The project would not generate significant demand for transit ridership, and the bus and ferry lines serving the Tiburon Peninsula have sufficient capacity to accommodate project-generated transit trips. Therefore, the project would not result in significant unmet demand for transit service. Furthermore, the project would not interfere with planned transit facilities or conflict with adopted transit plans.

Near the project site, project-related construction and residential traffic would travel on Trestle Glen Boulevard and Paradise Drive, neither of which features transit service. Therefore, project-generated traffic would not significantly impact transit operations.

Therefore, the project would result in a less-than-significant impact to transit services and facilities.

Mitigation Measure 5.1-6 No mitigation would be required.

Impact 5.1-7 Project Impact on Bicycle Facilities and / or Safety

Project site residents would contribute slightly to the number of bicyclists using Paradise Drive, a narrow and winding roadway that lacks shoulders and can be challenging for inexperienced cyclists. The project also would add motor vehicle traffic to the roadway, which has limited areas for motorists to pass bicyclists given the narrow width and frequent curves. While not significant alone, this additional increment of motor vehicle and bicycle traffic would exacerbate already constrained conditions. This would be a significant cumulative impact.

The project would generate bicycle and vehicle traffic that would travel on Paradise Drive and Trestle Glen Boulevard. Currently, there are no bikeways on Paradise Drive or Trestle Glen Boulevard, although both roadways have been designated as Class III bicycle facilities by the Town of Tiburon²⁷

²⁷ Town of Tiburon Bicycle and Pedestrian Master Plan 2008 Update, Alta Planning + Design, 2008.

and Marin County.²⁸ The County's *Unincorporated Area Bicycle and Pedestrian Master Plan* contains a bikeways map (figure 5.2) indicating that the paved shoulders along Paradise Drive should be widened to safely accommodate bicycles. Similarly, the Town's *Bicycle and Pedestrian Master Plan* states that the shoulder along Paradise Drive should be periodically widened to provide a minimum width of four feet, particularly at the following types of locations:

- Turnouts: provided periodically to allow motorists to safely pass cyclists.
- Uphill side of the road: allows cyclists to move over as they slow down during climbs, enabling motorists to safely pass.
- Blind corners: Allows cyclists to move over and provides extra "shy zone" through turns with limited lane widths.

Paradise Drive is designated as a portion of the *San Francisco Bay Trail* that extends from San Jose to Napa along both sides of the Bay. Both roadways, in particular Paradise Drive, are used by significant volumes of bicyclists. The *Paradise Drive Visioning Plan* includes an action recommendation to "investigate ways to provide safety improvements without making major changes to the roadway".²⁹

Given the unique travel patterns on Paradise Drive (with peak bicycle volumes exceeding peak motor vehicle volumes), and taking into account the narrow roadway that constrains passing in most locations, the addition of motor vehicle trips resulting from the project would result in impacts to bicyclists traveling on Paradise Drive. While the relatively small amount of motor vehicle trips (15 trips during the PM peak hour, and 13 trips during the weekend peak hour) would not be significant when taken alone, EIR traffic studies prepared for other projects in the area have found the addition of project traffic to Paradise Drive to result in a cumulatively significant impact to bicyclists. In particular, two previous studies on Paradise Drive have identified "unsafe" conditions for bicyclists on Paradise Drive that would be exacerbated by even minor increases in vehicle traffic:

- The *Sorokko Property Draft EIR*,³⁰ which analyzed a proposed development immediately across Paradise Drive from the project site, found that Paradise Drive "is unsafe for use by bicyclists and pedestrians" due to the lack of "consistent width shoulders." Those findings noted that consistent width shoulders would "enable bicyclists and pedestrians to use the roadway outside the travel way (i.e., out of harm's way from faster-moving traffic)." The *Sorokko Project Draft EIR* determined that the project would contribute to safety problems for pedestrians and bicyclists on Paradise Drive. The conditions of approval by Marin County for the Sorokko project included a requirement that the project applicant widen the shoulder to a width of four feet along the frontage of the Sorokko property to safely accommodate bicycles.

²⁸ *Unincorporated Area Bicycle and Pedestrian Master Plan*, Marin County, 2001.

²⁹ *Paradise Drive Visioning Plan*, The Marin County Community Development Agency – Planning Division, February 1991.

³⁰ *Sorokko Property Draft Environmental Impact Report*, *op. cit.*, page 4.5-15.

- The *Tiburon Glen Project Draft EIR*³¹ also contained a similar finding, noting that although motor vehicle traffic resulting from that project would only “slightly increase the number of vehicles traveling along Paradise Drive,” that a cumulative impact would occur because “any increase in vehicles would contribute to unsafe conditions along Paradise Drive.”

This would be a significant cumulative impact and the proposed project would make a cumulatively considerable contribution to this cumulative impact.

Mitigation Measure 5.1-7 Provide a consistent-width shoulder (four to six feet in width) on the project frontage along the south side of Paradise Drive (directly abutting the project site), beginning at least 200 feet west of the proposed project entrance road and extending east to the existing driveway that serves the Rabin property (a distance of approximately 1,700 feet, or one-third of a mile). Along most of the project frontage this mitigation can be implemented by installing a drainage pipe in place of the existing drainage ditch and widening the roadway shoulder to cover the new drainage pipe. Alternatively, for the roadway segment immediately east of the project entrance, implementation of Mitigation Measure 5.1-4 would provide space for widening the shoulder for a 220-foot segment of Paradise Drive. Since the property frontage already contains adequate space to accommodate the wider shoulder in most locations secondary impacts resulting from this mitigation would be less-than-significant.

This mitigation is consistent with the conditions of approval imposed by Marin County for development of the Sorroko property, which require that the Sorroko project applicant improve Paradise Drive along the frontage of the property to provide a minimum of four feet of paving between the “fogline” (the white line separating the travel lane from the shoulder) and edge of the road.

Significance After Mitigation Implementation of Mitigation Measure 5.1-7 would reduce the project’s contribution to cumulative impacts to bicyclists to a less-than-significant level, since provision of a four-to-six foot wide shoulder would allow bicyclists to travel outside of the motor vehicle travel way for the eastbound segment of Paradise Drive along the project site. This mitigation would also allow eastbound motorists to safely pass bicyclists on this segment of Paradise Drive, thus enhancing motor vehicle circulation as well. Although narrow shoulders would remain on other segments of Paradise Drive, the mitigation would result in a net improvement to bicycle and motor vehicle circulation along the project frontage, therefore mitigating the increased vehicle and bicycle traffic that would be generated by the project.

Responsibility and Monitoring The applicant would be responsible for design and installation of this measure in cooperation with Marin County and the Town of Tiburon. Marin County and the Town of Tiburon would be responsible for implementing and / or overseeing construction (as funded by the project applicant), and would also be responsible for maintenance upon completion of the improvements. Implementation of this mitigation shall be coordinated with implementation of Mitigation Measure 5.1-4.

Implementation of this measure could be coordinated with the proposed Sorroko project on the opposite side of Paradise Drive. Since both projects would contribute to a cumulatively significant impact on bicyclists, and the two projects share a segment of Paradise Drive, the two projects could jointly provide bicycle improvements in both directions westbound and eastbound as shown on

³¹ *Tiburon Glen Revised Draft Environmental Impact Report*, Nichols • Berman, May 2003, pages 5.5-17 and 5.5-18.

Exhibit 5.1-24. Each of the two projects could be responsible for funding the installation of a four-to-six foot wide shoulder on their respective side of Paradise Drive.

Impact 5.1-8 Project Impact on Pedestrian Circulation

Project implementation would not result in disruptions to existing pedestrian facilities, cause traffic to increase to the point of causing a safety hazard for pedestrians, or interfere with planned pedestrian facilities. This would be a less-than-significant impact.

Pedestrian volumes on Paradise Drive are relatively low. **Exhibit 5.1-8** shows the number of pedestrians traveling through the study intersections during the AM, PM, and weekend peak periods. Given the low volume of pedestrians, increased motor vehicle traffic resulting from the project would not significantly impact pedestrian circulation on Paradise Drive.

The project site would have a public pedestrian path along its western and southern edges. The trail would connect to one of the internal roadways as well as to Hacienda Drive.

Within the project site, sidewalks would not be provided. However, the internal roadway width of 24 feet would be adequate to allow pedestrians to circulate along with motor vehicles or bicyclists, given the low volumes of vehicles that are anticipated to use either the Main Road or the Upper Road.

The project would not disrupt or interfere with existing or planned pedestrian facilities, and would not result in inconsistencies with adopted pedestrian plans. Therefore, impacts to pedestrian circulation resulting from the project would be less-than-significant.

Mitigation Measure 5.1-8 No mitigation would be required.

Impact 5.1-9 Project Impacts Related to Site Access

Access to the proposed single-family homes would be provided from Paradise Drive by the proposed project entrance that would be located near the western boundary of the site. Access to the existing single-family home located on the Rabin property would continue to utilize the existing driveway located near the eastern edge of the site. Impacts related to site access would be less-than-significant.

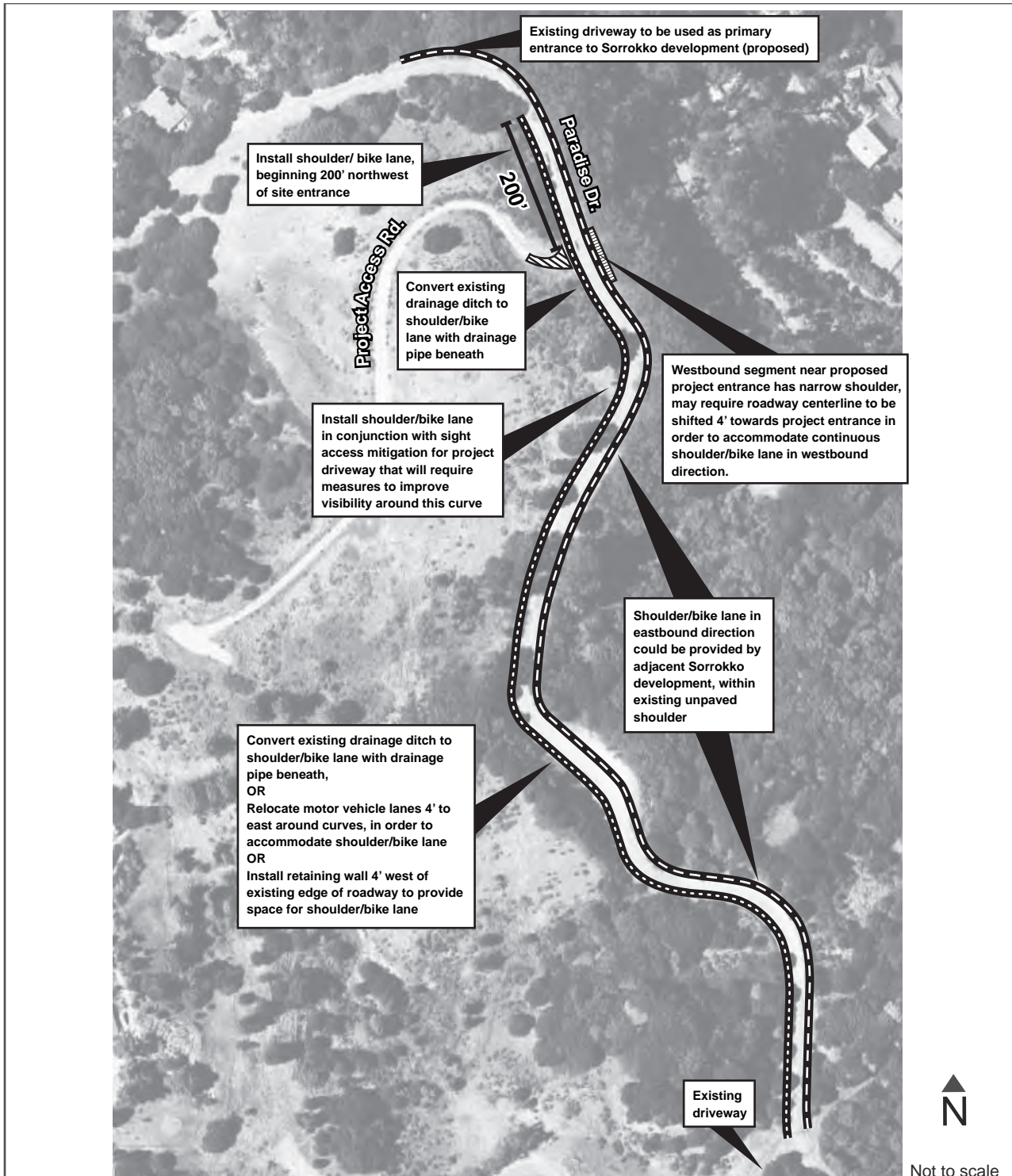
As noted in *Impact 5.1-4 Safety Impact Due to Inadequate Sight Distance Approaching the Unsignalized Intersection of Paradise Drive with the Project Entrance*, the project would result in a significant impact due to the placement of the entrance road at a location with inadequate stopping sight distance on Paradise Drive. The site access analysis below pertains to the design of the proposed entrance road, and to the continued use of the existing driveway to provide access to the existing single-family home on the Rabin property.

Since Paradise Drive is a County road, the site access evaluation for the purpose of evaluating significant environmental impacts is primarily based on conformance with Marin County Development Code standards for driveway access. The Town of Tiburon could require conformance with additional standards, as needed to comply with the Town of Tiburon Municipal Code.




Transitions - *The Marin County Development Code requires that new driveway vertical transitions start at least four feet back from the edge of the adjoining road.*

The proposed entrance road would have an upward vertical transition beginning more than four feet from the edge of Paradise Drive, making it consistent with Marin County Development Code transition requirements.

**Exhibit 5.1-24
Bicycle Mitigation Option**



Legend

-  Site Entrance (Proposed)
-  Eastbound Bicycle Lane or 4'-6' Shoulder (Alta Robles Project Frontage)
-  Westbound Bicycle Lane or 4'-6' Shoulder (Sorrokko Property)*

* Project mitigation is limited to provision of eastbound bicycle lane or 4'-6' shoulder. Westbound segment is recommended as mitigation for adjacent development (proposed for Sorrokko site).

Common Driveways - *The Marin County Development Code encourages common driveways for residential uses to improve or maintain traffic safety. Similarly, the Tiburon General Plan [Policy C-19] states that “New driveways and roadways intersecting Paradise Drive shall be kept to the minimum number possible and be situated in safe locations. To meet this objective, to the extent feasible, multiple residences shall be served by a single access from Paradise Drive.” Also, the Paradise Drive Visioning Plan contains a recommended action to “Plan new development to minimize the number of roadways and driveways onto Paradise Drive for safety and to reduce the need for grading and paving”.*

The existing unpaved fire road on the SODA property would be paved and widened to serve as the Main Road to serve the 13 new single-family homes on the project site. Access to and from Paradise Drive would be provided by the proposed project entrance to be constructed at the base of the Main Road (where the fire access road currently intersects Paradise Drive).

Site access, therefore, to the proposed 13 new single-family homes would be provided by a new roadway from Paradise Drive. This road would roughly follow the alignment of the existing fire road on the SODA property. In addition, the existing driveway serving the Rabin property would continue to exclusively serve the existing house. Therefore, two entrances would serve the project site, despite guidelines recommending that driveways be limited on Paradise Drive. Although this would result in a potential inconsistency with recommended development policies in the area, this impact would be less-than-significant since the driveway is an existing facility, while the proposed new project entrance road would provide adequate site access consistent with industry standards.

Mitigation Measure 5.1-9 No mitigation would be required.

Impact 5.1-10 Project Impacts Related to Emergency Access and Internal Circulation

The project would create demand for emergency services and require provision of adequate internal circulation for vehicles, pedestrians, emergency vehicles and fire trucks. This would be a less-than-significant impact.

As discussed in **Chapter 3.0 Description of the Proposed Project** site access would be provided by a new roadway from Paradise Drive. Two roads are proposed on site - a Main Road and an Upper Road. Both roads would be 24-feet wide.

The existing driveway from Paradise Drive that provides access for the existing house would be gate-controlled and would provide an entrance and exit exclusively for the existing house on the Rabin property. Emergency access to the existing house would be provided by the new road (since the steep grade of the existing driveway does not meet fire access standards). Fire department access would, however, be maintained on the existing driveway through an override mechanism at the gate (as is currently the case).

Since grades, paved width and other roadway conditions are most critical for heavy fire equipment, the design of the site roads would be subject to standards established by the Tiburon Fire Protection District (TFPD). These standards include maximum road and driveway grades, widths, turning radii, and turnout and turnaround requirements. The TFPD requires internal circulation systems that allow easy access and include wide corners and turnarounds at the ends of roads to allow vehicles to quickly exit the site. Restrictions on slope gradients are intended to allow safe maneuvering in all weather conditions. TFPD standards meet or exceed applicable Marin County Development Code standards regarding roadway grades, driveway width, curve radii, and turnouts and turnarounds.

Roadway Grades - *The maximum allowable grade for private roads and driveways is 18 percent. TFPD will allow grades up to 21 percent if the applicant can demonstrate to TFPD's satisfaction that there is no feasible way to reduce the driveway grade to 18 percent and TFPD determines that it can serve the project. When grades exceeding 18 percent are necessary, grades of a maximum of 21 percent are allowed for a maximum length of 200 feet within any 1,000-foot section of the driveway. Grades exceeding 18 percent must be paved with scoured concrete to provide adequate traction. In addition, when the TFPD approves grades over 18 percent, a higher standard of building sprinklers is required as well as restrictions on building materials (i.e., no wood siding).*

Grades on both the Main Road and the Upper Road would range from a minimum of ten percent to a maximum of 18 percent. The project would, therefore, comply with TFPD roadway grade requirements.

Secondary (i.e. emergency only) access to the project site would be provided via a gated entrance located immediately south of 180 Hacienda Drive that would connect to an existing fire road located on the Town-owned Middle Ridge open space. As specified by TFPD requirements, this unpaved roadway shall be designed to accommodate the weight of fire engines.

Driveway Width - *The TFPD requires that residential road widths must be at least 20 feet wide, with certain exceptions granted to developments with six or fewer residences.*

Both the Main Road and the Upper Road would be 24 feet wide to serve the 13 new single-family homes to be built on the project site, with a “flare-out” providing a wider connection of the Main Road at its terminus on Paradise Drive, exceeding the TFPD minimum width standard. The project would therefore comply with TFPD width requirements.

Curve Radius - *TFPD requires a minimum 50-foot curve radius on driveways. For curves with less than a 60-foot wide radius, the driveway must be at least 14 feet wide at the curve with 16 feet of clearance.*

Both the Main Road and the Upper Road comply with this standard. Therefore, the project would comply with TFPD driveway curve radius requirements.

For the reasons stated above, the project would result in a less-than-significant impact to internal circulation and emergency access.

Mitigation Measure 5.1-10 No mitigation would be required.

Impact 5.1-11 Parking Impacts

The project would create demand for parking spaces. This would be a less-than-significant impact.

The proposed project would be required to comply with Town standards for the provision of off-street motor vehicle parking.

On- and Off-Site Parking - *Tiburon Zoning Code 16-5.8.4 states that for single-family residential dwellings, a minimum of 1.5 parking spaces per unit is required.*

The proposed project would provide at least two parking spaces per residential unit, within garages and internal site driveways. In addition, additional parking spaces for guests would be provided on a

segment of the Main Road (outside of the 24-foot travel way). Although not specified, adequate bicycle parking could also be provided within garage and storage areas.

Therefore, the project would result in a less-than-significant impact to parking.

Mitigation Measure 5.1-11 No mitigation would be required.

Impact 5.1-12 Construction Traffic Impacts

Project implementation would add a significant number of construction trips to Paradise Drive, raising concerns about safety, pavement damage on affected roads, and disruptions of peak hour traffic. This would be a less-than-significant impact.

Project construction activities are expected to occur in five phases.³² Each phase of construction would likely include several activities including site preparation, site grading, utility construction, road paving, and clean-up. It is likely that construction activities would extend over at least two years, if not longer.

Traffic from construction workers and other equipment have the potential to disrupt the flow of peak hour traffic. In addition, pavement on Paradise Drive near the project site currently shows evidence of cracking and deterioration. This pavement could deteriorate further during project construction. Such deterioration could lead to safety hazards. In addition, even with adequate measures to avoid impacts on motor vehicle circulation, construction traffic may potentially disrupt bicycle operations.

A Construction Management Plan³³ has been prepared for the proposed project. This plan includes several traffic control measures. For example, all grading and building materials, construction equipment, and employee vehicle parking would be accommodated on-site during construction, and measures would be included to minimize travel during AM and PM peak periods. The Construction Management Plan also specifies that access routes would be coordinated with the Town of Tiburon, and that any damage to Paradise Drive would be repaired, based on a before-and-after evaluation conducted by County Public Works. Based on implementation of the Construction Management Plan, transportation impacts resulting from construction would be less-than-significant.

Mitigation Measure 5.1-12 No mitigation would be required.

³² Preliminary Phasing Scheme, Precise Development Plan, Sheet C18, CSW/ST2, May 8, 2007.

³³ Construction Management Plan, Precise Development Plan, CSW/ST2, March 6, 2007.

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5.2 AIR QUALITY

Air Quality - Environmental Setting

REGIONAL AIR QUALITY

The Town of Tiburon is located in southeastern Marin County, part of the nine county San Francisco Bay Air Basin. The Federal Clean Air Act governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act. At the federal level, the United States Environmental Protection Agency (EPA) administers the Clean Air Act. The California Clean Air Act is administered by the California Air Resources Board (CARB) at the State level and by the Air Quality Management Districts at the regional and local levels. The Bay Area Air Quality Management District (BAAQMD) regulates air quality at the regional level, which includes the nine-county Bay Area.

The Bay Area is considered a non-attainment area for ground-level ozone under both the federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for respirable particulates or particulate matter with a diameter of less than ten micrometers (PM₁₀), and fine particulate matter that has a diameter of less than 2.5 micrometers (PM_{2.5}) under the California Clean Air Act, but not the federal act. The area has attained both state and federal ambient air quality standards for carbon monoxide and other air pollutants regulated under the National Ambient Air Quality Standards or California Ambient Air Quality Standards.

The BAAQMD along with the Association of Bay Area Governments and Metropolitan Transportation Commission have developed the *Bay Area 2005 Ozone Attainment Strategy*,¹ which is the region's most recent clean air plan. As part of an effort to attain and maintain ambient air quality standards for ozone and PM₁₀, BAAQMD has established thresholds of significance for air pollutants. These thresholds are for ozone precursor pollutants (reactive organic gases and nitrogen oxides) and PM₁₀.

Air Pollutants

Efforts to combat air pollution began in the Bay Area in 1955 with the formation of the Bay Area Air Pollution Control District, now known as the Bay Area Air Quality Management District or BAAQMD. State and national ambient air quality standards cover a wide variety of pollutants, however, only a few of these pollutants are problems in the Bay Area either due to the strength of the emission or the climate of the region. The BAAQMD has for many years operated a multi-pollutant monitoring site in San Rafael, allowing analysis of trends in air quality. Problem air pollutants in Tiburon and the Bay Area include ozone, and particulate matter (PM_{2.5} and PM₁₀), and toxic air contaminants (TACs).

¹ *Bay Area 2005 Ozone Strategy*, Metropolitan Transportation Commission, Bay Area Air Quality Management District and Association of Bay Area Governments, January 4, 2006.

Ozone

Ground level ozone, often referred to as smog, is not emitted directly, but is formed in the atmosphere through complex chemical reactions. Ozone is not a pollutant that adversely affects Tiburon, but emissions from motor vehicle use in the Town contribute to high ozone levels in other parts of the Bay Area. Motor vehicles are the largest source of ozone precursors emissions (i.e., nitrogen oxides and reactive organic gases) in the Bay Area. The Bay Area is currently classified as a federal and State nonattainment area for ozone.

Particulate Matter

Particulate matter is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. Particles ten microns or less in diameter are defined as "respirable particulate matter" or "PM₁₀." Fine particles are 2.5 microns or less in diameter (PM_{2.5}). These particulates can contribute significantly to regional haze and reduction of visibility. Inhalable particulates come from smoke, dust, aerosols, and metallic oxides. Although particulates are found naturally in the air, most particulate matter found in the area is emitted either directly or indirectly by motor vehicles, industry, construction, agricultural activities, and wind erosion of disturbed areas. Most PM_{2.5} is comprised of combustion products such as smoke or formed in the atmosphere from regional emissions of nitrogen oxides. There are many sources of PM₁₀ emissions, including combustion, industrial processes, grading and construction, and motor vehicles. The greatest quantity of PM₁₀ emissions associated with motor vehicle uses is generated by re-suspended road dust. Reductions in motor vehicle miles traveled are necessary to reduce PM₁₀ emissions, rather than changes to motor vehicle technology. Wood burning in fireplaces and stoves is another significant source of particulate matter, primarily PM_{2.5}.

Extensive research reviewed by CARB indicates that exposure to outdoor PM₁₀ and PM_{2.5} levels exceeding current ambient air quality standards is associated with increased risk of hospitalization for lung and heart-related respiratory illness, including emergency room visits for asthma. Exposure to particulate matter is also associated with increased risk of premature deaths, especially in the elderly and people with pre-existing cardiopulmonary disease. In children, studies have shown associations between PM exposure and reduced lung function and increased respiratory symptoms and illnesses. Besides reducing visibility, the acidic portion of PM (e.g., nitrates and sulfates) can harm crops, forests, aquatic and other ecosystems. In 2002, CARB adopted new ambient air quality standards for PM₁₀ and PM_{2.5}, resulting from an extensive review of the health-based scientific literature. EPA adopted stricter standards for PM_{2.5} in September 2006.

Toxic Air Contaminants (TACs)

TACs are another group of pollutants of concern in the Bay Area. Common sources of TACs include industrial processes, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Diesel particulate matter from exhaust has been identified as a TAC. Mobile sources, such as trucks, buses, and construction equipment are by far the largest source of diesel emissions. In Tiburon, truck traffic, construction equipment, and ferries are the primary sources of diesel particulate matter. According to CARB,² the overall inhalation cancer risk in the Tiburon area for the year 2000 was about 100 to 250 excess cancer cases per million people. This is considerably lower than the risk

² See CARB website (August 20, 2004): <http://www.arb.ca.gov/toxics/cti/hlthrisk/hlthrisk.htm>.

in urban areas, which can exceed 1,000 excess cases per million people. The overall risk is predicted to decrease and the decrease could be substantial if CARB goals to achieve a 75-percent reduction in diesel health risk are met.

In 1998, CARB formally identified particulate matter emitted from diesel-fueled engines (diesel particulate matter [DPM]) as a TAC. Diesel engines emit TACs in both gaseous and particulate forms. Diesel particulate matter is of particular concern since it is distributed over large regions, thus leading to widespread public exposure. The particles emitted by diesel engines include different chemicals, many of which have been identified by EPA as hazardous air pollutants and by the CARB as TACs. Diesel engines emit particulate matter at a rate much greater than comparable gasoline engines. Much of these particles are very small (i.e., PM_{2.5}), and therefore, can become trapped within the lung if inhaled.

In late 2000, CARB adopted a diesel risk reduction plan.³ The plan outlined more stringent emission standards for new on-road and non-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent. The projected emission benefits associated with full implementation of this plan, including existing and new federal measures, are reductions in cancer risks associated with DPM by 75 percent in 2010 and 85 percent by 2020. The measures in the plan would substantially reduce localized risks associated with activities that expose nearby individuals to diesel particulate matter emissions. Many of the measures of the diesel risk reduction plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines sold beginning in 2004 and 2007. Diesel fuel with ultra low sulfur content is now required for use in both on-road and non-road engines in California. CARB recently adopted regulations requiring the retrofit or replacement of construction equipment over the next ten years.

Sensitive Receptors

Some groups of people are more affected by air pollution than others. The State has identified the following people who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks.

AIR QUALITY IN THE PROJECT SITE VICINITY

The air pollution potential in and near Tiburon is quite low due to the proximity to the San Francisco Bay and Pacific Ocean. The constant influence of marine air and lack of nearby or upwind air pollution sources results in low air pollution levels. Air pollutant levels can build up under stable atmosphere conditions, since vertical and horizontal dispersion of air pollutants is limited. However, neutral or stable conditions are typical at the project site due to the close proximity to the bay waters.

BAAQMD monitors air pollutant levels continuously throughout the Bay Area. The San Rafael station is the closest to the project site. Over the last five years, PM₁₀ levels measured in San Rafael have exceeded California Ambient Air Quality Standards on zero to two sample days. Since PM₁₀ is sampled once every six days, standards are exceeded on an estimated zero to 12 days annually. No

³ *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, California Air Resources Board, October 2000.

other exceedances of air quality standards have been measured at the San Rafael station. PM_{2.5} is not measured at the BAAQMD station in San Rafael or at any other locations near Tiburon.

GREENHOUSE GAS EMISSIONS (GHG)

Global temperatures are affected by naturally occurring and anthropogenic-generated (generated by mankind) atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide.⁴ Gases that trap heat in the atmosphere are called greenhouse gases (GHG). Solar radiation enters the earth's atmosphere from space, and a portion of the radiation is absorbed at the surface. The earth emits this radiation back toward space as infrared radiation. Greenhouse gases, which are mostly transparent to incoming solar radiation, are effective in absorbing infrared radiation and redirecting some of this back to the earth's surface. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This is known as the greenhouse effect. Natural processes and human activities emit GHGs. Emissions from human activities, such as electricity production, motor vehicle use and agriculture are elevating the concentration of GHGs in the atmosphere, and are reported to have led to a trend of unnatural warming of the earth's natural climate, known as global warming or climate change. Other than water vapor, the GHGs contributing to global warming include the following gases:

- Carbon dioxide, primarily a byproduct of fuel combustion.
- Nitrous oxide is a byproduct of fuel combustion and also associated with agricultural operations such as fertilization of crops.
- Methane is commonly created by off-gassing from agricultural practices (e.g. keeping livestock) and landfill operations.
- Chlorofluorocarbons that were widely used as refrigerants, propellants and cleaning solvents but their production has been mostly reduced by international treaty.
- Hydrofluorocarbons are now used as a substitute for chlorofluorocarbons in refrigeration and cooling.
- Perfluorocarbons and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

Gases in the atmosphere can contribute to the greenhouse effect both directly and indirectly. Direct effects occur when the gas itself absorbs outgoing radiation. Indirect effects occur when gases cause chemical reactions that produce other GHGs or prolong the existence of other GHGs. The Global Warming Potential (GWP) concept is used to compare the ability of each GHG to trap heat in the atmosphere relative to carbon dioxide (CO₂), which is the most abundant GHG. CO₂ has a GWP of 1, expressed as CO₂e. Other GHGs, such as methane and nitrous oxide are commonly found in the atmosphere but at much lower concentrations. However, the GWP for methane is 21, while nitrous oxide has a GWP of 310. Other trace gases, such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) which are halocarbons that contain chlorine, have much greater GWPs.

4 IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. (www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf).

Fortunately these gases are found at much lower concentrations and many are being phased out as a result of global efforts to reduce destruction of stratospheric ozone. In the United States, CO₂ emissions account for about 85 percent of the CO₂e emissions, followed by methane at about eight percent and nitrous oxide at about 5 percent.⁵

The world's leading climate scientists have reached consensus that global climate change is underway, is "very likely" caused by humans, and hotter temperatures and rises in sea level "would continue for centuries," no matter how much humans control future emissions. A report of the Intergovernmental Panel on Climate Change (IPCC) - an international group of scientists and representatives concludes that "The widespread warming of the atmosphere and ocean, together with ice-mass loss, support the conclusion that it is extremely unlikely that global climate change of the past 50 years can be explained without external forcing, and very likely that it is not due to known natural causes alone".⁶

Human activities have exerted a growing influence on some of the key factors that govern climate by changing the composition of the atmosphere and by modifying vegetation. The concentration of carbon dioxide in the atmosphere has increased from the burning of coal, oil, and natural gas for energy production and transportation and the removal of forests and woodlands around the world to provide space for agriculture and other human activities. Emissions of other greenhouse gases, such as methane and nitrous oxide, have also increased due to human activities. Since the Industrial Revolution (i.e., about 1750), global atmospheric concentrations of CO₂ have risen about 36 percent, due primarily to the combustion of fossil fuels.⁷

The IPCC predicts a temperature increase of between two and 11.5 degrees Fahrenheit (F) (1.1 and 6.4 degrees Celsius) by the end of the 21st Century under six different scenarios of emissions and carbon dioxide equivalent concentrations.⁸ Sea levels are predicted to rise by 0.18 to 0.59 meters (seven to 23 inches) during this time, with an additional 3.9 to 7.8 inches possible depending upon the rate of polar ice sheets melting from increased warming. The IPCC report states that the increase in hurricane and tropical cyclone strength since 1970 can likely be attributed to human-generated greenhouse gases.

Regulatory Efforts to Address Global Climate Change

Global climate change resulting from greenhouse gas emissions is an emerging environmental concern being raised and discussed at the international, national, and statewide level. At each level, agencies are considering strategies to control emissions of gases that contribute to global warming.

U.S. EPA

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required

⁵ *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2006*. U.S. EPA, April 15, 2008.

⁶ *Climate Change 2007 - The Physical Science Basis Contribution of Working Group I to the Fourth Assessment Report of the IPCC*. February 2, 2007. (<http://ipcc-wg1.ucar.edu/wg1/wg1-report.html>).

⁷ IPCC, 2007: Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, *op. cit.*

⁸ *Ibid.*

reductions in GHGs, the Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. In 2002, the United States announced a strategy to reduce the greenhouse gas intensity of the American economy by 18 percent over a ten year period from 2002 to 2012. To date, the U.S. EPA has not regulated GHGs under the Clean Air Plan (note that a 2007 Supreme Court ruling held that the U.S. EPA can regulate GHG emissions).⁹

As part of the commitments to UNFCCC, the U.S. EPA has developed an inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases. This inventory is periodically updated with the latest update being 2008.¹⁰ EPA reports that total U.S. emissions have risen by 14.7 percent from 1990 to 2006, while the U.S. gross domestic product has increased by 59 percent over the same period. A 1.1 percent decrease was noted from 2005 to 2006, which is reported to be attributable to: (1) climate conditions, (2) reduced use of petroleum products for transportation, and (3) increased use of natural gas over other fuel sources. The inventory notes that the transportation sector emits about 33 percent of CO₂ emissions, with 60 percent of those emissions coming from personal automobile use. Residential uses, primarily from energy use, accounted for 20 percent of CO₂ emissions.

As a part of U.S. EPA's responsibility to develop and update an inventory of U.S. GHG emissions and sinks, EPA compared trends of other various U.S. data. Over the period between 1990 and 2006, GHG emissions grew at a rate of about 0.9 percent per year. Population growth was slightly higher at 1.1 percent, while energy and fossil fuel consumption were more closely related at 1.0 percent. GDP and energy generation grew at much higher rates.

State of California

The State of California is concerned about GHG emissions and their effect on global climate change. The State recognizes that "there appears to be a close relationship between the concentration of greenhouse gases in the atmosphere and global temperatures" and that "the evidence for climate change is overwhelming." The effects of climate change on California, in terms of how it would affect the ecosystem and economy, remain uncertain. The State has many areas of concern regarding climate change with respect to global warming. According to the 2006 Climate Action Team Report¹¹ the following climate change effects and conditions can be expected in California over the course of the next century:

- A diminishing Sierra snowpack declining by 70 percent to 90 percent, threatening the state's water supply;

9 On April 2, 2007, the United States Supreme Court issued a 5-4 decision in *Massachusetts v. EPA*, which holds that the U.S. Environmental Protection Agency has authority, under the Clean Air Act, to regulate greenhouse gas emissions from new vehicles. The U.S. EPA had previously argued it lacked legal authority under the Clean Air Act to regulate greenhouse gases. The majority opinion of the Supreme Court decision noted that greenhouse gases meet the Clean Air Act's definition of an "air pollutant," and the EPA has the statutory authority to regulate the emission of such gases from new motor vehicles.

10 *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2006, op. cit.*

11 *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. California Environmental Protection Agency. 2006, (http://www.climatechange.ca.gov/climate_action_team/reports/2006-04-03_FINAL_CAT_REPORT.PDF).

- Increasing temperatures from eight to 10.4 degrees Fahrenheit (F) under the higher emission scenarios, leading to a 25 to 35 percent increase in the number of days ozone pollution levels are exceeded in most urban areas;
- Coastal erosion along the length of California and seawater intrusion into the Sacramento River Delta from a four-to 33-inch rise in sea level. This would exacerbate flooding in already vulnerable regions;
- Increased vulnerability of forests due to pest infestation and increased temperatures;
- Increased challenges for the state's important agricultural industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta; and
- Increased electricity demand, particularly in the hot summer months.

California emissions of GHG gases or CO₂ equivalent emissions was estimated at 484 million metric tons of equivalent CO₂ emissions (MMTCO₂e), which is about seven percent of the emissions from the entire United States.¹² It is estimated that the United States contributes up to 35 percent of the world's CO₂ equivalent emissions. Transportation is the largest source of GHG emissions in California, contributing about 40 percent of the emissions. Electricity generation is second at over 20 percent, but California does import electricity during the summer bringing energy sources up to about 25 percent. Industrial activities account for about 20 percent of the State's emissions. Transportation is the largest source of greenhouse gas emissions in California, followed by industrial sources and electric power generation.¹³ On a per-person basis, greenhouse gas emissions are lower in California than most other states; however, California is a populous state and the second largest emitter of greenhouse gases in the United States and one of the largest emitters in the world.¹⁴

Under a "business as usual" scenario, emissions of GHG in California are estimated to increase to approximately 600 MMTCO₂e by 2020. CARB staff has estimated the 1990 statewide emissions level to be 427 MMTCO₂e, therefore, requiring a reduction of almost 30 percent in emissions by 2020 to meet the AB32 goal.

State of California Executive Order S-3-05

In June 2005, the governor of California signed Executive Order S-3-05, which identified Cal / EPA as the lead coordinating State agency for establishing climate change emission reduction targets in California. A Climate Action Team, a multi-agency group of state agencies, was set up to implement Executive Order S-3-05. Under this order, the state plans to reduce greenhouse gas emissions to 80

¹² *Climate Change Draft Scoping Plan*, California Air Resources Board, June 2008.

¹³ *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, California Environmental Protection Agency. 2006. *op. cit.*

¹⁴ *Analysis of the 2006-07 Budget Bill (Governor's Climate Change Initiative)*, California Legislative Analyst's Office. 2006, (http://www.lao.ca.gov/analysis_2006/resources/res_04_anl06.html).

percent below 1990 levels by 2050. Greenhouse gas emission reduction strategies and measures to reduce global warming were identified by the California Climate Action Team in 2006.¹⁵

Assembly Bill (AB) 32 - The California Global Warming Solutions Act of 2006

In 2006, the governor of California signed AB 32, the Global Warming Solutions Act, into legislation. The Act requires that California cap its greenhouse gas emissions at 1990 levels by 2020. This legislation requires CARB to establish a program for statewide greenhouse gas emissions reporting and monitoring / enforcement of that program. CARB recently published a list of discrete greenhouse gas emissions reduction measures that can be implemented immediately. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions. CARB's Early Action Plan identified regulations and measures that could be implemented in the near future to reduce GHG emissions.

Much of the measures to reduce GHG emissions from transportation will come from CARB. AB 1493, the Pavley Bill, directed CARB to adopt regulations to reduce emissions from new passenger vehicles. CARB's AB32 Early Action Plan released in 2007 included a strengthening of the Pavley regulation for 2017 and included a commitment to develop a low carbon fuel standard (LCFS). In April 2009, CARB adopted the new LCFS aimed at diversifying the variety of fuels used for transportation. This regulation is designed to increase the use of alternative fuels, replacing 20 percent of the fuel used by cars in California with clean alternative fuels by 2020. These fuels include electricity, biofuels, and hydrogen.

CARB is relying on increased fuel efficiency to reduce GHG emissions substantially. In May 2009, President Obama announced a new national policy aimed at increasing fuel economy to reduce GHG emissions from new cars and trucks sold in the United States. The new standards would apply to new vehicles sold beginning in 2012, and ultimately require an average fuel economy standard of 35.5 miles per gallon (mpg) in 2016. This surpasses the previous 2007 standard of 35 mpg for 2020 model vehicles established in 2007. California had proposed a State standard similar to the new announced federal standard, but implementation was hindered by the U.S. EPA.

CARB is targeting other sources of emissions. The main measures to reduce GHG emissions will be contained in the AB32 Scoping Plan. A draft of the plan was released in June 2008 and was recently approved in December 2008. This plan includes a range of GHG reduction actions. Central to the draft plan is a cap and trade program covering 85 percent of the state's emissions. This program will be developed in conjunction with the Western Climate Initiative, comprised of seven states and three Canadian provinces, to create a regional carbon market. The plan also proposes that utilities produce a third of their energy from renewable sources such as wind, solar and geothermal, and proposes to expand and strengthen existing energy efficiency programs and building and appliance standards. The plan also includes full implementation of the Pavley standards to provide a wide range of less polluting and more efficient cars and trucks to consumers who will save on operating costs through reduced fuel use. It also calls for development and implementation of the Low Carbon Fuel Standard, which will require oil companies to make cleaner domestic-produced fuels. The regulatory process begins in 2009 to implement the plan. The details in regulating emissions and developing targeted fees to administer the program will be developed through this process. This will last two years and measures must be enacted by 2012.

¹⁵ *Climate Action Team Executive Summary Climate Action Team Report to Governor Schwarzenegger and the California Legislature*, California Environmental Protection Agency, 2006.
(http://www.climatechange.ca.gov/climate_action_team/reports/)

Senate Bill 97 - Modification to the Public Resources Code

Pursuant to Senate Bill 97, the Governor's Office of Planning and Research (OPR) is in the process of developing CEQA guidelines addressing GHGs. OPR is required to "prepare, develop, and transmit" the guidelines to the Resources Agency on or before July 1, 2009. In June 2008, OPR issued interim guidance for addressing climate change through CEQA. OPR recommends that each agency develop an approach to addressing GHG emissions that is based on best available information. The approach includes three basic steps: (1) identify and quantify emissions; (2) assess the significance of the emissions; and (3) if emissions are significant, identify mitigation measures or alternatives that will reduce the impact to a less-than-significant level. At this time, both the Town of Tiburon and BAAQMD have not identified a significance threshold for GHG emissions.

At the direction of the OPR, CARB is currently developing statewide interim thresholds of significance for GHG emissions. CARB is focusing on common project types that, collectively, are responsible for substantial GHG emissions – specifically industrial, residential, and commercial projects. The ongoing workshops have been planned to discuss further development of concepts introduced in its Preliminary Draft Staff Proposal on Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act (CEQA).

California's Energy Efficiency Standards for Residential Buildings, Title 24, Part 6, of the California Code of Regulations

The Energy Efficiency Standards for Residential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2005 Standards went into effect October 1, 2005. Projects that apply for a building permit on or after this date must comply with the 2005 Standards. The 2008 Standards are currently being developed and will go into effect in 2009.

Senate Bill 375 - California's Regional Transportation and Land Use Planning Efforts

Recently, California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 would develop emissions-reduction goals in which regions can apply in planning activities. SB 375 provides incentives for local governments and developers to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable and sustainable communities and revitalizing existing communities. The legislation also allows developers to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB would work with the metropolitan planning organizations (e.g., ABAG and MTC) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its greenhouse gas reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

California's Heavy Duty Vehicle GHG Emissions Reduction Measure

On December 12, 2008 (one day after adopting the AB32 Climate Action Plan), CARB adopted the Heavy Duty Vehicle Greenhouse Gas Emission Reduction measure that requires long-haul truckers to

install fuel efficient tires and aerodynamic devices on their trailers. This measure will reduce GHG emissions through improved fuel economy.

Town of Tiburon

The Town of Tiburon is a participant in the Marin Climate and Energy Partnership (MCEP). The MCEP is a collaborative of Marin’s 11 incorporated cities and towns, the County of Marin Community Development Agency, the Marin Energy Management Team, the Marin Municipal Water District, ICLEI, and Joint Venture Marin with the objective of developing and supporting sustainable communities. Tiburon is a member of this joint effort to establish and implement local climate action plans and goals. The Town has not developed an emissions inventory at this time, but plans to work with MCEP and ICLEI – Local Governments for Sustainability to develop emissions inventories and climate action plans.

In October 2008 the Town of Tiburon established green building requirements for certain construction projects, including residential projects.¹⁶ The Town’s Green building standards for residential construction are based on the Build-it Green “green points” rating system. This rating system has been adopted by other cities in Marin County and by the County. New single-family homes and total remodels would need to achieve higher green point totals in Tiburon than small renovations. The Build-it Green point system is popular because it allows great flexibility to achieve the necessary goals of reducing indirect emissions from new development.

The Town also adopted enhanced energy efficiency standards in large homes. Any home larger than 3,500 square feet must not use more energy than a 3,500 square foot home that is subject to Title 24 Building Code standards. This requirement follows identical measures adopted by Marin County and the cities of San Rafael and Mill Valley.

¹⁶ *An Ordinance of the Town Council of the Town of Tiburon Amending Title IV, Chapter 16 (Zoning) of the Municipal Code to Establish Green Building Requirements for Certain Construction Projects, Town of Tiburon Ordinance No. 512 N.S.*

Air Quality - Significance Criteria

The air quality analysis uses criteria from the *State CEQA Guidelines* and professional judgment. According to these criteria, the project would have a significant air quality impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project is non-attainment under an applicable Federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

Greenhouse Gases

As discussed above, the Governor's Office of Planning and Research (OPR) is in the process of developing CEQA guidelines addressing GHGs. In April 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the State CEQA Guidelines. These draft guidelines suggest that project GHG emissions be considered significant if the project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

At this time, the Town of Tiburon, Marin County, BAAQMD, nor the CARB have identified a quantified significance threshold for GHG emissions. Therefore, there are no applicable thresholds to compare project emissions against. BAAQMD and CARB are in the process of developing thresholds to evaluate project impacts with respect to the emissions of GHGs.

Air Quality - Impacts and Mitigation Measures

LESS-THAN-SIGNIFICANT IMPACTS

Based on the findings of the analyses completed as a part of this Draft EIR it has been determined that the proposed *Alta Robles Residential Development Project* would have either no impact or less-than-significant impacts for the following significance criteria.

- *Conflict with or obstruct implementation of the applicable air quality plan.*

The 2005 Bay Area Ozone Strategy accounts for growth in cities located within the Bay Area Air Quality Management District (BAAQMD) in accordance with their general plan land use designations. The proposed residential development would be consistent with Town of Tiburon and Marin County land use density requirements, and would not conflict with or obstruct implementation of the Bay Area Clean Air Plan. No impact would occur.

- *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

The Town of Tiburon is part of a region-wide nonattainment area, in which concentrations of ground-level ozone and inhalable particulate matter exceed respective State or federal air quality standards. Standards for other air pollutants, such as carbon monoxide, are met. Ozone and particulate matter are the pollutants of primary concern when evaluating projects. Since these air pollutants are not directly emitted to the atmosphere, the significance of a project's impact is evaluated through comparison of overall project emissions to thresholds of significance established by the BAAQMD. The BAAQMD generally does not recommend a detailed air quality analysis for projects generating less than 2,000 vehicle trips per day. The proposed project is a relatively small residential development, involving 13 new housing units. The proposed project would generate 130 or less trips per day, well below the BAAQMD project screening threshold. Based on the size of the project, emissions of ground-level ozone precursor pollutants and particulate matter would be well below significance thresholds and would not be expected to violate any air quality standards or contribute substantially to an existing or projected air quality violation. Therefore, a less than significant impact would occur.

- *Result in a cumulatively considerable net increase of any criteria pollutant for which the project is non-attainment under an applicable Federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

As discussed above, the Town of Tiburon is part of a region-wide nonattainment area, in which concentrations of ground-level ozone and inhalable particulates exceed respective State or federal air quality standards. The proposed *Alta Robles Residential Development* would not have a significant impact to regional air quality since the project would generate air pollutant emissions well below the BAAQMD significance thresholds. As a result, the project would have a less-than-significant cumulative impact to air quality.

- *Create objectionable odors affecting a substantial number of people.*

Residential uses of the project site would not generate any substantial odors. This would be a less-than-significant impact. Construction equipment associated with site grading would generate diesel exhaust emissions, which could affect a small number of people on a temporary basis. Construction activities would not result in frequent episodes of objectionable odors. This temporary impact would be less-than-significant.

- *Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.*

At this time, the Town of Tiburon nor the BAAQMD has not adopted a Climate Action Plan. However, the Town has adopted green building standards for residential development that would apply to the project. *Tiburon General Plan* policies support transportation control measures contained in the latest BAAQMD Clean Air Plan that would also reduce overall vehicle trips, and therefore, GHG emissions.

IMPACT ANALYSIS

Impact 5.2-1 Construction-Period Air Pollutant Emissions

Air pollutants emitted during construction could expose nearby neighbors to unhealthy levels of particulate matter and possibly TACs. This would be a significant impact.

Although grading, and other construction activities would be temporary, they would likely extend over at least two years, if not longer. These activities would create air emissions that would have the potential to cause both nuisance and health impacts. PM₁₀ is the pollutant of greatest concern associated with dust generation. If uncontrolled, PM₁₀ levels downwind of actively disturbed areas could create a nuisance. Most of the dust generation would result during grading activities or frequent vehicle travel on unpaved or dusty roads. The amount of dust generated would be highly variable and would be dependent on the size of the area disturbed, amount of activity, soil conditions and meteorological conditions. Typical winds during late spring through summer are from the west or southwest. Nearby residences (existing and future), especially those located to the east, could be adversely affected by dust generated during construction activities. If uncontrolled, dust generated by clearing, grading, and construction activities would represent a significant impact.

The heavy-duty construction equipment used primarily for site grading and trucks used to deliver or remove materials would be mostly diesel-fueled. The pollutants from this equipment that pose the most concern are diesel particulate matter or DPM, which has been identified as a TAC.

Project construction activities are expected to occur in five phases.¹⁷ The first phase would likely require the greatest use of heavy construction equipment to construct roadways and infrastructure. The following four phases would construct the individual residential lots. The schedule for construction activities is not precisely known, but initial grading may take one to three months, depending on the intensity and amount of equipment on site. During the grading phases, approximately one to four pieces of equipment could be used simultaneously with some truck trips to import or export materials or equipment. Most of this activity would be several hundred feet from residences. Construction of each lot would typically require at least two pieces of equipment for grading and some truck trips. The most truck trips generated are likely to be during paving and

¹⁷ *Preliminary Phasing Scheme, Precise Development Plan, Sheet C18, CSW/ST2, May 8, 2007.*

concrete pours. Trucks traveling near residences would have the most notable air quality impact, since much of the project activity would be a considerable distance from residences. The project Construction Management Plan includes traffic control measures to reduce traffic congestion that would minimize congestion and truck idling times on roadways near residences.

DPM is the most prevalent TAC, contributing about 70 percent to the overall potential inhalation cancer risk. Improved diesel engines technologies that are mandated along with reformulated diesel fuel are expected to substantially lower the risk from diesel exhaust. The increased health risk from these types of emissions (i.e., increased cancer risk) is calculated over a 70-year continuous exposure period at locations of sensitive receptors or residences. Truck travel and construction equipment exhaust may result in elevated levels of DPM for short time periods. However, these activities would occur for a relatively short period that the increased cancer risk would be so small that it would for all intents and purposes be immeasurable at any one particular residence.

The level of exposure from this activity would be dependent on the types of equipment and controls employed to reduce emissions. Older construction equipment can emit DPM at much greater rates than late model construction equipment that utilize particulate filters and newer engine technologies. An inhalation health risk assessment was not prepared for this project due to the highly unlikely possibility of these construction activities resulting in a significant impact. However, control measures should be implemented to ensure that DPM emissions would be low enough to not cause health risk issues at nearby residences. The impact would be significant without appropriate measures to reduce PM₁₀ and DPM emissions.

A Construction Management Plan¹⁸ has been prepared for the proposed project. This plan contains Air Quality Control Measures. These measures are consistent with most of those recommended by the BAAQMD to reduce temporary construction air quality impacts to a less-than-significant level. However, the Construction Management Plan does not include measures to reduce diesel exhaust emissions or measures to prevent dirt or mud from being tracked on to public roadways. Dirt or mud tracked on to roadways can get entrained into the air from passing cars causing elevated PM₁₀ levels. Without modification to the Construction Management Plan, a significant impact would occur.

Mitigation Measure 5.2-1 The applicant shall mitigate construction air quality impacts by implementing the Construction Management Plan as set forth in the Precise Development Plan and as modified as follows:

- The Construction Management Plan shall be modified to require use of off-road construction equipment that was manufactured during or after 1996 meeting the California Tier I emissions standard or is equipped with diesel particulate filters or uses alternative fuels (e.g., biodiesel) that result in lower particulate matter emissions that are at least 20 percent lower than the statewide fleet average reported by the California Air Resources Board.
- The Construction Management Plan shall be modified to prohibit the use of “dirty” equipment. Opacity is an indicator of exhaust particulate emissions from off-road diesel-powered equipment. The project shall ensure that emissions from all construction diesel-powered equipment used on the project site do not exceed 40-percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40-percent opacity (or Ringelmann 2.0) shall be repaired immediately. In essence, any piece of equipment that emits dark smoke for more than three minutes would be in violation of this mitigation measure.

¹⁸ Construction Management Plan, Precise Development Plan, March 6, 2007.

- The Construction Management Plan shall be modified to require that diesel equipment standing idle for more than five minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate, or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were on-site.
- The Construction Management Plan shall be revised to include the following: “Prevent visible tracking of mud or dirt on to public roadways or immediately sweep dirt or mud tracked on to roadways.”

Significance after Mitigation Implementation of this mitigation measure would reduce the impact to a less-than-significant level; since the project would implement all BAAQMD recommended PM₁₀ control measures for construction activities. The control measures would reduce construction-period dust and diesel exhaust emissions so that nearby residences would not be subject to unhealthy levels of air pollution caused by the project.

Responsibility and Monitoring Prior to the issuance of a grading plan, the Town of Tiburon staff shall review the Construction Management Plan to ensure that the proper modifications have been made to the plan.

Impact 5.2-2 Generation of Airborne Asbestos

Grading of the project site may disturb soils containing serpentine, possibly releasing asbestos fibers into the air. With conformance to BAAQMD regulations this would be a less-than-significant impact.

Serpentine rock outcroppings are present in this portion of Marin County. These type of rock outcroppings are not common at the site, but may exist. Construction could encounter serpentine, which may contain asbestos. Construction workers and others on or near the project site or people along off-site haul roads potentially could be exposed to airborne asbestos fibers.

Asbestos is a fibrous mineral that is both naturally-occurring in ultramafic or serpentine rock (a rock type commonly found in California), and is used as a processed component of building materials. Because asbestos has been proven to cause serious adverse health effects, such as asbestosis and lung cancer, it is strictly regulated either based on its natural widespread occurrence, or in its use as a building material. The BAAQMD regulates construction activities in soils that may contain asbestos.

An Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying and Surface Mining Operations was signed into State law in 2002.¹⁹ The purpose of this regulation is to reduce public exposure to naturally occurring asbestos from construction and mining activities that emit dust that may contain asbestos. The Asbestos ATCM requires regulated operations engaged in road construction and maintenance activities, construction and grading operations, and quarrying and surface mining operations in areas where naturally occurring asbestos is likely to be found, to employ the best available dust mitigation measures in order to reduce and control dust emissions.

For construction and grading projects that will disturb one acre or less, the regulation requires several specific actions to minimize emissions of dust such as vehicle speed limitations, application of water prior to and during the ground disturbance, keeping storage piles wet or covered, and track-out prevention and removal. Construction projects that will disturb more than one acre must prepare and

¹⁹ California Code of Regulations, Title 17, Section 93015.

obtain BAAQMD approval for an asbestos dust mitigation plan. The plan must specify how the operation will minimize emissions and must address specific emission sources. Regardless of the size of the disturbance, activities must not result in emissions that are visible crossing the property line.

The project applicant would be required to consult with the BAAQMD's Enforcement Division prior to disturbance of soils that may contain asbestos. Project adherence to this requirement ensures that asbestos-related impacts would be less-than-significant. The regulation is designed to employ the best available dust mitigation measures in order to reduce and control dust emissions

Mitigation Measure 5.2-2 No mitigation would be required.

Impact 5.2-3 Greenhouse Gas Emissions

New large residences would be an additional source of GHG emissions, primarily through consumption of energy for transportation and energy usage. These GHG emissions would not exceed any GHG significance thresholds being contemplated by air management districts and other agencies. This would be a less-than-significant impact.

The *Alta Robles Residential Development* proposes the development of 13 new single family homes that would range in size from 6,300 square feet to 7,980 square feet (excluding garages). The new homes would not be located within walking or typical bicycling distance of services. Transit or bus service to the project site is limited. The proposed project, therefore, would likely generate a greater rate of motor vehicle emissions than new residential development adequately served by bus service or other transit. The house sizes would be larger than typical new houses, and therefore, would require more materials and energy to construct and more energy to operate. Because the project would generate emissions at a greater rate than typical new residential housing in California, the impact to GHG emissions may be interpreted as significant. The Town's Green Building and Enhanced Energy Efficiency standards, however, would apply to the project. These requirements would reduce the allowable energy usage design of the new residences to that equivalent to a new 3,500-square foot home in California.

Carbon dioxide, the primary man-made greenhouse gas of concern, would be generated by the proposed project primarily from mobile sources and energy usage. Thresholds of significance have not been developed for projects to evaluate their contribution to global warming. Emissions associated with the development of the proposed project were calculated. The California Air Pollution Control Officers Association (CAPCOA) has provided guidance for calculating project emissions.²⁰ Emissions from area, mobile and electricity usage are recommended by CAPCOA. Area and mobile source emissions were calculated using the URBEMIS2007 model with the same inputs used to calculate emissions of air pollutants.

Area source emissions in the form of natural gas combustion for heating (i.e., space and water) and cooking were computed. These emissions were calculated using the URBEMIS2007 model with default assumptions for single family residences. The URBEMIS2007 model was also used to estimate mobile source emissions from the project. This model is based on the CARB's EMFAC2007 on-road mobile source emission factor model. The model includes emission factors for CO₂. Indirect emissions are associated with the generation of electricity provided to the project were based on electricity usage rates recommended by the California Climate Action Registry General Reporting

²⁰ CEQA & Climate Change, California Air Pollution Control Officers Association, January 2008.

Protocol and electricity emission rates recommended by EPA.²¹ CAPCOA and CCAR recommend an annual electricity usage rate of 16.7 kilowatt hours per square foot for commercial spaces. The electricity provider would be PG&E, which has a certified 2006 emission rate of 456 pounds of CO₂ per each 1,000-kilowatt hours of electricity produced.²² It should be noted that the PG&E rate is about 52 percent of the statewide average emission rate for electricity production and 35 percent of the national average.

Although there would be emissions of methane and nitrous oxide, which are more potent GHGs, there emissions would be very small compared to CO₂ (i.e., less than three percent equivalent CO₂). As a result, these emissions were not calculated. **Exhibit 5.2-1** shows the annual GHG emissions in tons per year.

Exhibit 5.2-1
Annual Operational CO₂ Emissions for Proposed Project

Source Type	Basis for Calculation	Annual CO₂ Emissions (in tons per year)
Area Source	Natural gas and landscape equipment from URBEMIS 2007	38 ^a
Mobile Sources	Traffic from URBEMIS 2007	216
Electricity Usage	Estimated commercial space using PG&E Emission rates	24 ^a
Total		279

- a. Considered to be reduced to that of a 3,500 square-foot house through increased energy efficiency (e.g., green building practices)

Source: Illingworth & Rodkin, 2008.

The results shown in **Exhibit 5.2-1** are based primarily on a “business-as-usual” scenario, where current emission rates would apply. This will not likely be the case as AB 32 will require GHG emission reductions in all sectors. Transportation emission rates will likely decrease due to increased fuel efficiency and lower carbon content in fuels. The URBEMIS2007 model does not reflect future fuel efficiency very well. Efficiency is regulated by the U.S. Department of Transportation and current CARB regulations that address climate change. Newer fuel standards would increase light-duty automobile and light-duty truck fuel efficiency by ten miles per gallon (to 35 miles per gallon for cars and small trucks). These standards will apply to new vehicles sold, and therefore, will gradually affect the overall fleet as these new vehicles replace older vehicles. It is not possible for this project analysis to incorporate these effects, but they should be substantial. The CO₂ emissions estimates for vehicle travel do not accurately reflect future conditions. It is likely that CO₂ emissions with a more fuel-efficient vehicle fleet will be less.

As previously stated, there are no established significance thresholds; however, Air Quality Management Districts in California (including BAAQMD) and CARB are in the process of

²¹ California Climate Action Registry General Reporting Protocol – Reporting Entity-Wide Greenhouse Gas Emissions, California Climate Action Registry. April 2008, Version 3.0.

²² Local Government Operations Protocol for the quantification and reporting of Greenhouse Gas Emissions, Version 1.0, CARB, CCAR, ICLEI, September 2008.

developing project-levels thresholds. In January 2009, CARB issued a preliminary draft staff proposal for recommending approaches to setting significance thresholds to evaluate project GHG emissions under CEQA.²³ For land use projects, the objective is to develop a threshold that will substantially reduce GHG emissions from new projects and streamline permitting of carbon-efficient projects. CARB staff proposes that a presumption of non-significance apply only to projects whose total net emissions, after meeting the performance standards to be established or equivalent, are below a specified level. GHG emissions from residential and commercial projects that are described in the categorical exemption language appear to be relatively small from a GHG perspective. For example, CARB staff's preliminary analysis indicates that emissions from a project qualifying for the statutory infill project exemption (Cal. Code Regs., tit. 14, § 15195) will emit approximately 1,600 metric tons of equivalent CO₂ per year. To address project Performance Standards, CARB staff recommends reliance on the California Energy Commission's (CEC) Tier II Energy Efficiency standards for solar energy incentive programs.

Other air districts are considering quantifiable thresholds for projects. Only the South Coast Air Quality Management District (SCAQMD) has formally adopted interim CEQA significance thresholds. These current adopted thresholds are for stationary sources only. That District had proposed thresholds for residential / commercial projects; however, they were deferred to further define performance standards and coordinate with CARB staff's interim GHG proposal. The initial threshold considered by SCAQMD is 3,000 metric tons of CO₂e emissions per year. The BAAQMD is in the process of developing an update to their CEQA Guidelines, which will include the evaluation of GHGs. As of April 2009, BAAQMD was considering two approaches to setting a significance threshold: Option 1 is a Plan-Based Approach that sets the threshold based on AB 32 GHG emission reduction goals and Option 2 would involve use of CEQA thresholds being developed by CARB and OPR in response to SB 97 requirements.²⁴ For Option 1, BAAQMD is considering a numeric-only threshold (bright line), a performance standards-only threshold, and a combination. Under Option 1, the BAAQMD would aim to reduce region-wide emissions by 2.0 million metric tons per year of CO₂e. The emissions-based thresholds under consideration by BAAQMD range from just over 1,000 metric tons of CO₂e per year to 10,000 metric tons per year of CO₂e. The project emissions of CO₂ shown in **Exhibit 5.2-1** are well below any of the thresholds being considered by BAAQMD or CARB.

The Precise Development Plan describes numerous measures to increase residential building insulation, include solar photovoltaic panels, a water capture system and landscape plan to lower the projects indirect GHG emissions. These specific measures include:

- Approximately 37 acres of the 52-acre site would be undeveloped, remaining as open space (public, private or common spaces).
- Energy efficiency would be incorporated into the site design through use of earth berms and thermal massing, window glazing, use of natural lighting and shading.
- Solar photovoltaic panels would be used to produce energy.

²³ *Preliminary Draft Staff Proposal Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*, CARB, October 24, 2008.

²⁴ *Workshop Draft Options Report – California Environmental Quality Act Thresholds of Significance*. Bay Area Air Quality Management District. April 2009.

- Homes would be equipped with energy star rated appliances and baffled interior lighting, and low energy exterior lighting.
- Low water appliances would be included.
- Landscape areas would be limited and include efficient watering systems.
- Drought-resistant native landscape would be used to replant disturbed areas.
- Each lot would contain holding tanks for storm water run-off that could be used for landscaping to reduce water consumption.
- The project would score at least 200 points out of a possible 365 points on the New Home Green Building Residential Design Guidelines developed by the Marin County Community Development Agency. Under the agency guidelines, the proposed new homes would be rated as “Platinum”.

Since there are no developed significance thresholds for GHG or global warming impacts, it is difficult to determine the significance of a single project. There are no quantified emission thresholds to compare project emissions against. This project does include numerous measures to reduce indirect emissions from energy consumption. These types of measures should be considered adequate for reducing GHG from residential projects.

Based on the above analysis, the proposed project would have a less-than-significant impact in regard to the development of GHG.

Mitigation Measure 5.2-3 No mitigation would be required.

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Noise - Environmental Setting

BACKGROUND INFORMATION ON NOISE

Noise is defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (i.e., frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is the amplitude of sound waves combined with the reception characteristics of the ear. Amplitude may be compared with the height of an ocean wave.

In addition to the concepts of pitch and loudness, several noise measurement scales are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement, which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of ten decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its decibel level. Each ten decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. **Exhibit 5.3-1** defines technical terms.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level* or *dBA*. All sound levels discussed in this EIR utilize the A-weighting scale. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. **Exhibit 5.3-2** shows representative outdoor and indoor noise levels in units of dBA. Because sound levels can vary markedly over a short period, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound / noise descriptor is called *Leq*. The most common averaging period is hourly, but *Leq* can describe any series of noise events of arbitrary duration.

Exhibit 5.3-1
Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (micro Newtons per square meter), where one Pascal is the pressure resulting from a force of one Newton exerted over an area of one square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, Leq	The average A-weighted noise level during the measurement period. The hourly Leq used for this report is denoted as dBA Leq[h].
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 PM to 10:00 PM and after addition of 10 decibels to sound levels in the night between 10:00 PM and 7:00 AM.
Day / Night Noise Level, Ldn	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 PM and 7:00 AM.
L01, L10, L50, L90	The A-weighted noise levels that are exceeded 1, 10, 50, and 90 percent of the time during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Illingworth & Rodkin

**Exhibit 5.3-2
Typical Noise Levels in the Environment**

Common Outdoor Noise Source	Noise Level (dBA)	Common Indoor Noise Source
	120 dBA	
Jet fly-over at 300 meters		Rock concert
	110 dBA	
Pile driver at 20 meters	100 dBA	
		Night club with live music
	90 dBA	
Large truck pass by at 15 meters		
	80 dBA	Noisy restaurant
		Garbage disposal at 1 meter
Gas lawn mower at 30 meters	70 dBA	Vacuum cleaner at 3 meters
Commercial / Urban area daytime		Normal speech at 1 meter
Suburban expressway at 90 meters	60 dBA	
Suburban daytime		Active office environment
	50 dBA	
Urban area nighttime		Quiet office environment
	40 dBA	
Suburban nighttime		
Quiet rural areas	30 dBA	Library
		Quiet bedroom at night
Wilderness area	20 dBA	
	10 dBA	Quiet recording studio
Threshold of human hearing	0 dBA	Threshold of human hearing

Source: Illingworth & Rodkin

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within approximately plus or minus one dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within approximately plus or minus one to two dBA.

Since the sensitivity to noise increases during the evening and at night because excessive noise interferes with the ability to sleep, 24-hour descriptors were developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level*, (CNEL) is a measure of the cumulative noise exposure in a community, with a five dB penalty added to evening (i.e., 7:00 PM - 10:00 PM) noise levels and a ten dB addition to nocturnal (10:00 PM - 7:00 AM) noise levels. The *Day/Night Average Sound Level*, *Ldn*, is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

REGULATORY FRAMEWORK

The *Tiburon General Plan* includes a Noise Element. The following Noise Element goals and policies would apply to this project (also see **Exhibit 4.0-1**):

- **Goal N-A:** To ensure that residential areas are quiet and that noise levels in public and commercial areas remain within acceptable limits.
- **Goal N-B:** To eliminate or reduce unnecessary, excessive and offensive noises from all sources.
- **Goal N-C:** To minimize the exposure of community residents to noise through the careful placement of land uses that may cause noise impacts.
- **Goal N-D:** To minimize current noise impacts from Tiburon Boulevard and other high-volume roads on adjacent land uses that are sensitive to noise.
- **Policy N-1:** The Town shall use the Noise and Land Use Compatibility Guidelines contained herein to determine where noise levels in the community are acceptable or unacceptable.
- **Policy N-2:** The Town should use the Noise and Land Use Compatibility Guidelines to determine acceptable uses, and to require noise attenuation methods in noise-impacted areas.
- **Policy N-3:** Environmental reviews (environmental impact reports, initial studies / negative declarations) of projects within the Tiburon Planning Area will be required to, where appropriate, include an acoustical analysis of the project's potential to cause a noise impact.
- **Policy N-4:** If the projected noise environment for a project exceeds the standards identified in the Noise and Land Use Guidelines, the Town shall require an acoustical analysis so that noise mitigation measures can be incorporated into the project design.
- **Policy N-10:** Standard quiet construction methods shall be used where feasible and when construction activities take place within 500 feet of noise sensitive areas.

Allowable hours of construction are contained in the Town's Municipal Code. Chapter 13, Section 13-6 of the Municipal Code states the following:

- All work covered by a permit issued under this chapter shall be confined to the hours from 7:00 AM to 5:00 PM Monday through Friday and 9:30 AM to 4:00 PM on Saturday. Only quiet work is allowed to be performed on Saturdays, such that *noise* from any source associated with the permitted work, including but not limited to construction activity, amplified sound, and worker's voices, shall not be plainly audible beyond the property line.
- No work shall be performed on Sunday or holidays recognized by the Town.
- Arrival or departure of heavy equipment (such as graders and backhoes) and delivery of heavy construction material (such as lumber and concrete) to a work site shall occur only between the hours stated above.
- Hours to operate, maintain, and service heavy equipment shall be limited to 8:00 AM to 5:00 PM Monday through Friday.
- Heavy equipment already located on-site may begin warming up at 7:30 AM.

The purpose articulated in the Town of Tiburon's previous ordinance regarding hours of construction (Ordinance No. 374 N.S.) was to:

- Balance the benefits of maintaining a quiet community with the necessity for construction and repair of buildings and structures in the Town. The Town Council has determined that reasonable regulation of hours of construction, as well as regulation of the arrival and operation of heavy equipment and the delivery of construction materials, is necessary to protect the health and safety of persons, promote the general welfare of the community, and maintain the quality of life in the Town of Tiburon.

EXISTING NOISE ENVIRONMENT

The project site is located in a quiet residential setting. Single-family residences adjoin the site on the north (Seafirth Estates), west (Acacia Court), and south (Hacienda Drive).¹ The existing home on the Rabin property (Lot 1) would remain. Ambient noise levels were measured at one location (ST-1) on the project site on August 31, 2007. This short-term noise measurement was conducted in a ten-minute interval.

Measurement location ST-1 is located near the existing home on Lot 1. The noise environment at ST-1 is typically quiet, and resulted primarily from the occasional plane and natural sounds such as birds and wind. Distant traffic noise along Paradise Drive was not readily audible from measurement location ST-1. Airplane noise generated maximum noise levels of about 49 dBA L_{max} and wind generated maximum noise levels of about 50 dBA L_{max} . The measured daytime L_{eq} at ST-1 was 47 dBA and the background noise level (L_{90}) was 44.

¹ Although not precisely oriented north-south for the purpose of this EIR the Paradise Drive boundary will be referred to as north and the Hacienda Drive boundary will be referred to as south.

Noise - Significance Criteria

This noise analysis uses criteria from the *State CEQA Guidelines* and the Town of Tiburon's municipal code. According to these criteria, the project would have a significant noise impact if it would:

- Expose persons to or generate noise levels in excess of standards established in the local General Plan or Noise Ordinance, or applicable standards of other agencies.
- Expose persons to, or generation of excessive groundborne vibration or groundborne noise levels.
- Generate a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Generate a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Construction noise would be a significant impact if:

The noise level would exceed 60 dBA L_{eq} and the existing ambient level by at least 5 dBA L_{eq} , and

The noise would be generated regularly for a 12-month period or longer.

- For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, the project would expose people residing or working in the project area to excessive noise levels.

Noise - Impacts and Mitigation Measures

LESS-THAN-SIGNIFICANT IMPACTS

Based on the findings of the analyses completed as a part of this Draft EIR it has been determined that the proposed *Alta Robles Residential Development Project* would have either no impact or less-than-significant impacts for the following significance criteria.

- *Expose persons to or generate noise levels in excess of standards established in the local General Plan or Noise Ordinance, or applicable standards of other agencies.*

The quiet setting is clearly compatible with the proposed residential development. There are no quantitative noise thresholds in the *Tiburon General Plan* or Noise Ordinance that would be exceeded.

- *Expose persons to, or generation of excessive groundborne vibration or groundborne noise levels.*

The project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels. No impact would result.

- *Generate a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

The noise generated from the proposed houses would be of the same character and level as current neighborhood noises. Traffic data prepared by the Fehr & Peers (the EIR traffic analysts) was reviewed to calculate the relative changes in noise levels. The traffic data indicates that noise levels would not measurably increase (increase would be less than one dBA) on area roadways as a result of the proposed project. Noise sources on the project site would not generate a significant adverse impact on existing residences in the vicinity of the project. No impact would result.

- *For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would expose people residing or working in the project area to excessive noise levels.*

Smith Ranch Airport and Marin County Airport (Gnoss Field) are the nearest airports to the project site. Smith Ranch Airport is located approximately eight miles to the north and Gnoss Field is located north of Novato about 20 miles from the site. The site is not covered by either airport's land use plan. No existing or proposed public or public-use airports are located within two miles of the site and aircraft operations would not expose persons to excessive aircraft noise. Thus, the project would have no impact.

- *For a project within the vicinity of a private airstrip, the project would expose people residing or working in the project area to excessive noise levels.*

The project site is not in the vicinity of the private airstrip. No impact would result.

IMPACT ANALYSIS

Impact 5.3-1 Construction Noise

Construction of the Alta Robles Residential Development would temporarily increase ambient noise levels in the site vicinity. Given the potential for substantial increases in noise at adjacent residential land uses as a result of project construction and the likelihood that substantial noise increases would occur for more than one construction season, this would be a significant impact.

Project construction activities are expected to occur in five phases.² Each phase of construction would likely include several activities including site preparation, site grading, utility construction, road paving, and clean-up. It is likely that construction activities would extend over at least two years, if not longer. Noise sensitive residential uses border the site to the north, west, and south plus the existing house on Lot 1.

The highest construction noise levels would be generated during earthmoving activities with lower noise levels occurring during building framing and finishing. **Exhibit 5.3-3** describes typical A-weighted average and instantaneous equivalent noise levels expected during various project construction activities.

Exhibit 5.3-3

Typical ranges of energy equivalent noise levels at 50 feet from construction sites (L_{eq} in dBA)

	Type of Construction							
	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	1 ^a	2 ^b	1	2	1	2	1	2
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

a Noise levels with all pertinent equipment present at site.

b Noise levels with minimum required equipment present at site.

Source: U.S.E.P.A., Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

Large pieces of earthmoving equipment such as graders, scrapers, and bulldozers typically generate maximum noise levels of 80 to 85 dBA at a distance of 100 feet. Maximum hourly average

² Preliminary Phasing Scheme, Precise Development Plan, Sheet C18, CSW/ST2, May 8, 2007.

construction generated noise levels of about 81 dBA to 88 dBA measured at a distance of 50 feet from the project site could intermittently occur during busy construction periods. Construction-related noise levels are normally five to ten dBA less during building framing, finishing, and landscaping phases. There would be variations in construction noise levels on a day-to-day basis depending on the actual activities occurring at the site. These noise levels drop off at a rate of about six dBA per doubling of distance between the noise source and receptor. Shielding by buildings would provide an additional five to ten decibels of attenuation at distant receptors.

Noise impacts resulting from construction activities depend on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise sensitive receptors. Earthmoving activities during each phase could last up to three months and would include grading and infrastructure improvements where heavy equipment would be used. Equipment likely to be used for site preparation and infrastructure installation would generally include dozers, tractors, backhoes, compactors, rollers, and dump trucks. These types of equipment generate considerable noise. It is anticipated that most of the equipment would be brought to the site at the beginning of the site work and left there until the completion of the construction. As necessary, trucks would bring materials such as water pipes, gravel, and asphalt to the site.

As a part of the Precise Development Plan a Construction Management Plan³ has been prepared for the proposed project. This plan includes noise control measures such as muffling and maintaining all internal combustion engine-driven equipment so that maximum noise levels from non-impact equipment would not exceed 80 dBA. The plan would also limit construction activities to weekdays between 7:30 AM and 5:30 PM. Allowable construction period times would be posted at the site. However, the allowable construction period extends one-half hour past the limit in the Town's ordinance for construction periods (see discussion above). The phone number of a Disturbance Coordinator, who could respond to noise complaints, would be posted at the construction site as part of the plan.

The topography would result in fairly complex exposure to construction noise for residences surrounding the site. Where homes have a direct view of construction activities, noise levels would increase due to construction activities. Existing houses located at the southeast corner of Hacienda Drive (160, 170, and 180 Hacienda Drive) are located approximately 400 feet from proposed residential use areas on Lots 4 and 5. Hourly average noise levels at receptors located 400 feet from busy construction activity would be approximately 60 to almost 70 dBA L_{eq} . Existing houses on Hacienda Drive located farther away from construction activities would experience lower noise levels.

The existing house on Lot 1 is located approximately 300 feet from the nearest residential use areas on Lots 2 and 9. Hourly average noise levels at receptors located 300 feet from busy construction activity would be approximately 65 to 70 dBA. Hourly average noise levels at Lot 1 during construction of Lots 3 and 10 would be approximately 60 to 65 dBA at a distance of 500 feet.

An existing house east of the project site (13 Paradise Cove) is located approximately 400 feet from the proposed residential use area on Lot 8. Hourly average noise levels at receptors located 400 feet from busy construction activity would be approximately 60 to 70 dBA. The next nearest proposed residential lot is Lot 7, located approximately 550 feet to the center of this home. Hourly average noise levels 550 feet from busy construction activity would be approximately 60 to 68 dBA.

³ *Construction Management Plan, Precise Development Plan, CSW/ST2, March 6, 2007.*

Existing homes located along Seafirth Road (36, 40, 50, and 60 Seafirth Road) are located approximately 250 feet from proposed residences on Lots 13 and 14. Hourly average noise levels at homes located 250 feet from busy construction activity would be approximately 67 to 74 dBA. The next nearest proposed residential lot is Lot 12, located approximately 550 feet from existing houses on Seafirth Road. Hourly average noise levels at receptors located 550 feet from busy construction activity would be approximately 60 to 67 dBA.

Construction noise levels would be substantially above the existing measured ambient noise level at existing houses in the vicinity of the project. Noise-sensitive receptors located within approximately 1,200 feet of busy construction activity could potentially experience noise levels of about 60 dBA at times. The increase would be less where terrain shielding occurs. Levels of 60 dBA would be at least ten dBA above the existing levels that were measured at or near the project site. Noise levels exceeding 60 dBA L_{eq} could be received at nearby residences during earthmoving operations, the construction of foundations, building framing, and finishing. Given the potential for substantial increases in noise at adjacent houses as a result of project construction and the likelihood that substantial noise increases would occur for more than one construction season, the construction project would result in a significant noise impact.

Mitigation Measure 5.3-1 The applicant shall mitigate construction noise impacts by implementing the Construction Management Plan as set forth in the Precise Development Plan and as modified as follows:

- Modify the Construction Management Plan to limit construction hours, including hours for truck deliveries and arrival or departure of heavy equipment, to between 7:00 AM and 5:00 PM Monday through Friday and 9:30 AM to 4:00 PM on Saturday, per Chapter 13 of the Town of Tiburon Municipal Code.
- Modify Construction Management Plan to include restriction on idling of construction equipment and trucks.
- Modify Construction Management Plan to include limits for noise from construction workers radios, so as not to be audible off the site.
- At all times during grading and construction, stationary noise-generating equipment shall be located as far as practical from sensitive receptors and placed so that emitted noise is directed away from residences.
- Notify neighbors within 500 feet of the construction site of the construction schedule in writing.

Significance after Mitigation Implementation of the above mitigation measure would reduce the effects of construction noise upon existing residences in the area. Even after implementing these measures, however, noise levels at adjacent residences would continue to substantially exceed existing ambient noise levels. Because construction is expected to last more than one year, and even after implementing these measures noise levels would substantially exceed ambient levels, this would be a significant unavoidable impact.

Responsibility and Monitoring The Town of Tiburon staff would be responsible for ensuring that the Construction Management Plan is modified as described in Mitigation Measure 5.3-1 and that neighbors are notified of the construction schedule prior to the beginning of each phase that would generate substantial noise (i.e., five dBA above ambient levels).

5.4 HYDROLOGY AND WATER QUALITY

Hydrology and Water Quality - Environmental Setting

This section presents an evaluation of potential project impacts to hydrology and water quality on and near the *Alta Robles Residential Development* site. In addition to a review of project related documents¹ Clearwater Hydrology staff (the EIR's hydrologist) conducted a site reconnaissance in August 2007.

REGIONAL HYDROLOGY

The Alta Robles project site is situated on the north-facing slopes of the Tiburon peninsula, which collectively drain to the north-northeast toward San Francisco Bay. This portion of San Francisco Bay Watershed is referenced in the Water Quality Control Plan for San Francisco Bay² as the "Central Basin" Hydrologic Planning Area. The Central Basin planning area extends southward from San Rafael and Richmond to North Oakland, the Presidio and the western portion of Golden Gate Park in San Francisco (see **Exhibit 5.4-1**). Accordingly, the Central Basin receiving waters of San Francisco Bay are referenced in this Hydrology and Water Quality section as Central San Francisco Bay.

The composite watershed encompassing the Alta Robles project site totals 61.6 acres and drains to Paradise Drive, which forms the northern watershed boundary. Earthen ditches bordering the insloped Paradise Drive collect site and roadway stormwater runoff and discharge it under Paradise Drive to downslope drainageways and other residential drainage conveyance systems, and ultimately to the Bay shoreline. **Exhibit 5.4-2** shows this relationship of the project site watershed to Paradise Drive and the Central San Francisco Bay shoreline.

Elevations of site watersheds range from 460 feet NGVD³ at the local crest of the north-south trending ridgeline to 130 to 170 feet NGVD along Paradise Drive. Aside from the principal ridgeline and a couple of minor easterly trending spur ridges, watershed slopes typically exceed grades of 20 percent and reach as high as 50 percent.⁴

Mean annual rainfall at the project site totals roughly 26 inches.⁵ Rainfall typically occurs during the winter rainy season which extends from November to April.

¹ Technical reports prepared for the proposed project are listed in **Section 1.0 Introduction**.

² *Water Quality Control Plan--San Francisco Bay (Region 2)*, San Francisco Bay Regional Water Quality Control Board (RWQCB), June 1995.

³ North American Vertical Datum of 1988 (NAVD88).

⁴ *Existing Slope Analysis, Precise Development Plan*, Sheets C4 and C5, CSW/ST2, May 8, 2007.

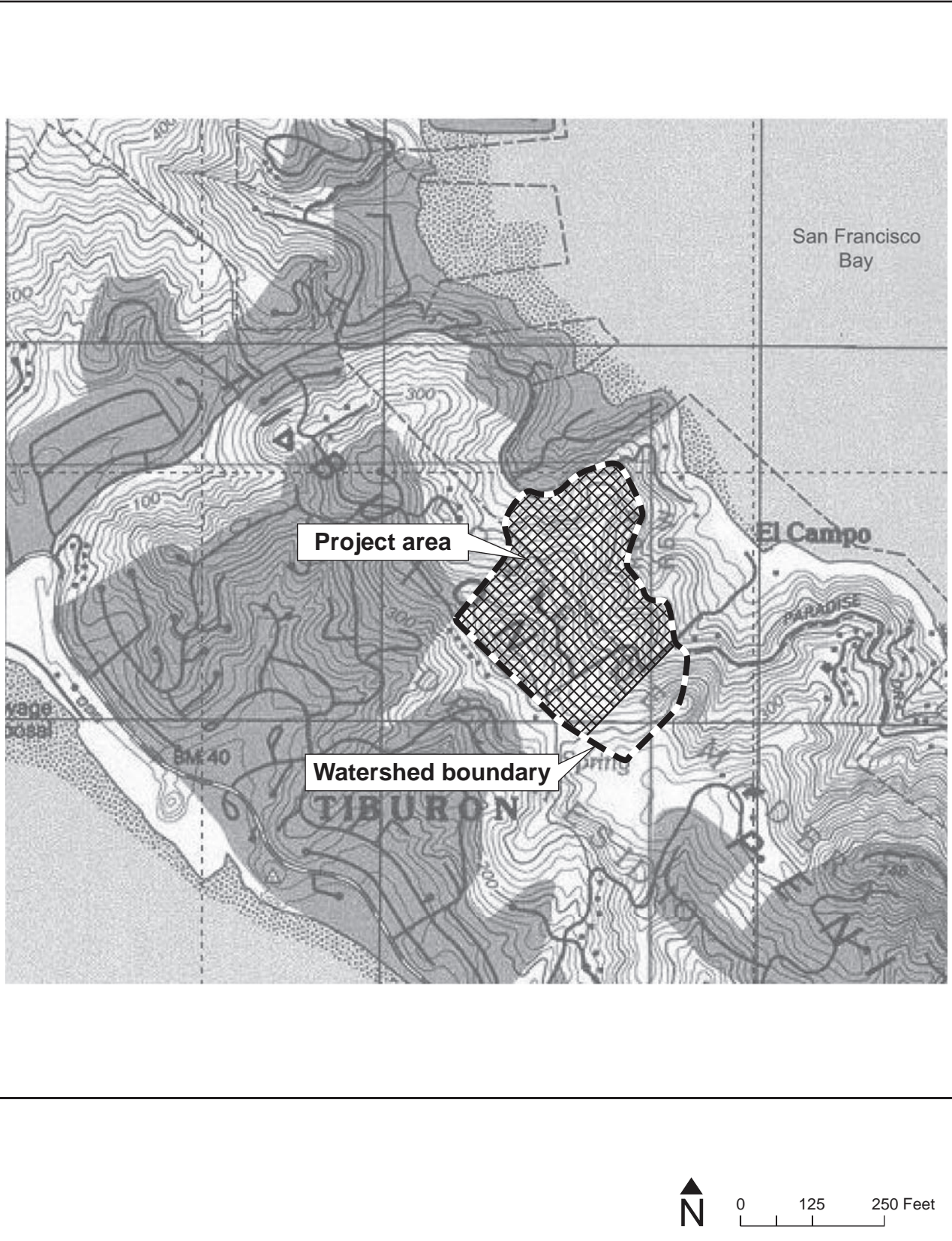
⁵ *Mean Annual Precipitation and Precipitation Depth-Duration-Frequency Data for the San Francisco Bay Region, California*. US Geological Survey Open-File Report, S.E. Rantz, 1971.

**Exhibit 5.4-1
San Francisco Bay Central Basin**



Source: Water Quality Control Plan for the San Francisco Bay Basin, 1995

Exhibit 5.4-2
Project Vicinity Map with Composite Site Watershed



Source: USGS, 2001

Significant non-catastrophic creek flooding on the site drainageways is minimal due to the steep slopes and incised channels which characterize the site. Some flooding over Paradise Drive can occur periodically if the roadway culverts become plugged with debris during major rainstorms. In extreme and infrequent cases, such as the January 1982 rainstorm, landslides or debris flows can cause catastrophic flooding, downslope sedimentation, and culvert obstruction.

Soils in the project site include Henneke stony clay loam, 15-50 percent slopes; Tocaloma-McMullin complex, 50-75 percent slopes; Tocaloma-Saurin association, very steep slopes; and Los Osos-Bonnydoon complex, 30-50 percent slopes.⁶ The Henneke soils are stony clay loams formed from weathered serpentinite. The Tocaloma-McMullin complex is a gravelly loam formed from weathered sandstone and shale bedrock. The Tocaloma-Saurin association is a gravelly clay loam derived from sandstone and shale. The Los Osos-Bonnydoon soils are shallow loams and clay loams derived from sandstone and shale bedrock. Runoff from each of these soils is classified as rapid, and the erosion hazard is high.

LOCAL HYDROLOGY AND WATERSHED CHARACTERISTICS

At the local watershed outlet along Paradise Drive, the composite site watershed encompasses 61.6 acres, and includes some adjoining off-site lands. The project site occupies an upper to mid-slope position on a steep northeastern-facing hillslope and is depicted along with the watershed boundary in **Exhibit 5.4-2**. Existing land uses within the project site comprise oak-bay woodland, grassland and residential development, which is limited to the improvements associated with the existing Rabin residence. In addition to a single-family house, the existing Rabin residence includes a driveway, tennis court, and terraced garden area. The immediate area surrounding the Rabin residence has several existing drainage features. These include storm drains that drain the terrace area, six existing drainage inlets that collect runoff from the driveway and tennis court area, and a concrete ditch that parallels the driveway shoulder.

The north and south borders of the project site are formed by Paradise Drive and Hacienda Drive. Downslope of Paradise Drive, sparse hillslope residential development, including one access roadway, occur along with a similar mix of oak-bay woodland and grassland. Downslope of Hacienda Drive, the prevailing land use is low density residential. The project area topography features several northeasterly trending spur ridges and intervening drainage swales. The hillslopes and swales are vegetated with low grasses, shrubs, and isolated clusters of oak and bay trees.

Exhibit 5.4-3 shows the site's existing hydrologic features and delineates 15 site drainage areas (Drainage Areas 1 through 15). Six existing storm drain inlets collect runoff from Drainage Areas 10 through 15, contiguously located at the southwestern corner of the project site. These drainage areas include the existing tennis court and adjacent upslope areas. The storm drains extending from the six inlets convey this runoff to the Drainage Area 1 culvert outlet under Paradise Drive (Culvert 1 in **Exhibit 5.4-3**). This drainage outlet is off-site and roughly north of the northern site boundary. Runoff from Drainage Areas 1 through 9, which includes that generated over the remaining Rabin residence improvements and the existing driveway, is conveyed downslope, either overland or, in more concentrated form, in surface swales. Once the runoff reaches the existing ditch along Paradise Drive, it is conveyed along with additional Paradise Drive roadway runoff under Paradise Drive by

⁶ *Soil Survey of Marin County, California*, Soil Conservation Service, United States Department of Agriculture, 1985. On-site soils characteristics are further described in **Section 5.6 Geology and Soils**.

nine existing culverts, labeled Culverts 1 through 9 in **Exhibit 5.4-3**. The roadway culverts range in size from 12 inches to 24 inches in diameter. Downstream of the Paradise Drive culvert outlets, the runoff flows through swales, culverts and other downslope residential drainage structures to the shoreline of Central San Francisco Bay.

There are numerous creep zones as well as active, dormant, and potential landslides within the project site watersheds.⁷ Most of the landslides are shallow and lack well-defined landslide planes. They are composed of medium to high plasticity clayey soils that tend to be areas of slow slope movement and have low debris flow potential. However, mapped landslides within the drainage ravines have a higher likelihood of producing debris flows.

ON-SITE AND DOWNSTREAM FLOODING

Flood Insurance Rate Maps (FIRMs) produced by the Federal Emergency Management Agency (FEMA) classify the project site as occupying Zone X , which indicates an area outside of the 0.2 percent chance flood (i.e. 500-year flood) zone.”⁸

The project area is on a ridge with slopes that drain away from the project site and is at elevations well above the 100 and 500 year flood zones. However, ponding water and inadequate drainage around buildings may cause localized nuisance flooding. During severe rainstorms, project site runoff can convey significant sediment and debris which can obstruct Paradise Drive culverts and limit culvert discharge. Where headwater clearance at the culvert inlet is minimal, this can lead to short-term sheet flooding over Paradise Drive, creating hazardous driving conditions.

EROSION AND SEDIMENTATION

The project area’s loamy and clay loam soils are relatively shallow and occupy moderate to steep slopes. These soils are susceptible to erosion when exposed to concentrated surface flow. The potential for erosion is increased when established vegetation is disturbed or removed during normal construction activity. Under existing site conditions, mass wasting processes pose the greatest risk for erosion and downstream sedimentation. The August 2007 field inspection of site drainageways and culvert inlets and outlets suggested the prevalence of stable swales in the upper watershed and relatively well vegetated channels in the lower elevation portions of the site, adjacent to Paradise Drive. Minor sedimentation (less than four inches depth) was observed in these culverts. In addition, the outlets typically were stabilized with rock energy dissipators, and displayed little active incision immediately downstream of the outlets.

WATER QUALITY

The quality of stormwater runoff under existing watershed conditions is likely excellent over the majority of the project site, although no actual field data were available for review. Urban land use is minimal, restricted to the Rabin residence and the existing private driveway. Therefore, site

⁷ *Preliminary Landslide Assessment, Alta Robles Residential Project, Tiburon, California*, S. R. Korbay, W.V. McCormick, Kleinfelder, February, 28, 2007.

⁸ *Flood Insurance Rate Map for Marin County, California and Incorporated Areas, Town of Tiburon, Map #06041C0488D*, Federal Emergency Management Agency, Effective Date May 4, 2009.

**Exhibit 5.4-3
Existing Conditions Hydrology Map**



Legend

- Property Boundary
- (m) → Drainage Path
- Drainage Area Boundary

5	Drainage Area Designation
1.25 Ac	Drainage Area
0.60	Runoff Coefficient

— Direction of Overland Flow

Source: CSW/ST 2, 2006

stormwater is relatively free of automotive pollutants. Depending on the horticultural practices employed in the maintenance of the Rabin's terraced gardens, some traces of nutrients and / or applied landscaping chemicals (i.e. herbicides and pesticides) could be present in irrigation runoff. Sediment loading from the project site is variable and corresponds in magnitude to the intensity of rainfall and antecedent soil moisture conditions in the site watersheds. Thus, when intense rainfall occurs over a fully saturated watershed, significant water and sediment discharge can occur, particularly in association with landsliding or debris flows. Sediment loads generated by channel erosion / incision through the lower reaches of the site drainageways can also be supplemented by local slump and / or slide failures in the upslope colluvial deposits. However, the August 2007 field inspection confirmed that the lower reaches of the principal site drainageways are stable and the banks are anchored by relatively dense riparian vegetation.

Field data compiled by the U.S. Environmental Protection Agency (USEPA) and other researchers have confirmed that heavy metal contaminant concentrations in stormwater from residential areas can significantly exceed those from open space areas.⁹ For Bay Area sampling stations, USEPA and *Regional Water Quality Control Board (Basin Plan)*¹⁰ water quality criteria for heavy metals (such as nickel, lead, mercury, zinc, copper, chromium, cadmium, and selenium) were exceeded when urbanization, including residential, commercial, and industrial land uses, reached more than 70 percent of the total watershed area. Even at relatively lower residential loading rates, the more stringent water quality criteria for aquatic habitat protection can be exceeded. Oil and grease contamination also affects stormwater runoff from roadway and driveway surfaces. In addition, herbicide and pesticide residues and nutrients generated from lawn and landscaping maintenance can reach drainageways and contaminate receiving waters.

The current 303(d) list of impaired water bodies, maintained by the SF Bay RWQCB and approved by the USEPA in June 2007, cites Central San Francisco Bay as impaired for pesticides chlordane, DDT, and dieldrin, and for dioxins, mercury (dissolved and sediment), furan compounds, exotic species, PCBs and selenium. Under the direction of USEPA, the RWQCB evaluates each impairing water quality constituent and if necessary, develops a Total Maximum Daily Load (TMDL) for that constituent. The TMDL and its implementation plan serve to attain and maintain water quality standards for the impaired water body. A list of current TMDLs and projected time frames for implementation of additional TMDLs are available on the SF Bay RWQCB website.¹¹ To date, completed TMDLs that are relevant to the Alta Robles project and Central San Francisco Bay include those for mercury and urban creeks pesticide toxicity.

GROUNDWATER AND SENSITIVE HABITATS

The site's shallow soils and steep slopes minimize opportunities for rainfall infiltration and groundwater recharge. However, the wedges of colluvium present in bedrock hollows and ravines are recharged by groundwater during the winter season. Several freshwater seeps exist on the project site

⁹ *San Francisco Bay Area Stormwater Runoff Monitoring Data Analysis 1988-1995*, Woodward Clyde Consultants, prepared for the Bay Area Stormwater Management Agencies Association, Final Report, October 1996.

¹⁰ *Water Quality Control Plan--San Francisco Bay (Region 2)*, San Francisco Bay Regional Water Quality Control Board (RWQCB), June 1995.

¹¹ http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml.

(see **Exhibit 5.5-3**) which support local colonies of sedges and other hydrophilic vegetation. A seep is a groundwater outflow emanating from a geologic contact, but the magnitude of discharge is less than that of a spring - the source area from which a seep discharges usually is larger, producing a less concentrated discharge. The on-site seeps likely overlay zones of fractured bedrock and underlying relatively impervious materials associated with the Franciscan mélange formation, such as clay-rich sheared shale.¹² In addition to the mapped freshwater seeps, the applicant's biologist identified one seasonal wetland, located on a minor topographic bench in Drainage Area 1. This feature is likely associated with a past landslide or other slope failure that deposited unconsolidated material on the slope. Upslope swale runoff infuses the material, which is poorly drained, creating seasonally saturated conditions. Finally, perched water tables can also occur during the winter in the colluvial wedges that form the site drainage swales. During extreme rainstorms, elevated pore pressures affecting the colluvium can produce landslides and debris flows.

REGULATORY SETTING

The following summarizes federal, State, and local regulatory programs, laws, and policies related to the proposed project.

Federal Laws and Regulations

The Federal Water Pollution Control Act (commonly referred to as the Clean Water Act [CWA]) of 1972, as amended in 1987, prohibits the discharge of pollutants into waters of the United States unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Section 402(p) of the 1987 amendments established a framework for regulating municipal, industrial and construction stormwater discharges under the NPDES program. In California, NPDES permits are issued through the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs).

In 1999, the USEPA issued its National Pollution Discharge Elimination System (NPDES) Phase II General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (SM4). The Phase II General Permit requires regulated SM4s in urbanized areas, as well as small SM4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges. The Town of Tiburon is under the Phase II permitting authority of Marin County, which is the regulated SM4 entity.

Section 404 of the federal Clean Water Act regulates the discharge of fill into Waters of the United States, including adjacent wetlands. Filling and / or disturbance of delineated wetlands requires a Department of the Army Fill Permit, issued by the Regulatory Branch of the US Army Corps of Engineers. Channel maintenance activities such as streambank protection and construction of outfall structures are routinely covered by Nationwide Permits, while more significant disturbance typically requires more substantial regulatory involvement and oversight, including approval of adequate impact mitigation.

State Laws and Regulations

In California, the State Water Resources Control Board (SWRCB) and the nine RWQCBs issue NPDES permits. Communities with populations over 100,000, high-risk industries identified by the

¹² *Preliminary Landslide Assessment, Alta Robles Residential Project, Tiburon, California, op.cit.*

United States Environmental Protection Agency (USEPA), and construction projects of five acres or more must obtain an NPDES permit under NPDES Phase I regulations. On August 19, 1999, the State Water Resources Control Board (SWRCB) reissued the NPDES General Construction Storm Water Permit (Water Quality Order 99-08-DWQ). On December 8, 1999 the SWRCB amended Order 99-08-DWQ to apply to sites as small as one acre. Consequently, developments, redevelopments or construction disturbance of one acre or more require the filing of a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and other compliance-related documents with the State Water Resources Control Board, as well as the appropriate permit fee.

The California Department of Fish and Game (CDFG) also maintains jurisdiction over wetlands, as well as streams. Section 1602 of the State Fish and Game Code vests permitting authority to CDFG for any activity that may substantially modify a river, stream or lake. Typically, CDFG will take jurisdiction over small creeks and drainageways with defined bed and banks. Thus, headwater swales that do not exhibit any developed channel form are outside of CDFG jurisdiction.

Local Regulations and Policies

Marin County Regulations

The project site is within the regulatory jurisdiction of Marin County under the provisions of the National Pollution Discharge Elimination System (NPDES) Phase II General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (SM4s). The County's SM4 General Permit, approved by the San Francisco Bay Regional Water Quality Control Board in 2004, regulates stormwater discharges associated with construction and residential development within its member municipalities, including the Town of Tiburon. As part of its General Permit application, the County prepared a Stormwater Management Plan (SWMP), which outlined goals, timetables and Best Management Practices (BMPs) designed to protect and enhance stormwater quality to the Maximum Extent Practicable (MEP). Significant elements of this include: illicit discharge detection and elimination, construction site stormwater runoff control, and post-construction stormwater management. Attachment 4 of the NPDES Phase II General Permit describes design measures that apply to specific project types within specific municipalities of Marin County.

The Marin County Department of Public Works / Flood Control District administers the Marin County Stormwater Pollution Prevention Program (MCSTOPPP), an organization that provides for the coordination and consistency of approaches between each of the 11 cities and towns and the County as they carry out their own stormwater pollution prevention programs. MCSTOPPP encompasses both the Countywide Program and the local programs of its municipalities. Staff with the Countywide Program meets with Regional Board staff annually to discuss program performance and goals, as well as evolving stormwater regulations.

The Town of Tiburon has applied as a co-permittee with the County as part of MCSTOPPP's *Action Plan 2005: Protecting and Enhancing Marin County's Watersheds*.¹³ *Action Plan 2005* was developed to satisfy the regulatory requirements of the *Basin Plan*, which directed municipalities and counties to develop and implement a program for minimizing the discharge of stormwater contaminants to the region's receiving waterways. According to *Action Plan 2005*, the Regional Board intends to adopt an NPDES general permit for the Countywide Program and specific instructions on how the local programs can obtain coverage under the general permit.

¹³ *Stormwater Management FY 2000/01-2004/05 Action Plan: Protecting and Enhancing Marin County's Watersheds*. Prepared by EOA, Inc., Jan. 2001.

In addition to the Phase II stormwater regulations, Marin County municipalities will be required to comply with new federal water quality criteria for total maximum daily loads (TMDLs) designated for several high priority stormwater contaminants, including mercury, PCBs, and diazinon.

Town of Tiburon

In addition to the State and County regulations, stormwater discharges within the Town of Tiburon are subject to regulations cited under Chapter 20A *Urban Runoff Pollution Prevention*, Title VI *Public Safety and Welfare* of the Municipal Code.

Sub-section 20A-10 *Reduction of Pollutants in Storm Water* cites *Best Management Practices for new developments and redevelopments*, which describe requirements for the implementation of site BMPs for erosion control, the preparation and submittal of erosion control plans, as well as a provision stating that the Superintendent of Public Works may establish controls on the volume and rate of storm water runoff from new developments and redevelopments.

The Open Space and Conservation Element of the *Tiburon General Plan* includes water quality policies OSC-52 through OSC-54, which address water quality preservation and enhancement, the Town's participation in the Marin County Stormwater Pollution Prevention Program (MCSTOPPP), and its promotion of Start-at-the-Source design principles to minimize development impacts on natural watershed systems. Representative design approaches to minimize the effects of hydromodification and to enhance stormwater quality are outlined in MCSTOPPP's *Guidance for Applicants: Stormwater Quality Manual for Development Projects in Marin County - A Low Impact Development Approach*.¹⁴

Policy SE-12 of the *Tiburon General Plan* promotes the use of on-site stormwater detention techniques in maintaining post-development peak flow rates at pre-development levels. This policy was designed to minimize the impact of new development on downstream flooding and channel stability. In addition, Program SE-b of the *Tiburon General Plan* addresses the potential for alterations in drainage patterns, including concentration of runoff, and requires that geomorphic stability of receiving drainageways be assessed. Where an assessment concludes that a downstream drainageway is unstable or could become unstable with the planned alteration of drainage, the program recommends the design and installation of stabilizing channel features, preferably of a biotechnical nature.

¹⁴ Marin County Stormwater Pollution Prevention Program (MCSTOPPP), in cooperation with Marin County and Marin's cities and towns, Version 6, Feb. 2008.

Hydrology and Water Quality - Significance Criteria

The hydrology and water quality analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the proposed project would result in a significant hydrologic, drainage, or water quality impact if it:

Water Quality

- Violated any water quality standards or waste discharge requirements.
- Substantially degrades water quality.

Drainage

- Substantially altered the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site.
- Substantially depleted groundwater supplies or interfered substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.
- Substantially altered the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increased the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site.
- Created or contributed runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provided substantial additional sources of polluted runoff.
- Required or resulted in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Flooding

- Placed housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Placed within a 100-year flood hazard area structures that would impede or redirect flood flows.
- Exposed people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Seiche, Tsunami, and Mudflow

- Resulted in inundation by seiche, tsunami, or mudflow.

Hydrology and Water Quality - Impacts and Mitigation Measures

PEAK FLOW ASSESSMENT

Exhibit 5.4-4 shows the site's future hydrologic conditions, based on the proposed Precise Development Plan (PDP).

The applicant's civil engineer prepared a pre- and post-project peak flow assessment for the project site for the 25- and 100-year rainstorm events.¹⁵ Clearwater Hydrology (the EIR hydrologist) conducted an initial peer review of the peak flow estimates presented in the project drainage report and disagreed with the selection of runoff coefficient ("C") value for undeveloped areas, which was applied to the Caltrans Zonal Method computations, as specified for use in Marin County.¹⁶ Consequently, the EIR hydrologist prepared an independent peak flow assessment utilizing lower "C" values, for the undeveloped drainage areas. The revised undeveloped area "C" values were based on those published by the US Geological Survey for use in stormwater drainage design in the San Francisco Bay Region.¹⁷

In lieu of calculating pre- and post-project peak flows for each drainage area, the EIR hydrologist chose to compare two drainage areas that represent the extremes of the development that is proposed. Drainage Area 1, (see **Exhibit 5.4-4**) which occupies the western and southwestern portion of the project site, was chosen because of the absence of any proposed development. Since the "C" value in question is that of the undeveloped areas, this area serves as a control to determine how a lower "C" value would affect the peak flow rate predicted. Drainage Area 4, located adjacent to the northern driveway entrance, was chosen because it was predicted by the Preliminary Hydrology Report to have the highest percentage increase in both impervious surface coverage and peak flow rate. Assessment of this drainage area will show how a lower "C" value would affect the increase in peak flow rate due to a substantial (i.e. 31.4 percent) increase in impervious surface. Both Drainage Areas 1 and 4 are delineated in **Exhibits 5.4-3** and **5.4-4**.

The peak flow rates for each area were computed for the 100-year design rainstorm using the Caltrans Zonal Method, modified as noted above for the runoff coefficient ("C") estimation. The open space slopes on the project site, as well as the pervious sod roofs of the proposed residences were characterized as natural watershed and assigned a conservative "C" value of 0.4.¹⁸ The applicant's civil engineer used an undeveloped area "C" value of 0.6, which would result in higher existing condition peak flow values. The applicant's civil engineer used a runoff coefficient of 0.90 for developed spaces, as did the EIR hydrologist.

¹⁵ *Preliminary Hydrology Report for Alta Robles Development, Tiburon, Marin County, California*, CSW/Stuber-Stroeh Engineering Group, Inc., January 2006.

¹⁶ *Hydrology Manual Simplified Instructions (Revision: 8/2/00)*, County of Marin, Department of Public Works.

¹⁷ *Suggested Criteria for Hydrologic Design of Storm-Drainage Facilities in the San Francisco Bay Region*, California, S.E. Rantz, U.S. Geological Survey Open-File Report, 1971.

¹⁸ *Ibid.*

**Exhibit 5.4-4
Proposed Conditions Hydrology Map**



Legend

- Property Boundary
- (m) → Drainage Path
- Proposed Drainage Area Boundary
- Existing Drainage Area Boundary
- 5 Drainage Area Designation
- 1.25 Ac Drainage Area
- 0.60 Runoff Coefficient



Source: CSW/ST 2, 2006

The results of the applicant’s civil engineer’s and EIR hydrologists’ peak flow assessment of Drainage Areas 1 and 4 for the 100-year recurrence interval storm events are shown in Exhibits 5.4-5 and 5.4-6.

Exhibit 5.4-5
Alta Robles Site Pre- and Post-Project Peak Flow Rates for 100-year Interval Rainstorm and “C” Value of 0.4 for Undeveloped Areas

Drainage Area	Peak Discharge (cubic feet per second)		
	Pre-Project	Post-Project	Percent Change
1	12.16	12.16	0
4	2.70	3.75	+39

Source: Clearwater Hydrology

Exhibit 5.4-6
Alta Robles Site Pre- and Post-Project Peak Flow Rates for 100-year Interval Rainstorm and “C” Value of 0.6 for Undeveloped Areas

Drainage Area	Peak Discharge (cubic feet per second)		
	Pre-Project	Post-Project	Percent Change
1	20.71	20.71	0
4	3.40	4.71	+38

Source: Clearwater Hydrology

There are two effects of applying the revised runoff coefficient. First, it predicts lower peak flow rate values for both undeveloped and partially developed drainages. The higher the percentage of undeveloped area in a drainage area, the greater the influence of the revised “C” value and the lower the predicted peak flow. Second, it predicts a nearly identical increase in the pre- and post-project peak flow differentials for partially developed drainage areas.

As discussed in *Chapter 3.0 Description of the Proposed Project*, each residential lot would be provided with a cistern that would store the additional stormwater runoff generated by the construction of lot impervious surfaces (such as roof surfaces, driveways, patios, etc.). The intent of the cisterns is to store sufficient runoff to enable the proposed project to maintain site peak flows at pre-project levels for the 100-year design rainstorm. Based on the above analysis, the design cistern capacities proposed in the Preliminary Hydrology Report¹⁹ would be adequate to maintain post-development peak flow rates at pre-development levels and to mitigate any peak flow impacts. Furthermore, the 100-year peak flow rates computed by the EIR hydrologist and the applicant’s civil engineer are both less than the downstream culvert capacities reported in the Preliminary Hydrology Study. Since those computed flows were not found to cause flooding, the lower peak flow values found by the EIR hydrologist for the 100-year design storm support the Preliminary Hydrology Report’s contention that the existing culvert capacities would be adequate, if potential obstruction by sediment and debris is not

¹⁹ Appendix VIII Hydraflow Hydrographs Program Results, Preliminary Hydrology Report for Alta Robles Development Tiburon, Marin County, California, CSW/Stuber-Stroeh Engineering Group, Inc., January 2006.

considered. Furthermore, the proposed landslide remediation work would have a beneficial impact on the stability of colluvial deposits that occupy the majority of the site drainageways. Thus, implementation of the remediation program would reduce the risk of the episodic, high volume delivery of coarse sediments that are the primary cause of culvert obstruction during severe rainstorms.

LESS-THAN-SIGNIFICANT IMPACTS

Based on the findings of the analyses completed as a part of this Draft EIR it has been determined that the proposed *Alta Robles Residential Development* would have either no impact or less-than-significant impacts for the following significance criteria:

- *Placed housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map; and*
- *Placed within a 100-year flood hazard area structures that would impede or redirect flood flows.*

The project site is not within a 100-year flood hazard area.²⁰ Moreover, no buildings are proposed within the site's small drainageways or their active flow zones

- *Exposed people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.*

The project's proposed building footprints are outside of the areas of influence of the site's small drainageways and active flow zones. There are no upstream levees or dams within the project's watersheds.

- *Created or contributed runoff water that would exceed the capacity of existing or planned stormwater drainage systems.*

The proposed cisterns would possess sufficient capacities to mitigate post-development peak flow rates to pre-development levels for the 100-year rainstorm. Furthermore the applicant's civil engineer has assessed the existing Paradise Drive culverts and found all to have sufficient capacity to pass the existing 100-year peak flows, which according to the present EIR peak flow analysis are conservatively high. Finally, the implementation of the proposed landslide remediation program would increase hillslope stability and reduce the risk of episodic, large volume sediment yields during severe rainstorms. Therefore, the project would have a less-than-significant impact on culvert capacities or performance.

- *Resulted in inundation by seiche, tsunami, or mudflow.*

The lowest portion of the project site is at 120 feet and thus is far above the zone of inundation by a seiche or tsunami, which is predicted at +8.6 feet NGVD.²¹ All structures would be set back

²⁰ *Flood Insurance Rate Map for Marin County, California and Incorporated Areas, Town of Tiburon, Map #06041C0488D, op. cit.*

²¹ *Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound, Technical Report H-75-17, Hydraulics Laboratory, US Army Engineer Waterways Experiment Station, Vicksburg, MS, November 1975. Figure cited is 500-yr. tsunami runup prediction for northern shoreline of Tiburon Peninsula.*

significantly from the on-site drainageways, so none of the proposed buildings would be subject to impacts due to mudflows. In addition, application of the Town's landslide policy would ensure that all unstable landslides are repaired, lessening the risk of mudflow occurrence.

IMPACT ANALYSIS

Impact 5.4-1 Alteration of Existing Drainage Patterns and On- and Off-Site Flooding

Project development would result in the clearing of land for the proposed site improvements, as well as localized alterations in the drainage pattern and the installation of roadways and storm drain systems. While the proposed cistern installations would maintain pre-development peak flow rates for each of the site drainage areas, concentrated stormwater would be discharged at two points along existing swales or small drainageways (i.e. more defined bed and banks). If concentrated flows delivered increased volumes of sediment to Paradise Drive culvert inlets, these roadway culverts could become obstructed and create nuisance backwater flooding along Paradise Drive. With implementation of measures included in the PDP, particularly those related to landslide remediation, this would be a less-than-significant impact.

The EIR hydrologist's peer review of the applicant's peak flow and detention storage analyses concurred that the proposed cistern capacities cited in the Preliminary Hydrology Report ²² would be adequate to maintain post-development peak flow rates at pre-development levels and to mitigate any peak flow impacts. While the 100-year peak flow rates computed by the EIR hydrologist and the applicant's civil engineer were different, the associated percentage increases in rates were essentially the same. In either case, post-project peak flow rates were less than the downstream culvert capacities reported in the Preliminary Hydrology Report at the particular drainage area outlets. Since those computed flows were not found to cause flooding under unobstructed culvert conditions, no significant flooding impacts would result from implementation of the applicant's stormwater detention and conveyance plan. There are no Town of Tiburon storm drainage design guidelines or policies that mandate the consideration of episodic delivery of large volumes of sediment and debris to, and partial obstruction of, downstream roadway culverts, and subsequent inducement of roadway sheet flooding. However, as noted above, implementation of the proposed landslide remediation program would reduce the risk of both these episodic releases of sediment and debris and the severe culvert obstruction.

In order to provide adequate sight distance for vehicles approaching the entrance road traveling west on Paradise Drive Mitigation Measure 5.1-4 would require cutting back a portion of the hillside east of the entrance road. This would involve cutting into the toe-of-slope east of the entrance and constructing a retaining wall up to eight feet high. This would also require the culverting of the roadside stormwater ditch that parallels the south side of Paradise Drive, in the vicinity of the Main Road entrance. The ditch conveys local slope and roadway runoff to Culvert #5 (see **Exhibit 5.4-4**) during rainstorms. Periodic talus material eroded from the cut-slope facing the roadway can enter the ditch and be transported downgradient to the culvert inlet; however, the rate of sediment delivery to the ditch is low. Field inspection of the culvert inlet in August 2007 indicated that only minor sediment deposition was evident in any of the culverts receiving stormwater drainage from the project area and that the ditch sediments were coarse, i.e. primarily small gravels. The ditch gradient (0.9 percent) and culvert gradient, which is significantly greater, are sufficient to move the observed small gravels entering it from the adjoining cutbank during

²² Appendix VIII Hydraflow Hydrographs Program Results, Preliminary Hydrology Report for Alta Robles Development Tiburon, Marin County, California, *op. cit.*

moderate to high flow conditions. Moreover, given the sufficient capacities of upstream and downstream culverts along Paradise Drive, the ditch sediment load would only rarely be supplemented by excess sediment diverted from the inlet sumps to the Paradise Drive culverts. Thus, as long as the applicant's civil engineer provides the Town with a culvert design that conforms to the Town's stormwater drainage criteria and is sized to drain the appropriate roadway and hillslope drainage area produced by the proposed grading at the driveway entrance, it is unlikely that the proposed culverting of a segment of the roadside drainage ditch would increase the potential for nuisance flooding along Paradise Drive. This assessment of the impact of culverting the roadside ditch applies only to the limited segment south and downstream of the northern driveway entrance. Any proposal to expand such ditch culverting would require additional design features to facilitate periodic sediment and debris cleanout.

Mitigation Measure 5.4-1 No mitigation would be required.

Impact 5.4-2 Alteration of Existing Drainage Patterns on Erosion and Downstream Sedimentation

Project development would result in the installation of new roads and storm drain systems that would discharge more concentrated flows into existing swales or small drainageways (i.e. more defined bed and banks). This could result in localized incision (i.e. erosion) of the receiving drainageways even if the rock energy dissipators are installed as proposed in the PDP. Also, the PDP shows an incomplete tie-in to a roadside sump at Culvert 7. These alterations in the routing and concentration of discharged runoff would result in a significant impact on hillslope and channel erosion.

The Precise Development Plan (PDP) includes a Preliminary Grading and Drainage Plan.²³ The PDP also includes a Preliminary Erosion Control Plan.²⁴ Both the Preliminary Grading and Drainage Plan and the Preliminary Erosion Control Plan are described in **Chapter 3.0 Description of the Proposed Project**.

Project development would result in the collection and concentration of stormwater runoff, be it subject to detention by the proposed cisterns or not. Review of the existing site drainage patterns and comparison to the planned storm drain alignments and outlet locations indicates that concentrated storm drain discharge from two 15-inch storm drains would enter existing unreinforced drainageways, one each within Lot 7 and Parcel A. Each outlet location would be reinforced by a rock energy dissipator. These energy dissipators would reduce the erosive potential of the storm drain discharge in the immediate vicinity of the outlets, however, the concentrated runoff would remain more erosive downstream of the dissipators than pre-development flows for the same rainstorm, particularly for minor to moderate storms and storms that occur under drier antecedent moisture conditions in the drainages.

The Preliminary Grading and Drainage Plan proposes an above-ground 15-inch storm drain that would collect stormwater runoff from a portion of the Main Road and Lots 9 and 10, and discharge it at the property boundary, immediately adjacent and upslope of Culvert 7. The building layout shown on the PDP for Lot 10 suggests that some of the stormwater collected at the roadway inlet to this storm drain would represent a cross-basin diversion, albeit minor. Since the storm drain outlet is shown at the property boundary, no energy dissipation is shown accompanying it. If the above-ground pipe were

²³ *Preliminary Grading & Drainage Plan, Precise Development Plan, Sheets C8 and C9, CSW/ST2, May 8, 2007.*

²⁴ *Preliminary Erosion Control Plan, Precise Development Plan, Sheets C16 and C17, CSW/ST2, May 8, 2007.*

actually terminated where shown, the drain discharge would issue forth as a small waterfall dropping approximately eight feet to the edge of a roadside sump at the entrance to the culvert. Such an outfall would present a potential hazard to motorists or bicyclists moving eastbound on Paradise Drive. This abrupt termination was likely done to avoid incursions onto the County of Marin right-of-way along Paradise Drive. All three of the storm drain outfalls could have significant impacts, both locally and downstream (and upstream if drainageway headcuts migrate headward).

Project erosion and pollution control measures are described and shown in the Preliminary Erosion Control Plan. The described measures comprise Best Management Practices (BMPs) that are commensurate with accepted erosion control and urban runoff pollution prevention practice for construction sites. Except for the aforementioned storm drain discharges implementation of the Preliminary Erosion Control Plan would ensure that no significant erosion impacts would occur due to development-related hillslope grading or building construction.

The applicant would be required to prepare and submit an NPDES permit and Notice of Intent (NOI) to the State Water Resources Control Board. The NOI / NPDES permit would include a Stormwater Pollution Prevention Plan (SWPPP), which incorporates Best Management Practice (BMPs) for source control of water quality contaminants, on-site treatment of stormwater, as well as post-construction stormwater quality maintenance. The erosion control measures described in the Preliminary Erosion Control Plan would be incorporated into the SWPPP. The measures incorporated into the project's Preliminary Erosion Control Plan include: on-site construction and post-construction measures to treat site stormwater runoff; measures to protect and revegetate disturbed / exposed soil surfaces; specified areas for equipment wash-out and materials storage; stabilized construction entrances; and other maintenance measures.

Mitigation Measure 5.4-2 The following measures shall be implemented to reduce the project impact on existing drainage patterns and downstream erosion and sedimentation:

- The applicant shall prepare a field inspection and geomorphic assessment of the two receiving drainageways noted in *Impact 5.4-2*. If channel instabilities exist or were projected to occur due to the delivery of more concentrated site runoff, suitable channel stabilization measures would be designed and submitted to the Town Engineer for review. Biotechnical techniques based on appropriate hydraulic and fluvial geomorphic analysis shall be employed, to the extent practicable. Any channel stabilization work shall be designed and overseen by a civil engineer or hydrologist familiar with fluvial geomorphic processes and stream restoration technologies. The applicant shall obtain the permits from the appropriate regulatory and resource agencies, including the San Francisco Bay Regional Water Quality Control Board (RWQCB), the U.S. Army Corps of Engineers (Corps), the California Department of Fish and Game (CDFG), the Town of Tiburon, and potentially the Marin County Department of Public Works, prior to the construction of any stabilization measures within a defined drainageway, i.e. a channel with defined bed and banks. Typically, the permitting agencies require a ten-year monitoring period for such instream construction of channel stabilization or restoration measures, including monitoring for channel stability and revegetation success.
- The applicant shall revise the depicted outlet position of Culvert 7 such that it crosses onto the Town's right-of-way along Paradise Drive and provides for an acceptable discharge to the culvert inlet sump. This would require coordination with the Town Engineer and, ultimately, the Town's approval of the extension and outlet configuration.

Significance after Mitigation Implementation of Mitigation Measure 5.4-2 would ensure proper site drainage and minimize the risk of drainageway destabilization and Paradise Drive nuisance flooding.

Erosion would be limited to the maximum extent practicable. This would reduce erosion and sedimentation impacts to a less-than-significant level.

If implementation of Mitigation Measure 5.4-2 led to the construction of channel stabilization work in any of the site drainageways, construction equipment access and movement on site hillslopes and within creek riparian corridors could result in localized erosion. This localized erosion could yield sediment to the stabilized creek reaches and downstream to culvert inlets along Paradise Drive. Use of the measures cited in the project's Preliminary Erosion Control Program, including seeding (broadcast or hydroseeding) of disturbed slopes and, if seed is broadcast, installation of erosion control blanket, native mulch or sterilized straw would ensure that there would be no significant secondary impacts.

Responsibility and Monitoring Mitigation Measure 5.4-2 shall be implemented by the applicant prior to the final plan approval. The Town Engineer shall be responsible for reviewing the fluvial geomorphic and hydraulic stability assessment, as well as any proposed channel stabilization designs. The applicant would be responsible for preparation and submittal of any regulatory agency permits required for construction of such channel stabilization measures. The Town Engineer would be responsible for periodic monitoring of the construction of the stabilization measures to ensure proper construction practice is being followed. The applicant would also be responsible for conducting maintenance and monitoring of constructed channel stabilization work for whatever period is required by the prospective agency permits, typically five to ten years.

Impact 5.4-3 Impacts on Groundwater Levels and Groundwater Recharge

Project implementation and its incorporation of the proposed landslide remediation program would result in the installation of subdrains for dewatering of active or potentially active landslides, including colluvial zones occupying existing on-site drainageways. These subdrains would intercept groundwater and convey it to downslope outlets with the aim of dewatering potentially unstable colluvial deposits. This would result in a local lowering of the shallow groundwater tables established in these colluvial deposits. Depending on the orientation and connectivity of fractured bedrock aquifers underlying these deposits, this conversion of groundwater to surface water could also diminish the on-site recharge of bedrock aquifers. This would be a less-than-significant impact.

Project-related increases in impervious surface would amount to four percent of the total watershed area and this, by itself, would not substantially affect groundwater recharge.²⁵ However, the proposed remediation of the landslides on the project site would be accompanied by the installation of subsurface drains to improve hillslope stability. Sub-drain systems would be installed on several of the site swales and drainageways, including those in identified Sub-Watersheds 1 and 2 (swales), and Sub-Watersheds 7, 8 and 9. Among these, the sub-drains shown within Sub-Watersheds 1, 2, and 8 would likely have the greatest impact on groundwater recharge potential, since each is specified along the actual main drainageway alignments and would affect significant portions of the overall drainage length in the headwaters areas. All of these sub-drain systems would locally dewater shallow groundwater and convert it more quickly to downslope surface flow.²⁶

The conversion of groundwater to surface water via the sub-drain systems would result in adverse secondary impacts to hydrophilic plant species, including wetland plants occupying freshwater marsh-

²⁵ The four percent was estimated based on the Preliminary Hydrology Report, which states that the average proposed lot had 7,500 square feet of impervious surface—sod roofs not included—which was then compared to the total watershed area of 61.1 acre.

²⁶ See *Impact 5.5-1 Special-Status Species*, *Impact 5.5-2 Sensitive Natural Communities*, and *Impact 5.5-3 Wetlands and Drainages* for a discussion of impacts to biological resources from changes to the groundwater.

seep zones on Lot 7 and Parcel A. Lowering of the local perched groundwater tables occupying colluvial deposits in watershed 8 would perennially increase the depths to groundwater. During the spring and summer seasons, in particular, the availability of soil moisture to these water-dependent species would be significantly reduced. For further discussion of the secondary biological impacts of site grading and landslide remediation, and their attendant dewatering systems, see **Section 5.5 Biological Resources**.

The EIR hydrologist reviewed the well inventory maintained by Marin County's Department of Environmental Health Services for properties downslope of the project site watersheds. The County records indicated that these downslope properties contained no water wells or irrigation wells. All of the drinking water wells for Paradise Drive properties in the vicinity of the project site were located either north or south of the project. Since the project impact on the lowering of perched water tables in the on-site colluvium would be localized, and there are no active water wells downslope that could be affected by a minor reduction in groundwater recharge, the overall project impact on groundwater levels and groundwater recharge would be less-than-significant.

Mitigation Measure 5.4-3 In order to comply with the Town's Landslide Mitigation Policy, landslide and slope stabilization, with their associated subsurface drainage measures, would result in localized, secondary impacts on both groundwater levels and soil moisture availability for on-site hydrophilic plant communities. Implementation of Mitigation Measures discussed in Section 5.5 **Biological Resources**, including off-site replacement of freshwater wetland and seep habitats, where avoidance is infeasible, would reduce the secondary impacts of grading and subsurface drainage control on affected biotic resources to a less-than-significant level.

Impact 5.4-4 Impacts on Water Quality

Project implementation would increase the area devoted to both paved (roadway and driveway) surfaces and irrigated landscaping. Episodic discharge of stormwater contaminated with heavy metals and petrochemical residues could detrimentally affect shoreline waters along Paradise Cove. Residential lot development could be accompanied by increased application of fertilizers and chemicals (such as herbicides and pesticides). Typical residential pesticide application, as well as over-irrigation combined with accidental spills or releases of fertilizer or pesticides / herbicides would result in downstream migration of contaminated runoff to drainageways tributary to Central San Francisco Bay. Due to the listing of Central San Francisco Bay as impaired for mercury, polycyclic aromatic hydrocarbons (PAHs), PCBs, and several pesticides, including chlordane and dieldrin, even minor amounts of these substances above ambient watershed levels would result in a significant impact.

Existing development in the site watersheds upslope of Paradise Drive is limited to a single residence, with a couple of outbuildings and an access driveway. Project-related additions to the percentage of watershed development would be less than or equal to 31.4 percent (Drainage Area 4). Depending on the locations selected for siting of the lot-based cisterns, the detention storage devices could trap some heavy metals in site stormwater runoff, such as nickel, lead, copper, mercury, zinc, chromium, cadmium and selenium, particularly those adsorbed onto sediment. However, most contaminated sediments, oils and greases, and heavy metals would bypass the detention cisterns and enter storm drain inlets via driveway and roadway segments. Since the extent of watershed development downstream of Paradise Drive is minor, the project would not substantially increase the risk of regular stormwater impairment within the site drainageways. However, due to the general impaired status of Central San Francisco Bay for PAHs, mercury, and PCBs, any additional input of these contaminants in project-area stormwater runoff would be significant.

Lawn irrigation and fertilization would accompany site development, along with the application of landscape chemicals (such as herbicides and pesticides). Such contaminated runoff could enter site drainageways either directly or via lot runoff and eventually discharge to the shoreline waters of

Central San Francisco Bay. The RWQCB has listed Central San Francisco Bay as one of the Bay Area water bodies which is impaired by the pesticides chlordane, DDT, and dieldrin.²⁷ Moreover, urban creeks in the San Francisco Bay Basin are listed as impaired for the pesticide Diazanone. In its recent TMDL study on pesticide contamination in urban creeks in the San Francisco Bay Area,²⁸ the RWQCB cited field surveys that confirmed the most common application of pesticides was for ants and was applied directly to impervious surfaces, such as building foundations. These impervious surfaces typically yield runoff quickly to storm drain systems, which discharge directly to area creeks and the Bay. While the actual concentrations of chlordane, dieldrin, and diazane (DDT was banned decades ago) in post-project site runoff would be relatively minor, the existing impairment of the Bay and Bay Area urban creeks for these contaminants means that even minor additional inputs would result in a significant impact on receiving water quality.

Mitigation Measure 5.4-4 In addition to implementing Mitigation Measure 5.4-2 and the erosion control and urban runoff pollution prevention measures cited in the Preliminary Erosion Control Plan, the applicant shall incorporate the following additional site-appropriate BMPs or their equivalents, in the project SWPPP for short- and long-term implementation by the applicant and individual lot owners, in order to comply with the requirements of the NPDES General Permit and provisions of the Town of Tiburon Municipal Code:²⁹

- The Home Owners Association (HOA) shall privately contract with Mill Valley Refuse Service (MVRS) or its equivalent to undertake street sweeping twice a month. MVRS already serves numerous areas on the Tiburon Peninsula.
- The HOA shall provide each homeowner with pamphlets or other informative documentation regarding the use of less toxic pest management procedures, including integrated pest management. MCSTOPP has related on-line information which also includes descriptions of less toxic pest control products and procedures, the effectiveness of which has been proven in the scientific literature (e.g. see www.ourwaterourworld.org/). The TMDL study on pesticides in urban creeks in the San Francisco Bay Region also references significant recent research into pesticide practices and alternatives to limit their migration to surface waters and San Francisco Bay.

Significance after Mitigation Implementation of Mitigation Measure 5.4-4 would substantially minimize on-site and downstream water quality impacts. Therefore, implementation of Mitigation Measure 5.4-4 would reduce project impacts on water quality to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible for preparing the SWPPP, the NOI and the NPDES Permit application. For further discussion of these requirements, see *Impact 5.4-2 Alteration of Existing Drainage Patterns and Erosion and Downstream Sedimentation*. The applicant would be responsible for entering into an arrangement with the MVRS for the required on-

²⁷ “2006 CWA Section 303 (d) List of Water Quality Limited Segments Approved by USEPA, June 28, 2007” San Francisco Bay Water Quality Control Board Web Site (www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/303dlist.shtml).

²⁸ “Diazinon and Pesticide-Related Toxicity in Bay Area Urban Creeks- Water Quality Attainment Strategy and Total Maximum Daily Load (TMDL)- Proposed Basin Plan Amendment and Staff Report”. California Regional Water Quality Control Board, San Francisco Bay Region, Nov. 2005.

²⁹ “Stormwater Management and Discharge Control Program”, Chapter 20A, Ordinance 407NS (citing erosion control requirements and implementation of Best Management Practices for stormwater), *Town of Tiburon Municipal Code*.

site street sweeping program. The State Water Resources Control Board would be responsible for reviewing the NOI and the NPDES permit application, including the project SWPPP. The applicant would be responsible for publishing and distributing literature that would educate homeowners on proper lawn and landscaping maintenance, as well as less toxic pest management practices.

5.5 BIOLOGICAL RESOURCES

Biological Resources – Environmental Setting

INTRODUCTION AND METHODS

This section of the Draft EIR provides information on biological and wetland resources, an analysis of the potential impacts of proposed development and measures recommended to mitigate significant impacts. The analysis is based on a review of existing information on the biological resources of the site and vicinity, including detailed surveys conducted for the applicant, and a field reconnaissance survey, habitat suitability analysis, and peer review of the applicant's studies by Environmental Collaborative staff (the EIR biologist). The background review provided information on general resources in the area, the distribution and habitat requirements of special-status species and sensitive natural communities that have been recorded from or are suspected to occur along the Tiburon Peninsula and eastern Marin County, and specific resources on the site. Information sources included: a records search of known occurrences of special-status species and sensitive natural communities conducted by the California Natural Diversity Data Base (CNDDB) of the California Department of Fish and Game (CDFG),¹ the California Native Plant Society's *Inventory of Rare and Endangered Plants of California* (CNPS *Inventory*)² and other references on California flora,³ the *Guide to California Wildlife Habitat Relationships System* and Volumes I, II, and III of *California's Wildlife*,⁴ and the CDFG list of special animals and plants.⁵ Detailed surveys and mapping have been conducted for the site by consultants to the applicant. These consist of the following:

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- 1 Natural Diversity Data Base, record search of the San Rafael 7.5-minute USGS quadrangles, California Department of Fish and Game.
 - 2 *Inventory of Rare and Endangered Plants of California*, Special Publication No. 1 (6th Edition), California Native Plant Society, 2001, and current electronic inventory update. The inventory includes the following listings:
 - 1A = Plants of highest priority; plants presumed extinct in California.
 - 1B = Plants of highest priority; plants rare and endangered in California and elsewhere
 - 3 = Plants requiring additional information; a review list
 - 4 = Plants of limited distribution; a watch list.
 - 3 *A California Flora and Supplement*, P. Munz and D. Keck, 1973, and *Marin Flora*, T. Howell, 1970.
 - 4 *Guide to the California Wildlife Habitat Relationship Systems*, California Department of Fish and Game, prepared by Jones & Stokes Associates, 1988, and *Volume I Amphibians and Reptiles*, 1988, *Volume II Birds*, 1990, and *Volume III Mammals*, 1990.
 - 5 *Special Plant List* and *Special Animals List*, California Natural Diversity Data Base, California Department of Fish and Game, 2008.

- *Biological Assessment for the Proposed Development at the SODA Property*,⁶ (*Biological Assessment*) prepared in 2002 for the applicant by Sycamore Associates. Describes methodology and presents the results of reconnaissance level surveys, characterizes existing vegetation and wildlife habitat and the potential for occurrence of special-status species and jurisdictional wetlands, and includes conclusions and recommendations. Field surveys were conducted on July 12 and August 25, 2002.
- *Wetland Delineation and Preliminary Jurisdictional Determination of the SODA Property*,⁷ prepared in 2002 for the applicant by Sycamore Associates. Describes methodology and presents the results of the preliminary jurisdictional delineation, and contains the verification by the U.S. Army Corps of Engineers (Corps) as an updated appendix. Field surveys were conducted on July 12, 2002.
- *Biological Assessment and Jurisdictional Determination for the 30-Acre Rabin Property*,⁸ (*Biological Assessment and Jurisdictional Determination*) prepared in 2005 for the applicant by Sycamore Associates. Describes methodology and presents the results of reconnaissance level surveys, characterizes existing vegetation and wildlife habitat and the potential for occurrence of special-status species and jurisdictional wetlands, and includes conclusions and recommendations. Field surveys were conducted on November 16, 2004.
- *Botanical Assessment for the 30-Acre Rabin Property*,⁹ (*Botanical Assessment*) prepared in 2005 for the applicant by Sycamore Associates. Describes methodology and presents the results of systematic surveys for special-status plant species suspected to possibly occur on the property. Systematic surveys were conducted on November 16, 2004, and on March 5, April 19, May 20, and June 17, 2005.
- *Botanical Assessment for the 30-Acre SODA Property*,¹⁰ (*Botanical Assessment*) prepared in 2005 for the applicant by Sycamore Associates. Describes methodology and presents the results of systematic surveys for special-status plant species suspected to possibly occur on the property. Systematic surveys were conducted on April 22 and July 12, 2002, May 14 and June 25, 2004, and March 3, 2005.

⁶ *Biological Assessment for the Proposed Residential Development at the SODA Property, Marin County, California*, prepared for Redhorse Constructors, Inc., Sycamore Associates, September 5, 2002.

⁷ *Wetland Delineation and Preliminary Jurisdictional Determination of the SODA Property*, prepared for Redhorse Constructors, Inc., Sycamore Associates, August 30, 2002, with errata containing Corps verified map, March 1, 2007.

⁸ *Biological Assessment and Jurisdictional Determination for the 30-Acre Rabin Property, Tiburon, Marin County, California*, prepared for Redhorse Constructors, Inc., Sycamore Associates, January 21, 2005, with errata containing Corps verified map, March 1, 2007.

⁹ *Botanical Assessment for the 30-Acre Rabin Property, Tiburon, Marin County, California*, prepared for Redhorse Constructors, Inc., Sycamore Associates, July 30, 2005.

¹⁰ *Botanical Assessment for the 30-Acre SODA Property, Tiburon, Marin County, California*, prepared for Redhorse Constructors, Inc., Sycamore Associates, May 31, 2005.

- *Tree Survey Report for the Approximately 60-Acre Rabin / SODA Project*,¹¹ (2005 Tree Survey) prepared in 2005 for the applicant by Sycamore Associates. Describes methods and contains results of the survey for trees on approximately 22 acres of the site. All trees within the surveys limits with a diameter greater than 6.5 inches at 24 inches above grade were identified to species, tagged, and the location recorded on a map. Field surveys were conducted on August 5-12, 18, 23-25, 30-31, and September 1, 2005.
- *Mitigation Recommendations for the Approximately 60-Acre Rabin / SODA Residential Development, (Mitigation Recommendations)*¹² prepared in 2007 for the applicant by Sycamore Associates. Describes potential impacts on identified wetlands, plant communities, special-status plant species, and protected trees, and makes recommendations for mitigation. The report does not include any reference or contain recommendations for mitigating potential impacts on special-status animal species suspected to occur on the site.
- *Addendum to Tree Survey Report for the Approximately 60-acre Rabin / Soda Project*¹³ (2006 Tree Survey Addendum) consists of an update to the initial tree survey prepared in 2005. The addendum provides information on a previously unsurveyed area of the site which was subsequently included in development plans.
- *Tree Removal*¹⁴ maps prepared in 2006 and updated in 2008 for the applicant by Jim Catlin. Identifies the location of trees included in the 2005 Tree Survey, a summary of tree removal totals, and a table of all trees proposed for removal.

Field reconnaissance surveys of the site were conducted on August 31, 2007, October 13, 2008, and November 5, 2008 by Environmental Collaborative staff (the EIR biologist) to further characterize existing habitat, confirm the accuracy of mapping by the applicant's consultants, and provide a peer review of the studies and proposed mitigation made by the applicant's consulting biologists.

VEGETATION AND WILDLIFE HABITAT

Terrestrial vegetation on the site consists of a mosaic of open grassland, northern coastal scrub, dense woodland, and ornamental landscaping, with scattered occurrences of seasonal and perennial freshwater marsh. The grasslands consist of stands of both non-native species and native serpentine bunchgrass species. Areas of scrub are dominated by native coyote brush (*Baccharis pilularis*) and the highly invasive non-native French broom (*Genista monspessulana*), and are spreading through the grassland and fringe of the woodland understory. The woodlands consist of native oak woodlands on the northern slopes and ravines of the site, and stands of introduced pine south of the existing

¹¹ *Tree Survey Report for the Approximately 60-Acre Rabin / SODA Project, Tiburon, Marin County, California*, prepared for Redhorse Constructors, Inc., Sycamore Associates, October 6, 2005.

¹² *Mitigation Recommendations for the Approximately 60-Acre Rabin / SODA Residential Development*, Sycamore Associates, Revised March 5, 2007.

¹³ *Addendum to the Tree Survey Report for the Approximately 60-acre Rabin / Soda Project, Tiburon, Marin County, California*, letter report prepared for David Warner, Redhorse Constructors, December 21, 2006.

¹⁴ *Tree Removal, Alta Robles Subdivision, Marin County, California, Sheets L1.1, L1.1a, and L1.1b*, Jim Catlin, Landscape Architect, March 2006, revised September 10, 2008

residence. Ornamental landscaping surrounds the existing residence, with scattered non-native tree species planted along roadways and other locations. **Exhibit 5.5-1** shows the extent of the various sensitive natural community types and **Exhibit 5.5-2** shows the distribution of native oak woodland and planted tree cover on the site. These exhibits also show the anticipated limits of proposed grading and disturbance associated with landslide repair, road and building construction, and other project-related improvements.

The project site provides a mosaic of wildlife habitat types, consisting of open grassland, dense woodland and scrub, ornamental landscaping and pine plantings, and small areas of freshwater seeps, marsh, and seasonal wetlands. The varied vegetation and limited human activity contribute to the relatively high wildlife habitat value of the site to some species, particularly bird species associated with grassland and woodland habitats. The following provides descriptions on the vegetation types and associated wildlife habitats on the site.

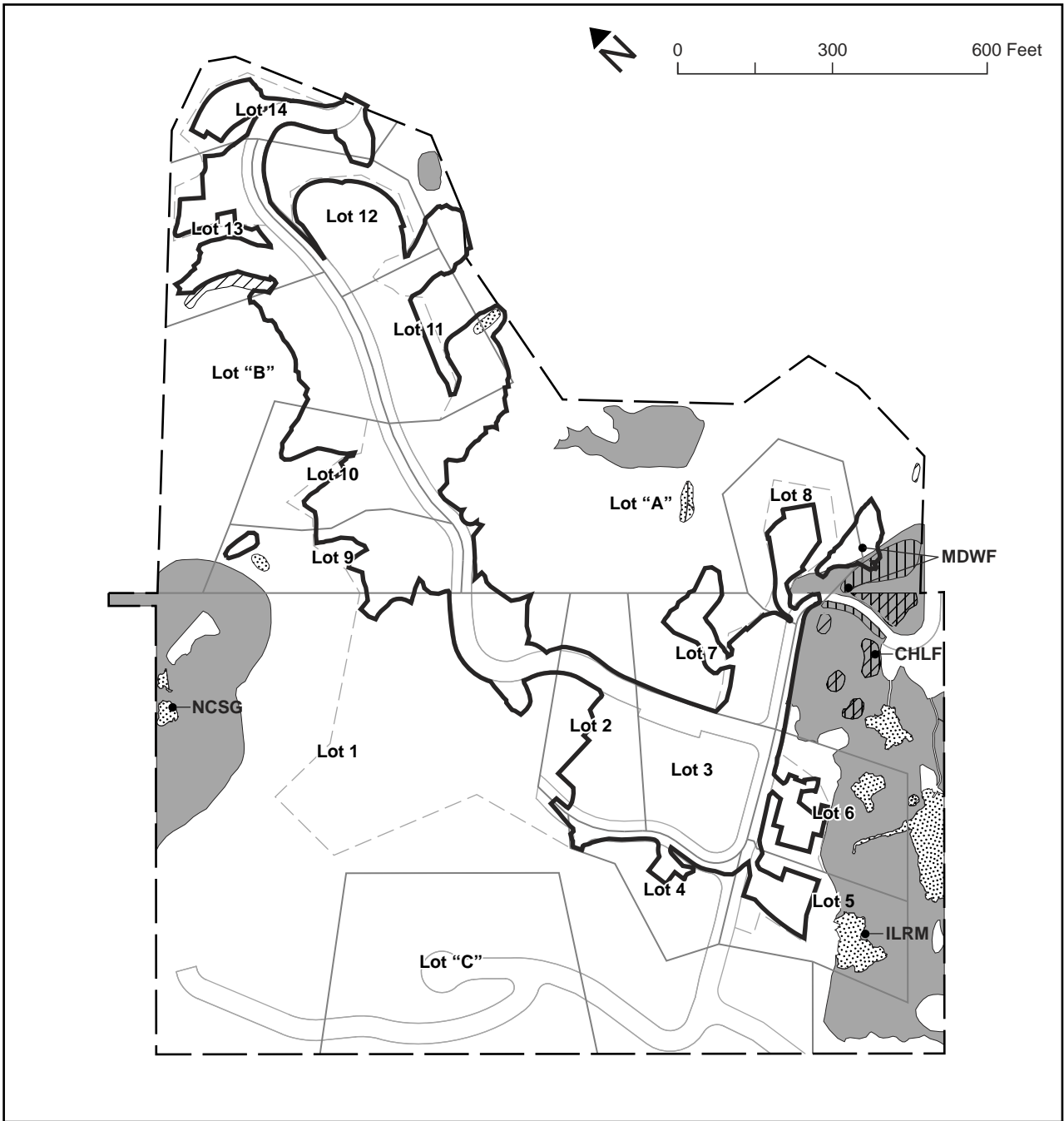
Grasslands

Grassland vegetation dominates much of the site, and consists of stands of both native and non-native species. In some locations, the soils are shallow or rock outcrops are present, and grassland cover is relatively sparse or absent. Most of the native grasslands throughout the state have been eliminated during the past 150 years by over-grazing, agricultural practices, and other factors. This has led the CNDDDB to recognize native grasslands as a sensitive natural community type with a high inventory priority. Non-native grasses and forbs now dominate much of the grassland cover on the site, outside areas underlain by serpentine soils. Characteristic non-native grasses and forbs on the site include: slender wild oat (*Avena barbata*), dog-tail grass (*Cynosorus echinatus*), perennial ryegrass (*Lolium perenne*), velvet grass (*Holcus lanatus*), rattlesnake grass (*Briza* spp.), bromes (*Bromus* sp.), bristly ox-tongue (*Pichris echiodes*), milk thistle (*Cilybum marianum*), bull thistle (*Cirsium vulgare*), and hoary mustard (*Hirschfeldia incana*).

Areas with serpentine-derived soils continue to support a cover of primarily native species, and these grasslands are recognized as a sensitive natural community type by the CNDDDB. Based on estimates made by the applicant's consulting biologist and field conditions observed by the EIR biologist, an estimated 6.8 acres of the site support serpentine bunchgrass (see **Exhibit 5.5-1**). The serpentine-derived soils contain chemical properties that diminish their suitability for establishment of non-native grasses and forbs, allowing the native species which have adapted to this soil type to continue to flourish. These include a number of special-status plant species, such as the State and federally-threatened Marin western flax (*Hesperolinon congestum*) which typically occur in shallow, serpentine-derived soils. Native grass species in these grasslands include: purple needlegrass (*Nassella pulchra*), foothill needlegrass (*Nassella lepida*), California melic grass (*Melica californica*), California brome (*Bromus carinatus* var. *carinatus*), blue wildrye (*Elymus glaucus* ssp. *glaucus*) and California oatgrass (*Danthonia californica* var. *californica*). Native perennial forbs in the stands of native grassland include: yarrow (*Achillea millefolium*), wavy-leaf soap plant (*Chlorogalum pomeridianum*), naked-stem buckwheat (*Eriogonum nudum*), Douglas iris (*Iris douglasiana*), and California poppy (*Eschscholzia californica*). Ornamental trees have been planted around the edge of the largest stand of serpentine bunchgrass in the eastern portion of the site, and the existing driveway onto the project site was constructed through the lower edge of this stand. The existing driveway now bisects this stand of serpentine bunchgrass and the habitat it provides to a number of special-status plant species, including Marin western flax and Tiburon buckwheat (*Eriogonum luteolum* var. *caninum*).

Grasslands support numerous small mammals and birds and provide important foraging habitat for raptors. Many species use the grassland for only part of their habitat requirements, foraging in the grassland and seeking cover in adjacent tree and scrub cover. Species common in the grassland

Exhibit 5.5-1
Sensitive Natural Communities and Special-Status Plant Species




Legend

— Limits of Grading/Disturbance

SPECIAL STATUS PLANT SPECIES OCCURRENCES

 Marin Dwarf Western Flax (MDWF)


 Tiburon Buckwheat

• North Coast Semaphore Grass (NCSG)

• Carlotta Hall's Lace Fern (CHLF)

SENSITIVE NATURAL COMMUNITY TYPES

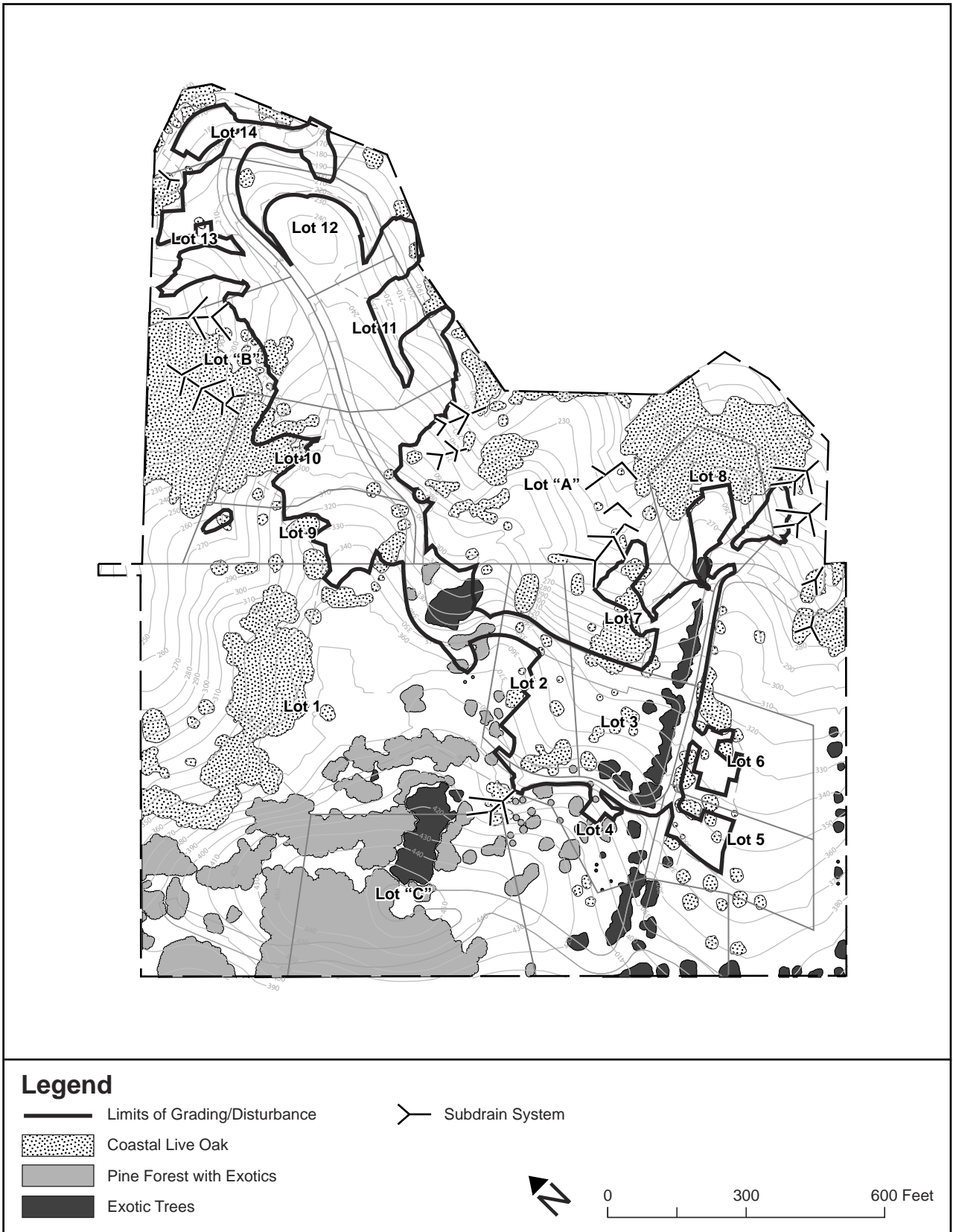
 Serpentine Bunchgrass

 Sedge Meadow

• Iris Leaf/Rush Meadow (ILRM)

Source: CSW/ST2

Exhibit 5.5-2
Tree Cover



Source: CSW/ST 2

include California vole, Botta pocket gopher, black-tailed jackrabbit, black-tailed deer, common garter snake, western fence lizard, northern alligator lizard, and gopher snake. Grassland vegetation provides food, nesting material, and nesting substrate for numerous species of birds, including mourning dove, American goldfinch, song sparrow, red-winged blackbird, and western meadowlark. The smaller mammals, reptiles, and birds are important prey for several species of raptors which frequent the grasslands of the site and surrounding area, such as red-tailed hawk, great horned owl, American kestrel, and turkey vulture. Larger mammals most likely forage in the grasslands of the site and surrounding lands, including striped skunk, gray fox, long-tailed weasel, and coyote. No raptor nests have been detected on the site during past surveys, but new nests could be established in trees and larger shrubs in the future.

Freshwater Marsh, Seeps, and Meadow Habitat

A number of freshwater wetland habitat types are scattered through the grasslands and ravines on the site. Small areas of scattered freshwater marsh, seeps, and seasonal wetlands occur throughout the open grasslands on the mid to lower elevations of the site, as indicated in **Exhibit 5.5-1**. Species indicative of areas of freshwater marsh and seeps include native iris-leaved rush (*Juncus xiphioides*), spreading rush (*Juncus patens*), common rush (*Juncus effuses*), common monkeyflower (*Mimulus guttatus*), as well as non-native Harding grass (*Phalaris aquatica*) and pennyroyal (*Mentha pulegium*). Dense mats of deer-bed sedge (*Carex praegracilis*) occur along three drainages on the site, and are best characterized as sedge meadows, occupying approximately 0.67 acre in the eastern portion of the site. The marsh and meadow habitats tend to occur at the upper ends of the drainage channels on the site, which continue downslope as largely unvegetated ephemeral and intermittent drainages but are still regulated jurisdictional waters.

The marsh and meadow habitats are particularly important to wildlife, providing a source of surface water to terrestrial species, supporting aquatic invertebrates, and providing suitable habitat for amphibians and reptiles. No fish species are expected to occur on the site due to the seasonal nature of the drainages and downstream barriers, but western aquatic garter snake, Pacific tree frog, and western toad most likely utilize wetland areas on the site. Herons and egrets may forage in the wetland areas and surrounding grasslands when surface water is present. Meadow vole, pocket gopher, and other small mammals most likely use the dense cover of the marsh areas as soils dry in the late spring and summer months, and provide similar foraging opportunities to the surrounding grassland for numerous birds and larger mammal species.

Coastal Scrub

Stands of coastal scrub occur along the fringe of the woodlands and are spreading into the grasslands on the site. Coyote brush and introduced French broom dominate the scrub cover, with an understory of California blackberry (*Rubus ursinus*), poison oak, and species common in the grasslands. Bush monkey-flower (*Mimulus aurantiacus*), California sage (*Artemisia californica*), and bee plant (*Scrophularia californica* ssp. *californica*) are also found in the scrub vegetation. Introduced cotoneaster (*Cotoneaster* sp.) is also spreading through the stands of scrub and surrounding grasslands, though not as aggressively as French broom.

Areas of scrub vegetation dominated by native species provide protective cover to small birds, reptiles, and mammals, and foraging opportunities for a number of species. Species typically associated with coastal scrub often forage in the nearby grasslands as well, such as brush rabbit, brown towhee, roufus-sided towhee, and California quail. The dense scrub provide important bedding areas for black-tailed deer. The stands of introduced French broom provide poor habitat for wildlife due to the typically barren groundcover, dense thickets of scrub, and low species diversity. The French broom

tends to outcompete the native scrub and grassland species, replacing them with monotypic stands of little value to wildlife.

Oak / Bay Woodland

Native woodland vegetation occupies approximately 6.8 acres of the site, forming a dense to open canopy on hillside slopes. The native woodlands are dominated by coast live oak (*Quercus agrifolia*) and California bay (*Umbellularia californica*) of mixed ages, with Douglas fir (*Pseudotsuga menziesii*) and madrone (*Arbutus menziesii*) occurring in scattered locations. California bay tends to occur along the lower ravines where species diversity is generally very low. Understory plant cover is often very low due to the closed tree canopy and abundant leaf litter. Where present, plant species found in the woodland understory include scattered shrubs, ferns, and vines, such as poison oak (*Toxicodendron diversilobum*), California honeysuckle (*Lonicera hispidula vacillans*), snowberry (*Symphoricarpos albus* ssp. *laevigatus*), toyon (*Heteromeles arbutifolia*), California hazelnut (*Corylus cornuta* var. *californica*), sword fern (*Polystyichum munitum*), and goldenback fern (*Pentagramma triangularis*). In some locations, the highly invasive, non-native French broom has moved into the understory and fringe of the woodland. Where the canopy is open and French broom has not formed dense thickets, groundcover species include a mixture of native and non-native species such as forget-me-nots (*Myosotis latifolia*), miner's lettuce (*Montia perfoliata*) bedstraw (*Galium* spp.), and festuca (*Festuca* spp.).

Native woodlands in Marin and other coastal areas of California are susceptible to the effects of Sudden Oak Death (SOD). This disease is caused by a fungus (*Phytophthora ramorum*) that attacks a number of native species. It can kill coast live oak, but recent observations indicate that there is varying resistance to the disease in coast live oak. California bay, California buckeye (*Aesculus californica*), and toyon are all susceptible to SOD, but it tends to be limited to a leaf disease where they become infected, die, and fall off, and are then replaced by new leaf growth. SOD is present on the Tiburon peninsula, although no major die off of live oaks was observed on the site.

The woodlands provide important cover for wildlife, and the complex vertical distribution of canopy and understory vegetation provides for a greater diversity of wildlife than often found in the adjacent grasslands. Wildlife commonly associated with woodland habitat includes dusky-footed woodrat, deer mouse, western flycatcher, chestnut-backed chickadee, plain titmouse, Hutton vireo, Wilson warbler, orange-crowned kinglet, rufous-sided towhee, fox sparrow, bushtit, ringneck snake, California newt, and California slender salamander. Dead limbs and cavities in older trees are often used for nesting or denning. The abundant seed crops produced by oak, bay, madrone, poison oak, and toyon are important food sources for black-tailed deer, scrub and Steller jays, woodpeckers, and other wildlife species.

The Tiburon Tree Ordinance (Title IV, Chapter 15A of the Tiburon Municipal Code) regulates the removal, alteration, and planting of certain trees. Under the ordinance, a tree is defined as a woody perennial plant with a trunk circumference of 20 inches measured at 24 inches above grade or a woody perennial plant at least 15 feet in height that usually has a single trunk. A “protected tree” consists of one or more of the following: 1) a “heritage tree” which has a trunk with a circumference exceeding 60 inches measured at 24 inches above grade; 2) a native oak; or 3) a “dedicated tree” of special significance so designated by resolution of the Town Council. An “undesirable tree” includes blue gum eucalyptus (*Eucalyptus globulus*), Monterey pine (*Pinus radiata*), coast redwood (*Sequoia sempervirens*), or any other species of tree that generally grows more than three feet per year in height and is capable of reaching a height of over 35 feet. An “undesirable tree” nevertheless constitutes a “protected tree” if it meets the criteria set forth in that definition. The ordinance generally prohibits

the removal or alteration of a “protected tree” without a permit, or when authorized as part of approval of a discretionary development permit.

A tree survey was conducted for the applicant in 2005 for approximately 22 acres of the site (2005 Tree Survey), generally encompassing the vicinity of proposed development. All trees were visually assessed for condition, and information on species, trunk circumference, and suitability for preservation were collected. An addendum to the 2005 tree survey was prepared in 2006 (2006 Tree Survey Addendum) to address potential impacts to tree resources as a result of changes to the proposed project design and limits of grading. The addendum noted that remedial grading and drainage was now proposed in areas outside the limits of the original tree survey, and recommended that a supplemental tree survey be conducted in those areas to adequately assess potential impacts on tree resources. The tree survey information was further updated in 2008 to identify previously unmapped trees within the anticipated limits of grading associated with proposed landslide repair.

Of the total 766 trees identified in the initial 2005 Tree Survey, 42 percent (323 trees) were native species, including coast live oak (165 trees), California bay (63 trees), Douglas fir (53 trees), madrone (24 trees), toyon (16 trees), and California buckeye (two trees). Non-native tree species include: Monterey pine, Bishop pine (*Pinus muricata*), red ironbark (*Eucalyptus sideroxylon*), cypress (*Cupressus* sp.), and silver wattle (*Acacia dealbata*), among others. Including those additional trees mapped in the updated survey work in 2006 and 2008, a total of 256 trees qualify as “heritage tree” based on trunk circumference exceeding 60 inches. Of those trees qualifying as a “heritage tree”, 34 percent were native species consisting of coast live oak (40 trees), California bay (25 trees), toyon (seven trees), madrone (15 trees), and California buckeye (one tree). The remaining 66 percent were non-indigenous planted coast redwood, pines, cypress, eucalyptus and other non-native species. A total of 391 trees within the surveyed area qualify as a “protected tree”, including all of the “heritage trees” (both native and non-native species). A total of 175 of the “protected trees” are native live oaks, approximately 77 percent of which (135 trees) have trunk circumferences of 60 inches or less and therefore don’t qualify as a “heritage tree”. None of the trees on the site have been designated as a “dedicated tree” by the Town Council.

Pine Stands and Ornamental Landscaping

Stands of non-native Monterey pine and Bishop pine occur in the southwestern portion of the site, and ornamental landscaping and tree plantings occur around the existing residence and along the existing road on the site. The stands of pine are densely planted, and understory vegetation is largely absent. Silver wattle occurs in openings and along the fringe of the pine stands. Non-native cork oak (*Quercus suber*) has been planted on the hillside adjacent to native oak woodland, southwest of the existing residence, and coast redwood (*Sequoia sempervirens*), acacia (*Acacia* spp.), red ironbark, and other tree species occur as plantings on the site. A variety of ornamental shrubs and groundcovers have been planted around the existing residence, and non-native grassland cover tends to occur under the canopy of planted trees.

The stands of introduced trees provide foraging and nesting habitat for numerous bird species, but are generally of less value than the native woodlands. This is due to a number of factors, including low plant species diversity, sparse groundcover and general absence of shrubs and protective cover, and the fact that native wildlife species have not evolved with these non-native tree species. No evidence of nesting has been observed in past surveys of the site, but the larger pines provide suitable nesting habitat for a number of raptors, including great horned owl, red-tailed hawk, and red-shouldered hawk.

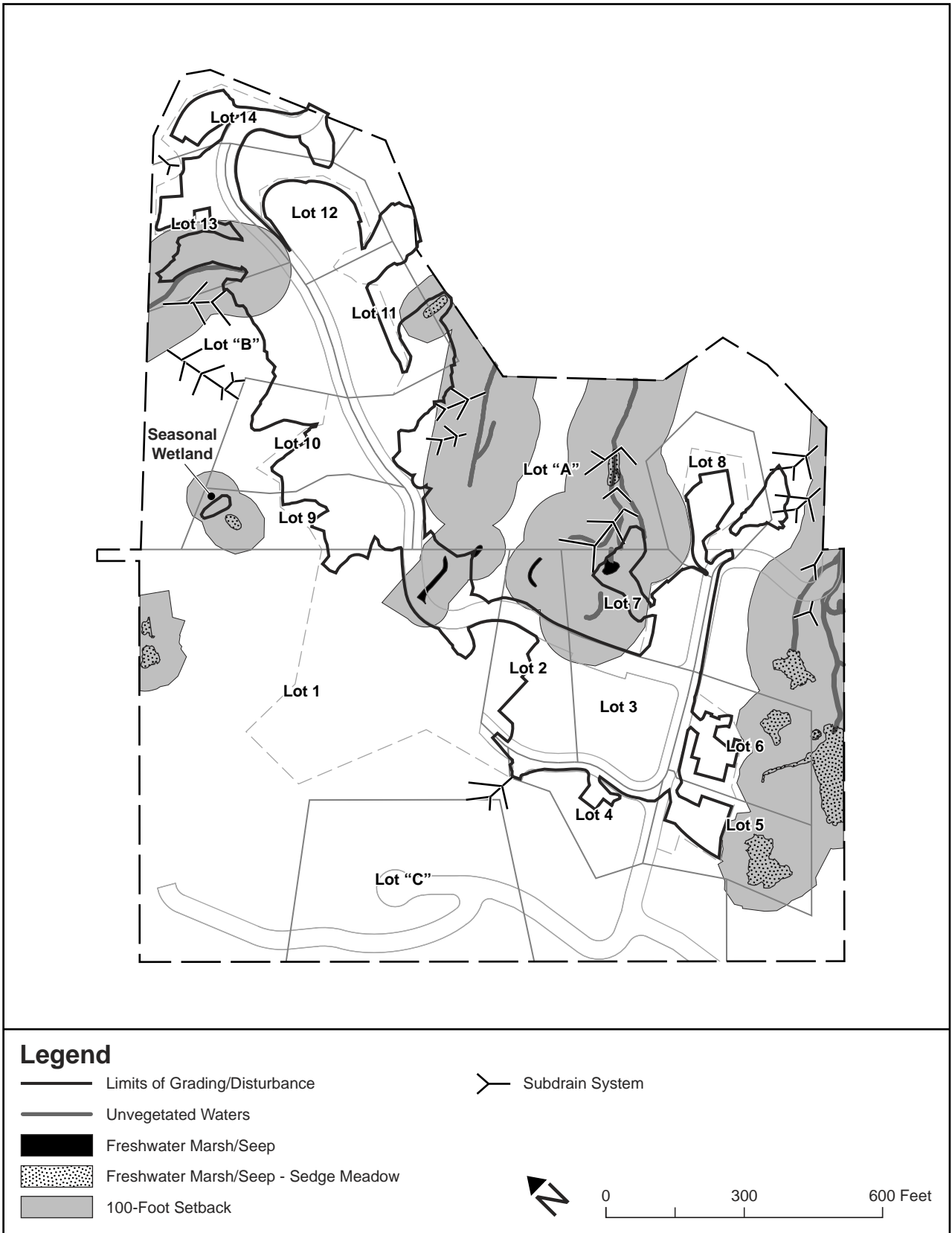
WETLANDS AND WATERCOURSES

Although definitions vary to some degree, wetlands generally are considered to be areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by the U.S. Army Corps of Engineers (Corps) and the U.S. Fish & Wildlife Service (USFWS) which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation.¹⁵

Preliminary Wetland Delineations were conducted for the site by the applicant's consulting biologist, which were subsequently verified by the Corps. Based on the verified Wetland Delineation, a total of about 0.86 acre of jurisdictional waters occur on the site. As indicated in **Exhibit 5.5-3**, these consist of scattered drainages, seeps, and areas of freshwater marsh and seasonal wetlands. **Exhibit 5.5-3** also shows the anticipated limits of proposed grading and disturbance associated with landslide repair, road and building construction, and other project-related improvements. The jurisdictional waters include 0.13 acre of unvegetated "other waters of the U.S." along the four drainage channels on the site, and about 0.73 acre of wetlands associated with the freshwater marsh, seeps, sedge meadows, and seasonal wetland. Although the "other waters" do not support wetland vegetation, they provide important habitat for aquatic and terrestrial wildlife, as well as important hydrologic functions for sedimentation and erosion control.

¹⁵ The CDFG, Corps, and Regional Water Quality Control Board (RWQCB) have jurisdiction over modifications to stream channels, river banks, lakes, and other wetland features. Jurisdiction of the Corps is established through the provisions of Section 404 of the Clean Water Act, which prohibits the discharge of dredged or fill material into "waters" of the United States without a permit, including wetlands and unvegetated "other waters of the U.S.". The Corps uses three mandatory technical criteria (hydrophytic vegetation, hydric soils, and wetland hydrology) to determine whether an area is a jurisdictional wetland. Jurisdictional authority of the CDFG over wetland areas is established under Section 1600 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying the Department, incorporating necessary mitigation, and obtaining a Streambed Alteration agreement. The RWQCB is responsible for upholding State water quality standards pursuant to Section 404 of the Clean Water Act and for regulating fill of hydrologically isolated wetlands under the Porter-Cologne Water Quality Control Act.

**Exhibit 5.5-3
Wetland Resources and Buffer Zone**



Source: CSW/ST 2

SPECIAL-STATUS PLANT AND ANIMAL SPECIES

A record search conducted by the CNDDDB¹⁶ and the other relevant information indicate that historical occurrences of several plant and animal species with special status have been recorded from or are suspected from the Tiburon Peninsula and eastern Marin County area. Special-status species¹⁷ are plants and animals which are legally protected by the State and / or Federal Endangered Species Acts¹⁸ or other regulations and other species which the scientific community and trustee agencies have identified as rare enough to warrant special consideration, particularly the protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. Species protected by the Endangered Species Acts often represent major constraints to development, particularly when they are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take"¹⁹ of these species.

The *Biological Assessments* and *Botanical Assessments* conducted by the applicant's consulting biologist include a habitat suitability analysis for special-status species, description of detailed surveys conducted on the site, and conclusions regarding the potential for occurrence of special-status plant and animal species on the site. The *Biological Assessments* contain comprehensive tables listing all special-status species suspected to possibly occur on the site, including information on 35 special-status animal species and 64 special-status plant species. Based on a peer review by the EIR biologist, the methods and conclusions in the assessments are comprehensive and adequately describe the

¹⁶ Natural Diversity Data Base, California Department of Fish and Game, record search of San Rafael Quadrangle, 2008.

¹⁷ Special-status species include:

- Officially designated (rare, threatened, or endangered) and candidate species for listing by the CDFG.
- Officially designated (threatened or endangered) and candidate species for listing by the USFWS.
- Species considered to be rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act (CEQA) Guidelines, such as those identified on lists 1A, 1B, and 2 in the *Inventory of Rare and Endangered Vascular Plants of California*.
- And possibly other species which are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on lists 3 and 4 in the CNPS *Inventory* or identified as "California Special Concern" (CSC) species by the CDFG. CSC species have no legal protective status under the state Endangered Species Act but are of concern to the CDFG because of severe decline in breeding populations in California, and other factors.

¹⁸ The Federal Endangered Species Act (FESA) of 1973 declares that all Federal departments and agencies shall use their authority to conserve endangered and threatened plant and animal taxa. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species.

¹⁹ The FESA defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect" a threatened or endangered species. The USFWS further defines "harm" as including the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modification or degradation. The CDFG also considers the loss of listed species habitat as "take", although this policy lacks statutory authority and case law support under the CESA.

Two sections of FESA contain provisions which allow or permit "incidental take". Section 10(a) provides a method by which a state or private action which may result in "take" may be permitted. An applicant must provide the USFWS with an acceptable conservation plan and publish notification for a permit in the *Federal Register*. Section 7 pertains to a Federal agency which proposes to conduct an action that may result in "take", requiring consultation with USFWS and possible issuance of a jeopardy decision. Under the CESA, "take" can be permitted under Section 2081 of the Fish and Game Code. An applicant must enter into a habitat management agreement with the CDFG which defines the permitted activities and provides adequate mitigation.

potential for occurrence on the site. Conclusions regarding the confirmed presence or potential for occurrence of special-status plant and animal species is summarized below.

The *Biological Assessments* concluded that the potential for occurrence of most special-status animal species known or suspected from the eastern Marin County area on the site is low. Of the 35 species initially considered in the *Assessments*, suitable habitat for only 21 was considered present on the site, with varying low to moderate potential for occurrence. Suitable habitat for most of the 35 species initially considered to possibly occur on the site, such as aquatic habitat necessary to support California freshwater shrimp (*Syncaris pacifica*) and western pond turtle (*Clemmys marmorata*), is absent. Although not identified in the list of special-status animal species initially considered to possibly occur on the site, suitable habitat for steelhead (*Oncorhynchus mykiss*) is also absent on the site. Other species considered but for which potential habitat is absent include: Mission blue butterfly (*Icaricia icariodes missionensis*), foothill yellow-legged frog (*Rana boylei*), California clapper rail (*Rallus longirostris obsoletus*), ring-tailed cat (*Bassariscus astutus*), and salt marsh harvest mouse (*Reithrodontomys raviventris*), among others.

Special-Status Animal Species

A total of 21 special-status animal species were considered by the applicant's biologist to have some potential for occurrence on the site. As indicated in **Exhibit 5.5-4**, these include: Tiburon micro-blind harvestman (*Microcina tiburona*), California red-legged frog (*Rana aurora draytonii*), Cooper's hawk (*Accipter cooperi*), sharp-shinned hawk (*A. striatus*), golden eagle (*Aquila chrysaetos*), short-eared owl (*Asio flammeus*), long-eared owl (*A. otus*), ferruginous hawk (*Buteo regalis*), vaux's swift (*Chaetura vauxi*), northern harrier (*Circus cyaneus*), California yellow warbler (*Dendroiea petechia brewsteri*), white-tailed kite (*Elanus caeruleus*), California horned lark (*Eremophila alpestris actia*), merlin (*Falco columbarius*), prairie falcon (*F. mexicanus*), American peregrine falcon (*F. peregrinus anatum*), loggerhead shrike (*Lanius ludovicianus*), northern spotted owl (*Strix occidentalis caurina*), pallid bat (*Antrozous pallidus*), Townsend's western big-eared bat (*Corynorhinus townsendii townsendii*), long-eared myotis (*Myotis evotis*), and Yuma myotis (*Myotis yumanensis*). Information on the status, typical habitat characteristics, and likelihood of occurrence on the site is summarized in **Exhibit 5.5-4**.

Most of the special-status animal species suspected to possibly occur on the site are birds with varying potential for nesting in the vicinity, although no evidence of any nesting activity was observed during surveys of the site. These have varying potential for occasional foraging on the site and surrounding undeveloped lands, and there remains a possibility that one or more species could establish nests on the site in the future. Suitable habitat for Tiburon micro-blind harvestman occurs in the serpentine grasslands on the site with rocky substrate, and this species is known from only two occurrences on the Tiburon Peninsula, one less than half a mile southeast of the site. It has no legal protection under the State or federal Endangered Species Acts, but was once a candidate for federal listing and was previously recognized as a Federal Species of Concern until the USFWS eliminated that generalized designation. The likelihood that one or more of the special-status bat species occur on the site is considered low, but there is a remote possibility that trees could be used as roosting habitat.

The federally-threatened California red-legged frog has been reported from Keil Cove at the end of the Tiburon Peninsula, approximately two miles southeast of the site. The Keil Cove site was previously contained within one of the Critical Habitat Units (Unit 13 – Tiburon Peninsula) for California red-legged frog before the USFWS substantially modified the designated critical habitat for the species. Suitable breeding habitat for this species is generally absent from the project site and it is unlikely that individuals have successfully dispersed onto the project site and survived. Given the federal status of this species and likely need for authorization for fill and modification of wetlands on the site, the

applicant's biologist has recommended in the *Assessments* that a protocol-level site assessment and focus surveys for this species be conducted according to the USFWS "Guidance on Site Assessment and Field Surveys for California red-legged frogs."

Three additional special-status animal species were identified by the EIR biologist as having some potential for occurrence on the site. These consist of burrowing owl (*Athene cunicularia*), tricolored blackbird (*Agelaius tricolor*), and San Francisco dusky footed woodrat (*Neotomes fuscipes annectens*). Information on each of these species is also summarized in **Exhibit 5.5-4**, including typical habitat characteristics, status, and likelihood of occurrence on the site. Although no occurrences of either burrowing owl or tricolored blackbird have been reported from the Tiburon Peninsula by the CNDDDB, marginally suitable habitat occurs on the site and these species should be considered during preconstruction surveys. As concluded by the applicant's biologist, the known range of San Francisco dusky-footed woodrat is believed to extend southward of San Francisco, but no known investigations into the possible occurrence of this subspecies north of San Francisco have been conducted. Woodrat nests have been observed in the woodlands and shrublands on the site, and unless further investigation confirms that these are not the San Francisco subspecies, they should be presumed to possibly occur on the site.

Special-Status Plant Species

A total of 64 special-status plant species were initially suspected by the applicant's biologist to possibly occur on the site, based on historical distribution and habitat suitability. Focused botanical surveys were conducted during seasons appropriate for detection of special-status plant species suspected to occur on the site, extending through the spring and summer flowering periods. As described in the *Botanical Assessments*, the surveys were commenced in April 2002, continuing in May of 2004, and completed in June of 2005. Occurrences of four special-status plant species were encountered on the site, as indicated in **Exhibit 5.5-1**. **Exhibit 5.5-5** provides information on each of these four species, Marin western flax (*Hesperolinon congestum*), Tiburon buckwheat (*Eriogonum luteolum* var. *caninum*), north coast semaphore grass (*Pleuropogon hooverianus*), and Carlotta Hall's lace fern (*Aspidotis carlotta-halliae*). Below is a summary of each of these species and their occurrence on the site.

Marin Western Flax

This species is a relatively small annual in the flax family (Linaceae), growing up to 12 inches in height. It typically occurs in grassland and chaparral on serpentine-derived, rocky soils. It is both State and federally-listed as "threatened", and is maintained on List 1B (Rare and endangered in California and elsewhere) of the CNPS *Inventory*. Threatened species are considered likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. There have been fewer than 20 occurrences of Marin western flax in Marin, San Francisco, and San Mateo counties, including other occurrences on the Tiburon Peninsula. It was detected on the site in surveys conducted in 2004 and 2005, with one large population of greater than 1,500 individuals observed along an ephemeral drainage in the northwestern point of the site, and smaller occurrences of from 12 to 75 individuals observed in the southeastern portion of the site. As an annual, the abundance of this species in a particular occurrence fluctuates from year to year.

Tiburon Buckwheat

This variety of buckwheat is a small annual plant in the buckwheat family (Polygonaceae) that grows up to about 15 inches in height. It occurs in chaparral, coastal prairie and grasslands, typically in serpentine outcrops or shallow, serpentine-derived soils. It is known from Alameda, Contra Costa,

Marin, and possibly Sonoma counties. It has no State or federal listing under the Endangered Species Acts, but is maintained on List 1B of the CNPS *Inventory* and is assumed to be present in an estimated 21 to 80 occurrences. Six occurrences were observed during surveys of the site in 2004 and 2005 in the eastern portion of the property, with four to five hundred individuals observed in each occurrence. Most of the Tiburon buckwheat occurrences overlap with occurrences of Marin western flax.

North Coast Semaphore Grass

This species is a perennial, herbaceous member of the grass family (Poaceae) with stems growing up to 60 inches in height. It tends to occur in moist, grassy locations in or near forest and woodland cover. It is known from Marin, Mendocino, and Sonoma counties, from as few as six occurrences. It is State-listed as threatened, and is maintained on List 1B of the CNPS *Inventory*. One occurrence of north coast semaphore grass was observed in the western edge of the site, occupying an area of less than 20 square feet in an area of sedge meadow habitat.

Carlotta Hall's Lace Fern

This perennial plant is in the brake fern family (Pteridaceae), and is a low-growing, rhizomatous fern with numerous fronds growing up to four inches in length. It is believed to be a fertile hybrid between California lace fern (*Aspidotis californica*) and Indian's dream (*Aspidotis densa*). It occurs in chaparral and woodlands, generally on serpentine slopes and outcrops, and is known from Alameda, Marin, Monterey, San Benito, and San Luis Obispo counties. This fern has no formal listing status under the Endangered Species Acts, but it is maintained on List 4 (Plants of limited distribution: a watch list) of the CNPS *Inventory*. It was detected from one small population in 2005, consisting of two clumps observed on a serpentine outcrop just west of the existing entrance road onto the site off Paradise Drive. Tiburon buckwheat and Marin western flax were also observed in the vicinity of the outcrop supporting the occurrence of Carlotta Hall's lace fern.

**Exhibit 5.5-4
Special-Status Animals Considered to Potentially Occur in Site Vicinity**

Taxa Name	Status Federal/State	Habitat Characteristics (potential for occurrence on site)
Invertebrates		
<i>Microcina tiburona</i> Tiburon micro-blind harvestman	-/-	Occurs in serpentine grasslands and outcroppings under medium to large, undisturbed rocks (suitable habitat present).
Amphibians		
<i>Rana aurora draytoni</i> California red-legged frog	FT/CSC	Permanent ponds, pools, and streams (suitable breeding habitat absent. Potential for infrequent dispersal from known occurrence at Keil Cove considered highly unlikely given location of intervening residences and topography).
Birds		
<i>Accipiter cooperri</i> Cooper's hawk	-/CSC	Riparian woodlands and open forest (suitable foraging and nesting habitat present, but no nests detected during surveys).
<i>Accipiter striatus</i> Sharp-shinned hawk	-/CSC	Riparian woodlands and dense forest (marginally suitable foraging and nesting habitat present, but no nests detected during surveys).
<i>Aquila chrysaetos</i> Golden eagle	-/CSC, CP	Open mountains, foothills, and canyons (suitable nesting habitat absent).
<i>Asio flammeus</i> Short-eared owl	-/CSC	Marshlands, lowland meadows and grasslands, nesting on ground in marsh and grasslands (suitable foraging and marginal nesting habitat present, but no nests detected during surveys).
<i>Asio otus</i> Long-eared owl	-/CSC	Coniferous or mixed woodlands (suitable foraging and nesting habitat present, but no nests detected during surveys).
<i>Aquila chrysaetos</i> Golden eagle	-/CSC, FP	Grasslands, chaparral, and open woodlands (marginally suitable foraging habitat present but nesting habitat absent).
<i>Athene cucularia</i> Burrowing owl	-/CSC	Open grassland and fields, farms, and ruderal areas (suitable foraging habitat in grasslands but nesting habitat generally absent).
<i>Buteo regalis</i> Ferruginous hawk	-/CSC	Winters in open terrain in plains and foothills with abundant prey (suitable foraging habitat present but does not breed in California).
<i>Chaetura vauxi</i> Vaux's swift	-/CSC	Woodlands near lakes and rivers, nesting in cavities (marginally suitable foraging and nesting habitat, but no nests detected during surveys).
<i>Circus cyaneus</i> Northern harrier	-/CSC	Open grasslands, agricultural fields, and marshlands (suitable foraging and nesting habitat present, but no nests detected during surveys).
<i>Dendroica petechia brewsteri</i> California yellow warbler	-/CSC	Nests in deciduous riparian areas, and woodlands near streams (marginally suitable nesting habitat present).
<i>Elanus caeruleus</i> White-tailed kite	-/CP	Open foothills, marshes, and grassland (suitable foraging and nesting habitat present, but no nests detected during surveys).
<i>Eremophila alpestris actia</i> California horned lark	-/CSC	Open habitat with sparse cover (suitable foraging and nesting present in grasslands, but no nests detected).
<i>Falco columbarius</i> Merlin	-/CSC	Winters in open grasslands and woodlands (suitable foraging habitat present but does not breed in California).
<i>Falco mexicanus</i> Prairie falcon	-/CSC	Canyons, mountains, open grassland (marginal foraging habitat present, but nesting habitat absent).
<i>Falco peregrinus</i> Peregrine falcon	FE/SE, CP	Canyons, mountains, open grassland (marginal foraging habitat present, but nesting habitat absent).
<i>Lanius ludovicianus</i> Loggerhead shrike	-/CSC	Open habitat with scattered trees, shrubs, and other perches (suitable foraging and nesting habitat present, but not detected during surveys).
Mammals		
<i>Antrozous pallidus</i> Pallid bat	-/CSC	Roosts in caves, crevices, trees, unused structures (suitable roosting habitat generally absent).

Taxa Name	Status Federal/State	Habitat characteristics (potential for occurrence on site)
<i>Corynorhinus townsendi townsendi</i> Townsend western big-eared bat	-/CSC	Cave, mines, and abandoned buildings (suitable roosting habitat absent).
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	-/CSC	Woodland, chaparral, and dense riparian areas (suitable foraging and nesting habitat present, and woodrat nests observed on-site).
<i>Myotis evotis</i> Long-eared myotis bat	-/-	Forest, shrubland, chaparral and agricultural fields (suitable roosting habitat generally absent).
<i>Myotis yumanensis</i> Yuma myotis	-/-	Forest and riparian areas, with colonial roosts in caves, tunnels and buildings (suitable roosting habitat generally absent).

Status Designations:

Federal:

- FE = Listed as Endangered under the federal Endangered Species Act.
- FT = Listed as Threatened under the federal Endangered Species Act.
- PE = Proposed for federal listing as Endangered.
- C = A candidate species under review for federal listing. Category taxa include those for which the USFWS has sufficient biological information to support a proposal to list as endangered or threatened.

State:

- SE = Listed as Endangered under the California Endangered Species Act.
- ST = Listed as Threatened under the California Endangered Species Act.
- CP = California fully protected species; individual may not be possessed or taken at any time.
- CSC = California Special Concern species; species have no formal legal protection but nest sites and communal roosts are generally recognized as significant biotic features by CDFG.

Source: Environmental Collaborative, 2008

**Exhibit 5.5-5
Special-Status Plant Species - Known Occurrence on Site**

Taxa Name	Status Fed/State/CNPS	Habitat Characteristics	Distribution	Flowering Period
<i>Aspidotis Carlotta-halliae</i> Carlotta Hall lace fern	-/-/4	Chaparral and woodland, generally on serpentine soils and outcrops	Alameda, Marin, Monterey, San Benito, San Luis Obispo	Jan.-December
<i>Eriogonum luteolum</i> var. <i>caninum</i> Tiburon buckwheat	-/-/1B	Dry rocky slopes	Alameda, Lake, Marin, Napa, Santa Clara, San Mateo, Sonoma, Colusa	June-Sept.
<i>Hesperolinon congestum</i> Marin western flax	T/T/1B	Chaparral and grasslands	Marin, San Francisco, San Mateo	May-July
<i>Pleuropogon hooverianus</i> North coast semaphore grass	*/T/1B	Meadows, mixed evergreen forest	Marin, Mendocino, Sonoma	May-Aug.

Status Designations:

Federal:

- T = Listed as "threatened" under the federal Endangered Species Act.
- * = Formerly recognized as a Federal Species of Concern

State:

- E = An "endangered" species. Serious danger of becoming extinct throughout all or significant portion of range due to varying factors.
- T = A "threatened" species. Likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
- R = A "rare" species. Although not presently threatened with extinction, may become endangered if present environmental factors worsen.

CNPS:

- 1A = Plants of highest priority; plants presumed extinct in California.
- 1B = Plants of highest priority; plants rare and endangered in California and elsewhere.
- 3 = Plants requiring additional information; a review list.
- 4 = Plants of limited distribution; a watch list.

Source: Environmental Collaborative, 2008

Biological Resources – Significance Criteria

The biological resources analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant biological resources impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any special-status species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan.

Biological Resources – Impacts and Mitigation Measures

LESS-THAN-SIGNIFICANT IMPACTS

Based on the findings of the analyses completed as a part of this Draft EIR it has been determined that the proposed *Alta Robles Residential Development* would have either no impact or less-than-significant impacts for the following significance criteria:

- *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan.*

No habitat conservation plans have been prepared addressing the site and surrounding lands, and the project would therefore not conflict with any adopted habitat conservation plans.

PROJECT PROVISIONS RELATED TO BIOLOGICAL RESOURCES

The *Alta Robles Residential Development* has been designed to generally avoid most of the known sensitive biological and wetland resources on the site. These include much of the serpentine natural community, and the habitat it provides for the special-status plant species, most of the jurisdictional wetlands, and most of the larger stands of native oak woodland on the site. During development of the proposed project, the roadways and Residential Use Areas associated with individual lots were sited outside most of the sensitive resource areas. Where incursion into sensitive resources would occur, the *Mitigation Recommendations* prepared by the applicant's consulting biologist provide a general approach to addressing potential impacts on jurisdictional waters, occurrences of special-status plants, sensitive natural communities, and protected trees. No recommendations have been proposed by the applicant's consulting biologist for potential impacts on special-status animal species. An assessment of the potential impacts of development on sensitive biological and wetland resources is provided below, together with a review of the adequacy of measures recommended in the *Mitigation Recommendations*.

IMPACT ANALYSIS

Impact 5.5-1 Special-Status Species

The Alta Robles Residential Development could result in loss of essential habitat and individuals for a number of special-status species unless adequate protective measures are implemented during construction and as part of long-term management of the site. In addition, construction could affect nests of a number of bird species if established on the site in the future. This would be a significant impact.

Proposed development would involve grading for landslide repair and to accommodate site improvements, construction of new structures and roadways, vegetation clearing for fire prevention, and installation of new landscaping and revegetation of areas disturbed during construction. Four special-status plant species are known to occur on the site, and there remains a remote potential for occurrence of California red-legged frog, Marin micro-blind harvestman, and nesting birds on the site, which could be affected by proposed development. While most grading and development improvements would avoid some of the occurrences of special-status plant species on the site, some

incursion into the populations would occur as a result of project implementation. Installation and operation of the proposed subdrain system could alter surface conditions that would adversely affect the occurrences of special-status plant populations, and the sensitive natural communities that support them as well.

Of particular concern are potential impacts on the occurrences of Marin western flax and Tiburon buckwheat. As described in the *Mitigation Recommendations* report by the applicant's consulting biologist, an estimated 0.07 acre of the large occurrence of Marin western flax in the northwestern portion of the site and a small area of the Tiburon buckwheat occurrence in the eastern portion of the site near Lot 8 would be affected by landslide remediation and installation of subdrain systems that are intended to dewater hillside slopes and increase slope stability. Details on the remedial grading associated with landslide repair have evolved over time, and would in part depend on conditions encountered during excavation. According to the assumptions in the *Mitigation Recommendations*, these drainage systems would generally involve trenching a narrow ditch, installing the six- to eight-inch pipe, and then backfilling the trench. However, based on cross-sections of the subdrain system and input from Snyder & Wilson (the EIR geologist) (see discussion in *Impact 5.6-6 Secondary Effects of Grading*), the pipes would actually have to be at least five feet deep to be effective and would probably require use of a backhoe or other large equipment to install, resulting in considerable disturbance to the vicinity. The *Mitigation Recommendations* report does not mention the potential indirect effects of installing the subdrain systems on existing surface conditions. Once installed, they are designed to effectively drain the surrounding area, which could considerably alter field conditions. This could result in changes in the existing vegetative cover, including the loss of wetland conditions necessary to support wetland vegetation and possibly the loss of all or some of the occurrences of special-status species in the vicinity. An assessment of the potential direct and indirect impacts of development on special-status species is summarized below.

Marin western flax

Remedial grading and subdrain installation could affect occurrences of Marin western flax south of the proposed house on Lot 13, and in the proposed Common Open Space of Parcel A east and southeast of Lot 8. Regarding the largest population of Marin western flax on the site on Lot 13, preliminary plans for repair of Landslide N on Lot 13 and Parcel B called for remedial grading over much of the population occurrence as it was mapped in 2005, and could have contributed to extirpation of this population. As shown in the applicant's revised grading exhibit (see **Exhibit 5.6-2**), the proposed limits of the landslide repair would skirt the north, east, and southeast edges of the mapped occurrence, following the edge of the 2005 mapping. It should be noted that the applicant's proposed landslide remediation (see **Exhibit 5.6-1**) shows remedial grading actually extending through the upper half of the Marin western flax population on Lot 13 to accommodate the proposed buttress fill. It is questionable whether the population can be adequately avoided and the surrounding grasslands re-established following what could be extensive grading in the vicinity. This is an annual species, and population numbers and footprint of occurrences most likely vary from year to year. Grading right to the edge of the occurrence based on mapping from 2005 could result in considerable loss of individual plants if the footprint of the population shifts before project implementation. Field conditions encountered during actual landslide repair could warrant removal of most or all the occurrence as a preferred approach to stabilizing the hillside slope. This population is located just over 100 feet from the proposed house on Lot 13, and its proximity could trigger future conflicts if the lower slopes of Landslide N, which are now proposed to be avoided to protect the plant population, continue to show signs of movement or failure, undercutting and possibly destabilizing the buttress system installed below the proposed Main Road through the project. This occurrence, unlike other populations on the site, would be located within the private lands of Lot 13, and no controls on management and long-term protection have been defined as part of the *Mitigation Recommendations*.

The occurrences of Marin western flax in the proposed Common Open Space of Parcel A could also be affected by proposed remedial grading and subdrain installation on the slopes east and southeast of Lot 8 as part of the proposed stabilization of Landslides B, C, and, D. The mapping by the applicant's consulting biologist of Marin western flax abruptly ends at the northern edge of the Rabin property for the main occurrence of this species in this area, even though serpentine substrate continues onto the adjacent SODA property. This mapping of the occurrence of Marin western flax appears to be more a reflection of the separate surveys for the two properties and fact that most of the survey work for the SODA property was conducted in 2004 while the surveys for the Rabin property were primarily conducted in 2005, than an accurate depiction of the distribution of essential habitat for this species in the area. Again, as an annual species, the population size and footprint varies from year to year. Smaller occurrences of Marin western flax were observed scattered through the serpentine outcroppings on the SODA property in the vicinity, indicating the area is probably all part of the same population. Remedial grading would extend through the area, and encompass at least some of the known occurrence of Marin western flax on the SODA property. In addition, subdrains are proposed through the serpentine grasslands that provide suitable habitat for this species along the existing driveway and could extend into occurrence of Marin western flax in four locations.

In addition to the direct and indirect effects of grading and construction, the project could also have long-term effects on the Marin western flax and other occurrences of special-status plant species on the site. The increase in human access and activity in the Common Open Space and undeveloped areas on private lots could result in trampling or picking of individual plants, improper vegetation treatments, or spread of invasive exotic species that could replace grassland habitat. The revised Preliminary Planting Plan²⁰ show shrub plantings immediately adjacent to the Marin western flax occurrences on Lots 8 and 13, which could eventually shade out all or portions of these occurrences. The lists of landscape plantings in the Planting Guidelines for both the shrub and grassland treatment areas include non-native and non-indigenous species which could out-compete the native grassland cover and would be unsuitable in proximity to the occurrences of special-status species and native grasslands. Establishment and spread of invasive species such as French broom, kikuyu grass, and barbed goat grass also pose a threat to the occurrences of Marin western flax and other special-status plant species on the site. This could include some of the grasses currently proposed in the Planting Guidelines for use in revegetating slopes disturbed as part of landslide repair, such as mosquito grass (*Bouteloua gracilis*) and deer grass (*Muhlenbergia rigens*). Native, indigenous species should be used exclusively in revegetating grasslands to be retained in Common Open Space that must be disturbed as part of landslide repair to maintain the integrity of these resources and prevent possible competition with the remaining native grassland species on the site. Proper vegetation management would be required to provide effective long-term protection of the occurrences of special-status plant species and the associated sensitive natural community types on the site.

The *Mitigation Recommendations* call for preparation of a Mitigation and Monitoring Plan to be approved by the USFWS, involving collection of Marin western flax seed for use in revegetating disturbed areas, supervision of construction activities by a qualified botanist, stockpiling and replacing topsoil, and reseeded disturbed areas with species characteristic of serpentine bunchgrass grassland. While the recommended mitigation contains important provisions, the estimates of threats and loss to the occurrences of Marin western flax appear to be greatly underestimated. Re-establishment and restoration of grassland habitat is a challenging effort, requiring considerable maintenance and monitoring. The species identified in the Planting Guidelines and general approach outlined in the revised Preliminary Planting Plan are not consistent with the program outlined in the *Mitigation*

²⁰ *Preliminary Planting Plan, Precise Development Plan*, Sheet L1.2, L1.2a, and L1.2b, Jim Catlin, March 2006, revised November 2008.

Recommendations. The *Mitigation Recommendations* do not call for any long-term vegetation management to control introduced French broom and other invasive species which could eventually spread throughout the grassland habitat currently supporting this and other occurrences of Marin western flax and other special-status plant species on the site. Remedial grading for landslide repair and subdrain installation would remove the existing vegetative cover supporting the special-status plant populations, and would create conditions suitable for establishment and spread of highly invasive species. The *Mitigation Recommendations* also do not address any controls necessary to prevent inadvertent loss of Marin western flax and other species associated with the serpentine bunchgrass habitat as a result of increased human access, including possibly trampling from recreational use of the Common Open Space and undeveloped land on private lots. In addition to the required authorization from the USFWS for any take of this federally-threatened species acknowledged in the *Mitigation Recommendations*, an incidental take permit (CESA Section 2081 Permit) would be required from the CDFG as Marin western flax is also a State-listed threatened species.

In 1998, the USFWS issued the *Recovery Plan for Serpentine Soils Species of the San Francisco Bay Area*²¹ (*Recovery Plan*), which includes conservation and recovery recommendations for Marin western flax and 27 other species typically associated with serpentine habitats, including Marin micro-blind harvestman. The *Recovery Plan* contains a number of recommendations regarding Marin western flax. These include: developing habitat management plans that control and eliminate invasive species and reduces the potential for trampling due to recreational activities; seed collection and banking for repatriation of suitable sites; working with local jurisdictions including the Town of Tiburon to protect populations on existing open space and establishing a 500-foot buffer to allow for expansion of populations where feasible; and securing and protecting populations of 2,000 or more individuals. Because Marin western flax is a federally-listed species, compliance with the federal Endangered Species Act will be a requirement of any authorization made by federal agencies with permit review authority, including the Corps. These objectives from the *Recovery Plan* regarding treatment of Marin western flax will most likely be considered by the USFWS as they review project plans and develop conditions they consider necessary to adequately protect and mitigate potential impacts of the project as part of the Section 7 consultation process. Given the federal listing of this species and uncertainty regarding the direct and indirect effects of proposed development, the potential impacts of the project on Marin western flax would be significant.

Tiburon buckwheat

This variety of buckwheat is generally associated with the serpentine bunchgrass community in the eastern portion of the site, with most occurrences overlapping the occurrences of Marin western flax. It has no State or federal listing under the Endangered Species Acts, but is maintained as a List 1B species in the CNPS *Inventory*, and therefore qualifies as rare or endangered under Section 15380 of the *State CEQA Guidelines*. Proposed remedial grading of Landslide B southeast of the house on Lot 8 and installation of three different subdrain systems in the areas would directly impact three of the six occurrences of Tiburon buckwheat on the site. Changes in surface moisture conditions due to draining in the vicinity could indirectly adversely affect the long-term viability of the occurrences, as could inappropriate revegetation of graded slopes with shrub and non-indigenous grassland species, improper vegetation management, spread of invasive exotics, or increased human activity in the surrounding Common Open Space.

The *Mitigation Recommendations* call for preparation of a Mitigation and Monitoring Plan intended to minimize disturbance during installation of subdrains, including use of hand trenching where

²¹ *Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area*, U.S. Fish and Wildlife Service, 1998.

equipment may cause unnecessary degradation, salvage and reinstallation of topsoil, and revegetation of the disturbed area with locally collected seed from species characteristic of serpentine bunchgrass. The recommended mitigation contains important provisions but as with Marin western flax the estimates of threats and loss to the occurrences of Tiburon buckwheat appear to be greatly underestimated, and re-establishing serpentine grassland habitat is a challenging effort, requiring considerable maintenance and monitoring. Revegetation of landslide areas as indicated in the revised Preliminary Planting Plan and the Planting Guidelines would be inconsistent with the program outlined in the *Mitigation Recommendations*. The *Mitigation Recommendations* also do not call for any long-term vegetation management to control invasive species or address other threats to the occurrences of Tiburon buckwheat on the site. Given the List 1B status of this variety of buckwheat, potential direct and indirect effects of proposed development would be significant.

North coast semaphore grass

The single occurrence of north coast semaphore grass is located along the western edge of the site, in an area that is to remain largely undeveloped as part of the Private Open Space on Lot 1. A proposed trail would be located through the western edge of the lot, with the alignment shown in the proposed site plan (see **Exhibit 3.0-7**) passing within about 75 feet of the population. Subdrains were originally proposed as part of the partial stabilization of Landslide P, but the proposed landslide stabilization (see **Exhibit 5.6-1**) shows no remedial grading or subdrainage system in this area. Although potential direct impacts to this occurrence appear unlikely, it should be noted that a test pit was installed in close proximity to the small population occupying only about 20 square feet. There remains a possibility that the owner of Lot 1 or users of the proposed trail could inadvertently damage the occurrence. The *Mitigation Recommendations* do not mention the occurrence of north coast semaphore grass, which is a State-listed rare species. As with Marin western flax, an incidental take permit (CESA Section 2081 Permit) may be required from the CDFG for north coast semaphore grass as a State-listed threatened species. Although direct impacts on north coast semaphore grass appear unlikely, there remains a possibility that the occurrence could be inadvertently damaged or extirpated, particularly considering its small size and legal protective status, and this would be a significant impact.

Carlotta Hall's lace fern

The rock outcrop in the eastern portion of the site where the small occurrence of Carlotta Hall's lace fern is located would not be affected by proposed development or landslide stabilization modifications. The outcrop and surrounding lands would be retained as part of the Common Open Space in Parcel A. A drainage system to dewater the hillside is proposed within the open space areas, approximately 100 feet to the east of the rock outcrop, but this should have no effect on the occurrence. Although its occurrence on the site is vulnerable given the small size of the population, it is not protected under the State and / or federal endangered species acts, and does not warrant special consideration under CEQA as a List 4 species. As with the other occurrences of special-status plants, increased human access to the property could increase the risk of inadvertent damage or destruction of the occurrence, unless an effective interpretive program is provided as part of the project. While the possible loss of the occurrence of Carlotta Hall's lace fern would be a less-than-significant impact under CEQA because of its relative abundance and maintenance on the CNPS watch list, it does contribute to the diversity of species on the site and its protection should be encouraged.

California red-legged frog

Direct modifications to the aquatic habitat of the drainages and wetlands on the site are limited, as discussed under *Impact 5.5-3 Wetlands and Drainage*, and potential impacts on marginally suitable

habitat for California red-legged frog would be relatively minor. Protocol surveys for California red-legged frog have not been conducted, but the potential for occurrence of this species appears low due to the limited habitat suitability on the site. However, there remains a remote possibility that this species is present and construction-related disturbance could result in inadvertent take of individual California red-legged frog if present in or near marginally suitable habitat. Sedimentation and indirect changes to the aquatic habitat of these drainages as a result of grading and urban pollutants in stormwater runoff could also adversely affect California red-legged frog, if present in the adjacent and downstream waters. Adequate stormwater pollution prevention measures would be necessary to ensure that construction sediments are adequately contained and to prevent further degradation of water quality as a result of additional impervious surfaces, fertilizers, and other urban contaminants, as discussed in *Impact 5.4-4 Impacts on Water Quality*. Preconstruction surveys would be necessary to ensure absence of any California red-legged frog within the proposed construction zone, and further consultation with the USFWS would be necessary to determine any concerns about loss of suitable habitat, obstruction of movement corridors, and need for compensatory mitigation. The USFWS would most likely be consulted as part of the Section 7 consultation performed by the Corps during review of the Section 404 authorization for proposed modification and fills of jurisdictional wetlands. Because there remains a remote possibility that individuals of this species could be inadvertently taken during construction if present on the site, this would be a significant impact.

Marin micro-blind harvestman

No detailed surveys for Marin micro-blind harvestman have been conducted on the site, but suitable habitat is present in the remaining serpentine bunchgrass with medium to large size in-tack rocks. This species has no legal status under the Endangered Species Acts, but was formerly a candidate for federal listing and was maintained on the Federal Species of Concern list before the USFWS eliminated this designation. As noted previously, the serpentine bunchgrass habitat on the site would be largely avoided, no adverse impacts would occur and impacts on this species would be less-than-significant.

Raptors and other birds

While no raptor nests or nests of other bird species protected under the Migratory Bird Treaty Act were observed during surveys of the site, there is a potential for new nests to be established prior to project implementation. Tree removal, vegetation clearing, and disturbance in the vicinity of a nest in active use could result in abandonment of the nest or loss of eggs and young, which would be a violation of the Migratory Bird Treaty Act. Preconstruction surveys would be necessary in advance of construction during the nesting season (March through August) to confirm presence or absence of any new nests. This would be a significant impact.

The following mitigation measures would be required to mitigate impacts to special-status species.

Mitigation Measure 5.5-1(a) The applicant shall obtain all necessary permits from the CDFG, Corps, USFWS, and the RWQCB as required by federal and State law to avoid, minimize or offset impacts to any species listed under either the State or federal ESAs or protected under any other state or federal law. Informal consultation with each of these agencies shall be conducted for the applicant by a qualified biologist prior to approval of the Tentative Map to determine likely permit requirements and the extent of modifications to the proposed project plans necessary to secure authorization. This may include: 1) conduct of a habitat assessment and protocol surveys for California red-legged frog to confirm absence; 2) restrictions on remedial grading and subdrain installation proposed to stabilize portions of the site; and 3) adjustments to proposed residential use areas and lot lines as necessary to protect essential habitat for special-status species. Evidence of the informal consultation shall be

provided to the Town of Tiburon during processing of the Tentative Map, and evidence of agency authorization shall be provided prior to issuance of grading, building or other construction permits for the project.

Mitigation Measure 5.5-1(b) Revise the proposed Precise Development Plan (including the site plan, grading plan, and landscape plan) to avoid further disturbance to essential habitat for special-status plant species on the site. The revisions shall be prepared based on input received during informal and formal consultation called for in Mitigation Measure 5.5-1(a). At a minimum, this shall include the following project modifications:

- Substantial avoidance of the occurrence of Marin western flax in the western portion of the site to ensure long-term viability of this population. The proposed lot lines shall be revised so that the entire occurrence is contained within Common Open Space to avoid entrusting the future management of this population to an individual private property owner, with future management defined as called for in Mitigation Measure 5.5-1(c). The proposed residential use area on Lot 13 shall be setback a minimum of 100 feet from the limits of Landslide N to provide greater flexibility in the approach to landslide stabilization and to prevent future conflicts in the event that the proposed buttress, slope reconstruction, and dewatering is inadequate and further slope repair is necessary in the future. This shall be accomplished through adjustments to the proposed lot lines to Lots 13 and 14, and possibly Lots 11 and 12.
- Substantial avoidance of the occurrences of Marin western flax and Tiburon buckwheat along the existing driveway off Paradise Drive through Parcel A and Lot 8. Alternative methods shall be developed which minimize or avoid the use of proposed subdrains through this area installed by trenching and disturbance of the ground surface, which would result in significant disturbance to the occurrences of special-status plant species and the associated serpentine bunchgrass community. Options could include use of additional retaining wall structures installed at the edge of the existing driveway slope, drilling of horizontal subdrains under the slope from the existing driveway, or complete removal of the driveway and use of the driveway footprint for stabilization and habitat restoration. Under this third option, pavement would be removed from the footprint of the driveway, which could then be used for retaining wall installation for slope stabilization with the remaining areas restored to natural grassland and woodland habitat.
- Improved protection of the population of north coast semaphore grass along the western edge of the site through adjustments of the proposed boundaries to Lot 1 so that the occurrence is contained within Common Open Space rather than the Private Open Space on Lot 1 and elimination of the proposed trail along the western boundary of the site. This would avoid entrusting future management (as described in Mitigation Measure 5.5-1(c)) of this occurrence of north coast semaphore grass to an individual private property owner and would prevent possible inadvertent loss or damage to the occurrence from trail users.
- Refine the revised Preliminary Planting Plan and Planting Guidelines to restrict all plantings, seeding and revegetation within Common Open Space exclusively to native, indigenous species, and ensure that these plans have been reviewed and approved by the qualified biological consultant called for in Mitigation Measure 5.5.1(c). Eliminate any proposed shrub or tree plantings and revegetation that may compromise essential habitat for grassland dependent special-status plant species known from the site.

Mitigation Measure 5.5-1(c) A qualified biological consultant shall be retained by the applicant to prepare a detailed *Mitigation and Monitoring Program for Special-Status Species and Other Sensitive Resources (Mitigation Program)*. The *Mitigation Program* shall be prepared in consultation with the

CDFG and USFWS, and shall meet with the approval of the Town of Tiburon. The *Mitigation Program* shall define measures which ensure protection of the populations, salvage of any seed and / or individual plants within the limits of grading, replanting of salvaged plant material in suitable protected habitat, long-term protection and management requirements, monitoring of the habitat avoidance and salvage efforts, provisions for any compensatory off-site measures if required by regulatory agencies to address on-site losses, and appropriate measures to avoid possible presence of special-status animal species. Components of the *Mitigation Program* shall include the following:

- Refine and expand on the initial mitigation framework outlined in the *Mitigation Recommendations*, address input received during informal and formal consultation called for in Mitigation Measure 5.5-1(a), and incorporate avoidance measures called for in Mitigation Measure 5.5-1(b).
- Describe the inadvertent take measures for California red-legged frog called for in Mitigation Measure 5.5-1(d), as well as any development restrictions that may be required by the USFWS during the consultation called for in Mitigation Measure 5.5-1(a).
- Provide a detailed description of any plant salvage and reinstallation efforts where complete avoidance of the occurrences of special-status plant species is determined to be infeasible, and adequate mitigation has been developed in consultation with regulatory agencies.
- Define the revegetation methods in restoring serpentine grasslands disturbed during grading and installation of any subdrain systems through occurrences of special-status plant species. This shall include details on maintenance and monitoring methods, performance standards for plant re-establishment, and contingency measures if success criteria are not met. Maintenance and monitoring shall be provided for a minimum of ten years in locations where incursion into occurrences of special-status plant species is unavoidable, and a funding mechanism shall be identified.
- Describe the long-term vegetation management goals and methods to achieve them, with an emphasis on maintaining grassland and freshwater habitats that support the occurrences of special-status plant species on the site. This shall include routine removal of invasive species, and selective control of coyote brush and other native scrub species that may eventually replace much of the grassland cover unless properly managed.
- Identify a mechanism that demonstrates the feasibility of long-term on-site management of proposed Common Open Space, public trail easement areas, and portions of private lots outside the residential use area that contain occurrences of special-status species and sensitive natural communities. This can include obligations defined as part of the Codes, Covenants & Restrictions of the homeowners association for the development. Appropriate development restrictions shall be established over all Common Open Space areas and undeveloped portions of private lots containing essential habitat for special-status species or other sensitive resources.
- Develop effective interpretive measures to prevent inadvertent take of special-status species by persons utilizing the Common Open Space areas or maintaining undeveloped lands on private lots. Methods shall be described to permanently prevent vehicle access into the Common Open Space areas where they border the private roads and driveways, which shall include an effective barrier system (such as rustic split-rail fence, posts, or boulders). Permanent signage shall be placed at 50-foot intervals along the perimeter of the Common Open Space areas that border roadways adjacent to occurrences of special-status plants or where any public trails pass through the vicinity of occurrences of special-status plants that state:

**Sensitive Natural Area
No Vehicle or Pedestrian Access
Please Do Not Pick Wildflowers**

Mitigation Measure 5.5-1(d) Adequate measures shall be taken to avoid any inadvertent take of California red-legged frog during construction, in the remote instance this species is present on the site. This shall include minimizing disturbance to drainages and wetlands, implementation of preconstruction surveys to confirm the absence of this species on the site, and adherence to rigid measures to prevent degradation of water quality in the drainages and wetlands as called for in the Stormwater Pollution Prevention Plan (SWPP).²² A preconstruction survey shall be conducted by a qualified biologist prior to any grading or construction within 100 feet of on-site drainages and wetlands. Details of the preconstruction survey shall include the following:

- The qualified biologist(s) shall survey the construction zone two weeks before any construction activities are initiated. If California red-legged frogs, tadpoles, or eggs are found, the biologist shall contact the USFWS to determine if moving any of these lifestates is appropriate and any alternative measures that would be necessary to ensure avoidance of possible take. If authorized, only USFWS-approved biologists shall participate in activities associated with the capture, handling, or monitoring of California red-legged frogs.
- Before any construction activities begin within 100 feet of the drainages or wetlands, the qualified biologist(s) shall conduct a training session for all construction personnel. At a minimum, the training shall include: (a) a description of the California red-legged frog and its protected status; (b) the general measures that are being implemented to conserve this species as they relate to the project; (c) the boundaries within which the project may be accomplished; and (d) procedure to follow if construction personnel encounter a frog suspected to be a California red-legged frog individual.
- The qualified biologist(s) shall oversee installation of exclusionary fencing prior to grading or vegetation clearance to keep California red-legged frog out of construction areas. Silt fencing installed as part of the required Stormwater Pollution Prevention Plan may function as the exclusionary fencing assuming it is installed at the edge of proposed grading, is at least three feet in height with no breaks, and is routinely monitored and maintained during construction.
- During project activities, all trash that may attract predators shall be properly contained, removed from the work site and disposed of properly.
- All fueling and maintenance of vehicles and other equipment, and construction staging areas shall be located at least 100 feet from the drainages and wetlands on the site. All construction personnel shall be informed of the importance of preventing spills and the appropriate measures to take should a spill occur, including containment, cleanup, and proper disposal.

Mitigation Measure 5.5-1(e) Any active raptor nests or other bird nests protected under the Migratory Bird Treaty Act in the vicinity of proposed grading and vegetation removal shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling initial grading and vegetation removal during the non-nesting

²² As discussed in *Impact 5.4-2 Alteration of Existing Drainage Patterns and Erosion and Downstream Sedimentation*, the applicant will be responsible to submit a Stormwater Pollution Prevention Plan which incorporates Best Management Practices for source control of water quality contaminants, on-site treatment of stormwater as well as post construction stormwater quality maintenance.

period (i.e., September through February), or if this is not feasible, by conducting a pre-construction survey for bird nests. Provisions of the pre-construction survey and nest avoidance, if necessary, shall include the following:

- If grading and / or vegetation removal is scheduled during the active nesting period (March through August), a qualified wildlife biologist shall conduct a pre-construction survey no more than 14 days prior to initiation of these activities to provide confirmation on presence or absence of active nests in the vicinity. This shall include both a daytime visual survey for raptors and other diurnal bird species, and a nighttime survey for nesting owls.
- If active bird nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with the CDFG and implemented to prevent abandonment of the active nest. At a minimum, grading or vegetation removal near the nest shall be deferred until the young birds have fledged. A nest-setback zone based on site conditions and proximity of the nest to existing and proposed development, shall be established within which all construction-related disturbance shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated, and construction personnel restricted from the area.
- If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies that the birds have either (a) not begun egg-laying and incubation, or (b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date. A survey report by the qualified biologist verifying that the young have fledged shall be submitted to the Town of Tiburon prior to initiation of grading in the nest-setback zone.

Significance After Mitigation Implementation of Mitigation Measures 5.5-1(a) through 5.5-1(e) would reduce adverse effects to special-status species to a less-than-significant level.

Responsibility and Monitoring The project applicant would be responsible for providing the required consultation, refining proposed project plans, and securing qualified consultants as called for in Mitigation Measures 5.5-1(a) through 5.5-1(e). A qualified biologist would be retained by the applicant to consult with regulatory agencies, refine avoidance and mitigation measures, develop the *Mitigation Program*, and conduct the preconstruction surveys for California red-legged frog and nesting birds. Evidence of compliance with these measures would be provided to the Town during processing of the Tentative Map, prior to issuance of grading, building or other construction permits, and if any nesting birds are encountered on the site, prior to initiation of grading or vegetation removal within the nest-setback zone.

Impact 5.5-2 Sensitive Natural Communities
The Alta Robles Residential Development would result in loss of important native habitat and sensitive natural community types. This would be a significant impact.

Proposed development would affect the remaining stands of serpentine bunchgrass and areas of freshwater marsh on the site. While the limits of proposed residential use generally avoid direct impacts to these sensitive natural communities, proposed remedial grading for landslide repair and installation of subdrains would disturb some areas and dewatering would most likely alter conditions that would adversely affect portions of these natural areas over time. A detailed discussion of the effects of the project on the wetland natural communities on the site is provided under *Impact 5.5-3 Wetlands and Drainages*.

Of the approximately 6.8 acres of serpentine bunchgrass on the site, remedial grading and subdrain installation would extend into approximately 0.4 acre of existing habitat. In addition, proposed residential use areas on Lots 5 and 6 would extend up to the edge of the largest stand of serpentine bunchgrass, providing no setback for vegetation maintenance and clearance for fire suppression, and could result in future conflicts which compromise the edge of this stand of native grassland. Proposed landscape improvements and fiber rolls to be installed as part of the *Preliminary Erosion Control Plan* currently extend into the stands of serpentine bunchgrass. Disturbance associated with remedial grading for landslide repair and revegetation, subdrain installation, fire clearance, and other construction activities would disturb or completely remove the existing vegetative cover, and would create conditions suitable for establishment and spread of highly invasive species.

The *Mitigation Recommendations* assume that disturbed areas would be revegetated with native species, and that a Mitigation and Monitoring Plan would be prepared by a qualified restorationist. Re-establishment and restoration of grassland habitat is a challenging task with variable success, and requires considerable maintenance and monitoring. As discussed under *Impact 5.5-1 Special-Status Species*, the plant species identified in the Planting Guidelines and the general approach outlined in the revised Preliminary Planting Plan are not consistent with the program outlined in the *Mitigation Recommendations*, and could result in the eventual replacement of native grasslands on the site. The *Mitigation Recommendations* do not provide for any long-term vegetation maintenance or management, and contain no controls for possible inadvertent damage associated with increased human access to the Common Open Space and undeveloped land on private lots. Uncontrolled access could lead to trampling of grassland habitat from routine recreational use and creation of informal trails. The *Mitigation Recommendations* also do not address the important need for on-going control of the highly invasive non-native species that are spreading across the site and could eventually replace or greatly reduce the remaining native grassland habitat.

Implementation of the revised Preliminary Planting Plan and Planting Guidelines could also further reduce the extent of native serpentine grasslands on the site. Groundcover species are proposed along the existing roadways, including low-growing shrubs and grasses. Most of the species identified in the Preliminary Planting Plan are not indigenous to the Tiburon Peninsula, and some could spread and compete with the native grassland species. While none of the species identified in the Preliminary Planting Plan are particularly invasive, a few could be problematic if they became established in the proposed Common Open Space areas, such as pride-of-Madeira (*Echium fastuosum*). Installation of landscape plantings at the edge of or within the mapped stands of serpentine bunchgrass could outcompete and shade the native grasslands, further reducing their extent and degrading their value. Removal of planted non-native trees and invasive exotics, and controlling the spread of native shrubs such as coyote brush provides an opportunity to enhance the existing condition of the remaining native grasslands on the site, although this has not been acknowledged in the *Mitigation Recommendations*. The direct and indirect impacts of the project on the native serpentine bunchgrass community would be significant.

The following mitigation measures would be required to mitigate impacts to sensitive natural communities.

Mitigation Measure 5.5-2 The *Mitigation Program* called for in Mitigation Measure 5.5-1(c) shall include provisions that provide for the protection, replacement and enhancement of the native serpentine bunchgrass grasslands on the site. Additional protection and enhancement measures shall include the following:

- Minimize disturbance to the stands of native serpentine bunchgrass and enhance this sensitive natural community type through removal of non-native species and improved vegetation

management on the site. Where temporary, limited incursion into the stands of native grassland are unavoidable, adequate measures shall be taken to provide for the revegetation and restoration of areas disturbed during construction.

- Adjust the proposed residential use areas and associated landscaping on the south side of the proposed residences on Lots 5 and 6 so that the footprint of new structures, outdoor hardscape areas, and non-native landscaping is setback a minimum of 30 feet from the nearby stand of serpentine grassland. This would allow for improved fire safety clearance around the perimeter of the buildings without adversely affecting the native grasslands as part of routine fuel reduction and maintenance. The area within this setback distance can be restored, enhanced and managed as native grassland habitat, but would most likely be subject to routine cutting of the grassland cover.
- Refine the revised Preliminary Planting Plan and Planting Guideline to emphasize the use of native plant species indigenous to the site and surrounding area. Of particular concern is the proposed use of non-native grassland species in the grassland zones adjacent to the stands of serpentine bunchgrass, which should be exclusively native in Common Open Space. Highly undesirable species in landscape improvements on the site that could spread into the adjacent grassland and woodland habitat shall not be utilized. These undesirable species include: gum eucalyptus (*Eucalyptus globulus*), acacia (*Acacia* spp.), pampas grass (*Cortaderia selloana*), broom (*Cytisus* spp. and *Genista* spp.), gorse (*Ulex europaeus*), bamboo (*Bambusa* spp.), giant reed (*Arundo donax*), English ivy (*Hedera helix*), German ivy (*Senecio milanioides*), Himalayan blackberry (*Rubus discolor*), cotoneaster (*Cotoneaster pannosus*), fennel (*Foeniculum vulgare*), yellow star thistle (*Centaurea solstitialis*), purple star thistle (*Centaurea calcitrapa*), and periwinkle (*Vinca* spp.).
- Restore any portions of the stands of serpentine bunchgrass disturbed during construction or proposed for enhancement through appropriate revegetation, maintenance and monitoring. Species used in the revegetation effort shall be native and indigenous to the site, utilizing plugs salvaged from the footprint of the construction zone, and seed collected from the vicinity. Salvaged material shall be properly maintained until ready for reinstallation in the fall season after completion of construction-related disturbance, and short-term irrigation may be required to ensure survival during re-establishment.
- Expand the extent of existing serpentine bunchgrass grassland by removing the non-native trees and shrubs within the footprint of the stands of native grasslands on the site. All slash from vegetation removed shall be disposed of properly. As part of this enhancement effort, consideration shall also be given to limited removal of invasive stands of native coyote bush, as called for in Mitigation Measure 5.5-1(c). The area within the driplines of the removed trees and shrubs shall be restored to a cover of native grassland, with supplemental seeding of locally collected seed provided to ensure successful re-establishment of native grassland cover.
- Provide long-term maintenance and monitoring of the serpentine bunchgrass grasslands, as called for in Mitigation Measure 5.5-1(c).

Significance After Mitigation Implementation of Mitigation Measure 5.1-2 would minimize disturbance to the sensitive serpentine bunchgrass natural community to a less-than-significant level.

Responsibility and Monitoring Project approval shall be conditioned on incorporating Mitigation Measure 5.5-2 into the project. Compliance with specific restrictions and completion of the

recommended *Mitigation Program* shall be confirmed prior to issuance of grading, building, or other construction permits.

Impact 5.5-3 Wetlands and Drainages

The Alta Robles Residential Development would result in direct impacts to an estimated 0.07 acre of jurisdictional waters, could result in further loss of other on-site wetlands due to subdrain installation, and could degrade downstream drainages unless adequate erosion control measures are taken. This would be a significant impact.

Proposed grading and development would generally avoid most of the existing jurisdictional wetlands and drainages on the site, but some jurisdictional features would be eliminated by grading activities, and others could be affected by changes associated with installation of the proposed subdrain system. According to the *Mitigation Recommendations*, an estimated 0.82 acre of jurisdictional waters would be avoided by retaining these areas in Common Open Space and undeveloped lands outside the residential use areas on private lots. However, an estimated total of approximately 0.07 acre of jurisdictional waters would be disturbed or eliminated based on the assumed limits of grading associated with development and landslide stabilization. According to the *Mitigation Recommendations* by the applicant's consultant, these consist of an estimated 0.05 acre of freshwater marsh, seeps, and sedge meadow, less than 0.01 acre (ten square feet) of seasonal wetlands, and less than 0.01 acre of unvegetated other waters associated with ephemeral drainages. Grading for development and slope stabilization would eliminate existing wetland areas on Lots 1, 2, 7, 11, and Parcel A. Direct modification and fill of wetlands and waters would also result from installation of subdrain systems designed to dewater hillside slopes and reduce the potential for slope instability. Large subdrain systems would be installed in the swales and along ephemeral drainages in the proposed Common Open Space on Parcels A and B.

The assumptions in the *Mitigation Recommendations* appear to underestimate the extent of direct disturbance to drainages and wetlands required to install these systems, and do not address the indirect impacts of dewatering the drainages and wetlands. Additional areas of unvegetated "other waters" in the proposed Common Open Space on Parcels A and B could be impacted than the estimated 0.01 acre identified in the *Mitigation Recommendations*, but this would in part depend on effectiveness of construction-related controls. Depending on the effectiveness of these subdrain systems, additional areas of freshwater seeps and marsh could eventually be eliminated over time where subsurface water is effectively intercepted and then bypasses the wetland area as a result of the new drainage systems. The wetland vegetation can only survive if sufficient surface water is present during the growing season. It is difficult to predict the possible changes to wetland vegetation in the vicinity of drainage improvements, but it is likely that some additional loss of wetland habitat would occur as a result of their installation. Of greatest concern is the proposed subdrain system that would extend into the lower elevations of the largest complex of freshwater marsh and serpentine bunchgrass along the southeastern edge of the site, in the proposed Common Open Space of Parcel A, which is located upslope of the sharp turn to the existing driveway near its intersection with Paradise Drive. Although the total acreage of jurisdictional waters affected by proposed development would be relatively low, these are regulated waters and sensitive natural community types, and their loss would be significant.

There also remains a potential for erosion and degradation of wetland habitat as a result of alterations to site drainage patterns and concentration of storm water discharges, diminished water quality as a result of new impervious surfaces, and increased vehicular traffic as discussed in *Impact 5.4-2 Alteration of Existing Drainage Patterns and Erosion and Downstream Sedimentation*. Grading, impervious surface construction and installation of storm drains along the site roads would alter site drainage patterns and concentrate storm water runoff in site drainageways. This would result in drainageway erosion and downstream sedimentation following construction. Project related nonpoint discharge including fertilizers and chemicals (such as herbicides and pesticides) would potentially

degrade site water quality and indirectly impact wetlands (see *Impact 5.4-4 Impacts on Water Quality*).

Proposed modifications to jurisdictional wetlands and other waters would require authorizations from regulatory agencies, including the CDFG, Corps, USFWS, and RWQCB. These agencies would require mitigation to satisfy their permit authorizations, including construction restrictions to avoid features to be retained and compensatory mitigation where disturbance and loss was determined unavoidable. Compensatory mitigation could be met through several options, including creation of replacement habitat, preferably on-site, restoration and enhancement of existing wetlands, and / or participation in an off-site mitigation banking program. The *Mitigation Recommendations* includes a measure to prepare a Mitigation and Monitoring Plan, but specifies a minimum replacement ratio of only 1:1 (ratio of impacted to created waters), which would be insufficient to mitigate the short-term loss of these sensitive features.

The following mitigation measures would be required to mitigate impacts to jurisdictional waters.

Mitigation Measure 5.5-3(a) The *Mitigation Program* called for in Mitigation Measure 5.5-1(c) shall include provisions that provide for the protection, replacement and enhancement of the jurisdictional wetland and other waters on the site. Avoidance, protection and enhancement measures shall include the following:

- Refine the applicant's *Mitigation Recommendations* and implement appropriate measures to prevent inadvertent loss and degradation of jurisdictional waters to be protected, including restrictions on the limits of grading and installation of effective sedimentation and erosion controls. All wetland features to be protected shall be flagged by a qualified biologist prior to any grading, and initial construction activities shall be overseen by the qualified biologist, including installation of temporary protective fencing, silt fencing, and trenching of subdrain systems.
- Provide adequate mitigation for any direct or indirect impacts on jurisdictional waters as coordinated with the CDFG, Corps, and RWQCB where complete avoidance is infeasible. Replacement wetlands shall be replaced at a minimum 2:1 replacement ratio and shall be established in suitable locations within the proposed Common Open Space. The wetland replacement component of the *Mitigation Program* shall emphasize establishment of native freshwater marsh habitat to enhance existing habitat values, and shall preferably be consolidated with other existing wetlands to be retained as part of the project.
- The wetland replacement component of the *Mitigation Program* shall specify performance criteria that meets the minimum 2:1 replacement ratio and defines the maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. Monitoring shall be conducted by the qualified wetland specialist for a minimum of five years and continue until the success criteria are met.

Mitigation Measure 5.5-3(b) As discussed in *Section 5.4 Hydrology and Water Quality* a SWPPP will be prepared and implemented using Best Management Practices to control both construction-related erosion and sedimentation and project-related nonpoint discharge into waters on the site. The SWPPP shall contain detailed measures to control erosion of exposed soil, provide for revegetation of graded slopes before the start of the first rainy season following grading, address nonpoint source pollutants to protect wetlands and water quality in the drainages, and specify procedures for monitoring of the effectiveness of the measures.

Mitigation Measure 5.5-3(c) Appropriate authorizations shall be obtained from the CDFG, Corps, USFWS, and RWQCB for all activities affecting jurisdictional waters, and all conditions required as part of any required agency authorization shall be implemented and adhered to as part of the project. Evidence that agency authorization has been secured shall be provided to the Town of Tiburon prior to issuance of grading, building or other construction permits for the project. The project contractor shall have copies of all agency authorizations available on-site, and shall comply with all conditions required by jurisdictional agencies.

Significance After Mitigation Implementation of Mitigation Measures 5.5-3(a) through 5.5-3(c) would reduce potential impacts on jurisdictional waters to a less-than-significant level.

Responsibility and Monitoring Project approval shall be conditioned on incorporating Mitigation Measures 5.5-3(a) through 5.5-3(c) into the project. Compliance with specific restrictions and completion of the recommended *Mitigation Program* shall be confirmed prior to issuance of any grading, building or other construction permits. Evidence that the applicant has secured necessary authorizations from jurisdictional agencies shall be provided to the Town prior to issuance of any grading, building or other construction permits.

Impact 5.5-4 Wildlife Habitat and Connectivity

The Alta Robles Residential Development could reduce the existing habitat values of the site and substantially reduce opportunities for wildlife movement. This would be a significant impact.

Proposed improvements would generally be sited in areas of non-native grassland and coastal scrub, attempting to avoid more sensitive wetlands, serpentine bunchgrass grasslands, and oak woodlands. However, as discussed under *Impact 5.5-1 Special-Status Species*, *Impact 5.5-2 Loss of Sensitive Natural Communities*, and *Impact 5.5-3 Wetlands and Drainages*, the project would still have adverse impacts on the sensitive resources on the site and their associated wildlife habitat values. Areas of oak woodland and mature trees would be affected by proposed grading for slope stabilization, new roads and residences, and to provide defensible space for fire protection around new residences. New landscaping could contribute to additional habitat conversion through planting of non-native species in the remaining natural areas and other factors such as landscape irrigation that could lead to loss of mature native trees. Landscaping must be carefully designed and installed to prevent additional loss of mature native trees and further incursion into sensitive grasslands and wetlands. Increased human activity, nighttime lighting, and uncontrolled pets could all contribute to the reduction in value of the existing wildlife habitat values given the proximity of new residences, unless carefully controlled.

Proposed development would eliminate existing habitat in areas converted to new roadways and residences, and would disrupt opportunities for wildlife movement across the site. Of particular concern is the proposed installation of six-foot high “deer fence” around each of the new residences. As indicated in the Preliminary Planting Plan, the proposed deer fencing would form a near continuous barrier across the site with the exception of the private roadways. Fencing would extend to the street frontages and surround the entire Residential Use Area shown in the Preliminary Grading and Drainage Plan. The Common Open Space between Lots 8 and 11 would be bordered to the south by deer fencing, forcing wildlife to access the area either directly on the Main Road between Lots 10 and 11 or Lots 3 and 7, or along the lower elevations of the site along Paradise Drive. The deer fencing would separate the larger area of woodland habitat in the private open space area on Lot 1 from the larger areas of grassland habitat to be retained in Common Open Space on Parcel A. The potential impacts of the project on wildlife habitat and movement opportunities would be significant, particularly for larger terrestrial species.

The following mitigation measure would be required to mitigate impacts to wildlife connectivity.

Mitigation Measure 5.5-4 Measures recommended in Mitigation Measures 5.5-1, 5.5-2, and 5.5-3 would serve to avoid and minimize the loss of the sensitive habitats associated with the wetlands and native grasslands on the site, would prevent habitat degradation through further spread of invasive exotic plant species and landscape plantings, and would control access into the sensitive habitat areas. The following additional provisions shall be implemented to further protect wildlife habitat resources:

- Fencing shall be restricted to the Residential Use Areas on private lots, with provisions made to allow for continued wildlife movement between clusters of new residences on the site. Proposed deer fencing indicated in the Preliminary Planting Plan shall be revised to maintain opportunities for movement by larger terrestrial wildlife across the site, including deer. The location of deer fencing shall be carefully sited to provide unobstructed corridors of at least 100 feet in width at key locations. These include the separations between Lots 12 and 13, Lots 10 and 11, Lots 1 and 2, and Lots 7 and 8. Enclosures may be utilized to protect selected plantings within these unobstructed corridors, but continuous fencing that would prevent or obstruct wildlife movement shall be prohibited. Easement restrictions on construction of deer fencing or other fencing that obstructs wildlife movement shall be recorded on the deed to the Common Open Space, individual private lots where wildlife corridors are provided, and the undeveloped portions of private lots outside the Residential Use Area.
- Lighting shall be carefully designed and controlled to prevent unnecessary illumination of the open space areas on the site. Lighting shall be restricted to the minimum level necessary to illuminate pathways, parking areas, and other outdoor areas around residences. Lighting shall generally be kept low to the ground, directed downward, and shielded to prevent illumination into adjacent natural areas.
- All garbage, recycling, and composting shall be kept in closed containers and latched or locked to prevent wildlife from using the waste as a food source.
- Pets shall be controlled by leash at all times in the Common Open Space areas on Parcels A and B, private roads, and undeveloped portions of private lots outside the proposed Residential Use Areas.

Significance After Mitigation Implementation of Mitigation Measure 5.5-4 together with other habitat protection measures would reduce adverse effects to native habitat and wildlife resources to a less-than-significant level.

Responsibility and Monitoring Project approval shall be conditioned on incorporating Mitigation Measure 5.5-4 into the project. Compliance with specific restrictions shall be confirmed prior to issuance of grading, building or other construction permits.

Impact 5.5-5 Conflicts with Tiburon Tree Ordinance and Wetland Policies
Aspects of the Alta Robles Residential Development would conflict with the Tiburon Tree Ordinance and Town wetland policies. This would be a significant impact.

Several aspects of the proposed project would conflict with policies in the Open Space and Conservation Element of the *Tiburon General Plan*.²³ These include policies calling for buffers of at least 100 feet between wetlands and new development (OSC-20), open space buffers of at least 50 feet along streams (OSC-22), protection of sensitive wildlife habitat (OSC-25), avoidance of special-status

²³ Further review of the project conformance with the applicable policies in the *Tiburon General Plan* is provided in *Section 4.0 Land Use and Planning*.

species and sensitive natural communities (OSC-26), preservation of “protected trees” (OSC-33), preservation of natural habitat and wooded areas (OSC-34), use of native plants for landscaping (OSC-64), removal of invasive exotics as part of new development (OSC-65), and provisions for on-going removal and control of invasive exotic species (OSC-66). Mitigation required by this EIR should ensure that any adverse impacts are adequately mitigated and compliance with applicable policies is provided by the project. Further review of the project conformance with the Town of Tiburon policies and ordinances related to “protected trees” and setbacks from wetlands and streams is provided below.

A total of 261 trees would be removed to accommodate the proposed development, based on estimates from the 2005 Tree Survey, the 2006 Tree Survey Addendum , and the 2008 update prepared for the applicant. **Exhibit 5.5-6** provides a summary of the anticipated tree removal associated with the project. Of the total number of trees to be removed, 107 qualify as a “protected tree” under the Tiburon Tree Ordinance, consisting of 97 native coast live oaks and ten non-native or non-indigenous “heritage trees”. The remainder of the trees to be removed are either planted non-native species or smaller native species other than oaks. As indicated in **Exhibit 5.5-2**, much of the more well-developed oak woodland would remain intact on the site outside the limits of proposed grading but these could be indirectly affected by fire management practices and the creation of defensible space around new structures. These include the larger stands of oak woodland in the southwestern portion of Lot 1, on the slopes northeast of the Residential Use Area on Lot 8, the lower slopes of the Common Open Space on Parcel A, and to the northwest of the Residential Use Area on Lot 10 and further downslope in the Common Open Space on Lot B.

Exhibit 5.5-6
Protected Trees Proposed for Removal

Anticipated Tree Removal Location	Total Number
Landslide Repair	
Landslide B / D	3
Landslide E	10
Landslide I	10
Landslide L	3
Landslide O	30
Landslide R	20
Total Trees Removed for Landslide Repair	76
Total Trees Removed for Roadway / Lot Grading	185
Total Number of Trees to be Removed	261

Source: Tree Removal, March 2006, revised November 2008.

The estimates for tree loss assume that trees located on the edge of proposed grading with “moderate” and “good” suitability ratings would be preserved through adjustments in the limits of grading and implementation of preservation guidelines. The 2005 Tree Assessment includes acceptable Tree Preservation Guidelines which could be used to minimize inadvertent tree loss during construction. However, there is a possibility that additional tree removal may be required to accommodate proposed improvements, particularly grading associated with landslide stabilization where field adjustments may be required during excavation and slope reconstruction. Native trees within identified defensible space around future residences would presumably be retained but would be limbed up to reduce fire risks, consistent with fuel modification standards. Issues regarding fuel modification requirements to

establish defensible space around structures consistent with Tiburon Fire Protection District requirements is discussed in *Section 5.7 Public Services*.

Trees not directly removed by grading or other improvements may be damaged or adversely affected during construction or as a result of long-term changes to drainage patterns, irrigation, exposure and other factors. Mature oaks and other trees are sensitive to changes in canopy structure, drainage patterns, soil compaction, trenching, landscape irrigation, and other modifications within the root zone. Considerable care is necessary to protect trees in the vicinity of grading, building and roadway construction, and landscape improvements. Wounding of trunks and major roots during construction is a common problem, which results in the invasion of harmful organisms and can contribute to structural decay of the tree. Root loss, and a reduction in potential rooting area, often contributes to long-term tree decline. In general, any disturbance within the dripline should be avoided to prevent adverse changes that may affect the long-term health and condition of trees to be preserved. Monitoring by a certified arborist would serve to ensure that vulnerable trees are treated appropriately during construction, which is recommended as part of the Tree Preservation Guidelines.

The *Mitigation Recommendations* include a summary of anticipated tree removal, call for updating the tree survey work to reflect modified project plans, and specifies a tree replacement ratio of 1:1 or as required by the Town of Tiburon. A Mitigation and Monitoring Plan detailing the construction avoidance and tree replacement provisions is recommended. The *Mitigation Recommendations* did not consider the anticipated tree loss associated with the updated tree survey work conducted in 2008. This updated tree assessment indicates that considerable tree loss would occur to accommodate proposed grading to stabilize Landslide O on Lots 10 and B, Landslide I on Lot 11 and Parcel A, Landslide E on Lot 7 and Parcel A, and Landslide B on Lot 8 and Parcel A. Of the 107 trees to be removed that qualify as a “protected tree”, a total of 54 would be removed for the proposed landslide repair, including most of the larger native live oaks and California bays.

The Preliminary Planting Plan specifies a replacement ratio of 2:1 as a Planting Design Criteria, shows extensive plantings of replacement trees over much to the portion of the site to be developed, including residential use areas and along the edges of the private roads. The revised Preliminary Planting Plan now specifies that a total of 253 replacement trees would be planted on the site, 202 from the planting list for site development and 51 for slide repair remediation. This would represent slightly less than the 1:1 minimum replacement ratio specified in the *Mitigation Recommendations*, and substantially less than the 2:1 replacement ratio originally proposed in the Preliminary Planting Plan. The loss of “protected trees” would be a significant impact. However, any goal to replace trees removed during development of the site must be balanced with the importance of maintaining the remaining grassland habitat on the site, which also provides important wildlife habitat. A minimum replacement ratio of 1:1 seems achievable and appropriate on the site, given that the majority of the trees would be protected, the land area necessary to accommodate replacement plantings at a higher ratio, and the importance of both replacing habitat provided by existing tree cover and protecting the sensitive grassland habitat on the site.

The proposed project would be inconsistent with the development setback distances from wetlands and streams specified in the *Tiburon General Plan*. These call for a buffer of at least 100 feet on each side of the top of bank for perennial, intermittent, and ephemeral streams, and a buffer of at least 100 feet from wetland areas. Proposed incursion into the wetland / stream buffer zone would occur in a number of locations, but some of these areas already support existing roadways. Incursion into the buffer would occur along the Main Road and rear of Lots 2 and 3, along the Main Road and Lot 1, and along the Main Road and Lot 13. Based on estimates contained in the *Mitigation Recommendations*, proposed development would extend an estimated 1.39 acres into the recommended wetland / stream buffer zone in various locations across the site. The *Mitigation Recommendations* include a

recommendation for a Mitigation and Monitoring Plan to minimize construction related disturbance within the buffer zone and to restore wetlands habitat to their pre-construction state to the maximum extent feasible. This pertains largely to installation of the subdrain systems for landslide stabilization, and the feasibility of restoring wetlands in these locations is highly unlikely given the dewatering that would occur as part of the drainage system. The wetland replacement and enhancement provisions proposed as part of the project and recommended in Mitigation Measure 5.5-3 would address the loss of wetlands within the buffer zone. However, further avoidance of the buffer zone would require considerable redesign of the proposed project given the widespread distribution of ephemeral drainages and wetland features on the site. From a biological standpoint, the potential impacts on jurisdictional waters can be successfully mitigated to a less-than-significant level, even without full compliance with the setback standards specified in the relevant policies of the *Tiburon General Plan*.

Mitigation Measure 5.5-5(a) Measures recommended above in Mitigation Measures 5.5-1 through 5.5-4 to mitigate potential impacts to special-status species, sensitive natural communities, wetlands, and native habitat and wildlife movement corridors would generally serve to provide conformance with the applicable local goals, objectives, and policies.

Mitigation Measure 5.5-5(b) The proposed project shall comply with the Tiburon Tree Ordinance (Title IV, Chapter 15A of the Tiburon Municipal Code). The *Mitigation Program* called for in Mitigation Measure 5.5-1(c) shall include provisions that provide for the protection and replacement of “protected trees” affected by proposed development. Details of the *Mitigation Program* shall include the following:

- Project shall comply with the Tiburon Tree Ordinance . Section 15A-7 calls for a replacement ratio of up to 3:1 for trees removed. However, flexibility with this standard shall preferably be considered by the Town of Tiburon for this project given the importance of protecting grassland resources on the site and the high density of indigenous and planted trees on the site, the majority of which would be preserved as part of the project.
- Adhere to the Tree Preservation Guidelines specified in the *2005 Tree Survey*. Any provisions for replacement of “protected trees” must be balanced with the importance of maintaining the remaining grassland habitat on the site, which also provides important habitat for wildlife.
- Refine the Grading Plan to clearly show the location of all trees to be protected, trees at the limits of grading that shall be preserved if determined feasible during site grading and landslide remediation according to the Tree Preservation Guidelines, and those trees recommended for removal. The tree replacement program shall address all trees designated or considered to possibly require removal as a result of site development and landslide remediation.
- Refine the revised Preliminary Planting Plan to clearly indicate the location of replacement tree plantings on the site. Replacement tree plantings shall emphasize the use of native tree species and shall be designed to compliment the existing oak woodland habitat without compromising the important native grasslands on the site.

Significance After Mitigation Implementation of Mitigation Measures 5.5-5(a) and 5.5-5(b) would ensure consistency with local plans and policies and would reduce adverse effects to a less-than-significant level.

Responsibility and Monitoring The project applicant would be responsible for refining proposed project plans as called for in Mitigation Measures 5.5-5(a) and 5.5-5(b). A qualified biologist and landscape architect would be retained by the applicant to refine avoidance and mitigation measures, and to develop the tree provisions in the *Mitigation Program*. Evidence of compliance with these measures shall be provided to the Town during processing of the Tentative Map.

5.6 GEOLOGY AND SOILS

Geology and Soils – Environmental Setting

PREVIOUS GEOLOGIC WORK

Geologic conditions are complex and varying on the site. A number of geologists have mapped and studied the Tiburon area in various levels of detail. General geologic mapping of the region has been compiled and shown by Blake and others in 1974 and by Blake, Graymer and Jones in 2000.¹ Several other published reports and maps cover the vicinity of the site. Ellen, Peterson, and Reid mapped Marin and Sonoma Counties for the U.S. Geological Survey (USGS) in 1975,² as did C.M. Wentworth and V.A. Frizzell who mapped landslides in parts of Marin and Sonoma Counties for the USGS in 1975.³ C.W. Davenport mapped eastern Marin County for the California Division of Mines and Geology (CDMG) in 1984.⁴ These maps detail the general geologic terrain, slope stability and landsliding in the region. *Geology for Planning, Central and Southeastern Marin County, California* describes the stability, seismicity, and geologic units for the region.⁵ The *Soil Survey of Marin County, California* is a comprehensive study of the region's surficial soils, classifications and properties, and land use management.⁶

Kleinfelder, Inc. and Miller Pacific Engineering Group have performed detailed site-specific landslide assessments and geotechnical investigations at the site for the applicant. Kleinfelder, Inc. prepared a *Preliminary Landslide Assessment*, dated February 28, 2007, for project development planning as well

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- ¹ *Preliminary Geologic Map of Marin and San Francisco Counties and Parts of Alameda, Contra Costa and Sonoma Counties, California*, M.C. Blake, Jr., J.A. Bartow, V.A. Frizzell, Jr., J. Schlocker, D. Sorg, C.M. Wentworth, and R.H. Wright, U.S. Geological Survey, Miscellaneous Field Investigations Map MF-574, 1974, and *Geologic Map and Map Database of Parts of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California*, M.C. Blake Jr., R.W. Graymer, and D.L. Jones, U.S. Geological Survey Miscellaneous Field Studies MF-2337, Online Version 1.0, 2000.
 - ² *Areas Susceptible to Landsliding, Marin and Sonoma Counties, California*, Ellen, Peterson, and Reid, U.S. Geological Survey, Miscellaneous Field Studies Map MF-1406, 1975.
 - ³ *Reconnaissance Landslide Map of Parts of Marin and Sonoma Counties, California*, San Quentin, C.M. Wentworth and V.A. Frizzell, U.S. Geological Survey, Open File Map 75-281, 1975.
 - ⁴ *An Analysis of Slope Failures in Eastern Marin County, California, Resulting from the January 3 and 4, 1982 Storm*, C.W. Davenport, California Division of Mines and Geology, Open File Report 84-22, 1984.
 - ⁵ *Geology for Planning: Central and Southeast Marin County, California*, S.J. Rice, T.C. Smith, R. Strand, California Department of Conservation, Division of Mines and Geology, Open-File Report 76-2, 1976.
 - ⁶ *Soil Survey of Marin County, California*, Soil Conservation Service (renamed the Resource Conservation Service), U.S. Department of Agriculture, 1985.

as to meet the Town of Tiburon's Landslide Mitigation Policy.⁷ Work performed included review of previous geologic / geotechnical reports and maps, field observations and geologic mapping performed prior to 2006. This assessment did not include subsurface exploration; however, test pit logs of subsurface exploration performed for previous investigations were reviewed. Miller Pacific Engineering Group prepared a *Preliminary Geotechnical Investigation*, dated March 5, 2007, for the Alta Robles Subdivision that included review of previous work, subsurface (test pits) exploration, and laboratory testing.⁸

Herzog Geotechnical (the Town's Geotechnical Consultant) reviewed these two reports and provided geotechnical review comments in their letter dated April 16, 2007.⁹ Most of the comments are in reference to landslides that have been mapped on the project site. The comments generally asked that the applicant's geotechnical consultants perform additional subsurface exploration and stability analyses for many of the landslides, in order to ensure that the minimum factor of safety mandated by the Town's Landslide Mitigation Policy would be obtained by the proposed preliminary landslide repair methods.

In response, Miller Pacific Engineering Group performed additional subsurface exploration with borings and test pits and provided additional analysis, including slope stability calculations. Their additional findings were issued in their report dated January 28, 2008.¹⁰ Again, Herzog Geotechnical provided review of this additional work in their letter dated February 5, 2008.¹¹ Several comments were made asking for additional information, generally with respect to providing or refining mitigation measures proposed for stabilizing several of the landslides. Miller Pacific Engineering Group provided response to these comments in their second response to review comments.¹² **Exhibit 5.6-1** shows the location of the landslides and the proposed landslide stabilization methods. The proposed landslide stabilization is evaluated within this EIR.

⁷ *Preliminary Landslide Assessment, Alta Robles Residential Project, Tiburon, California*, S.R. Korbay, W.V. McCormick, Kleinfelder, February 28, 2007.

⁸ *Preliminary Geotechnical Investigation, Alta Robles Subdivision, Tiburon, California*, S. Killen, S. Stephens, Miller Pacific Engineering Group, March 5, 2007.

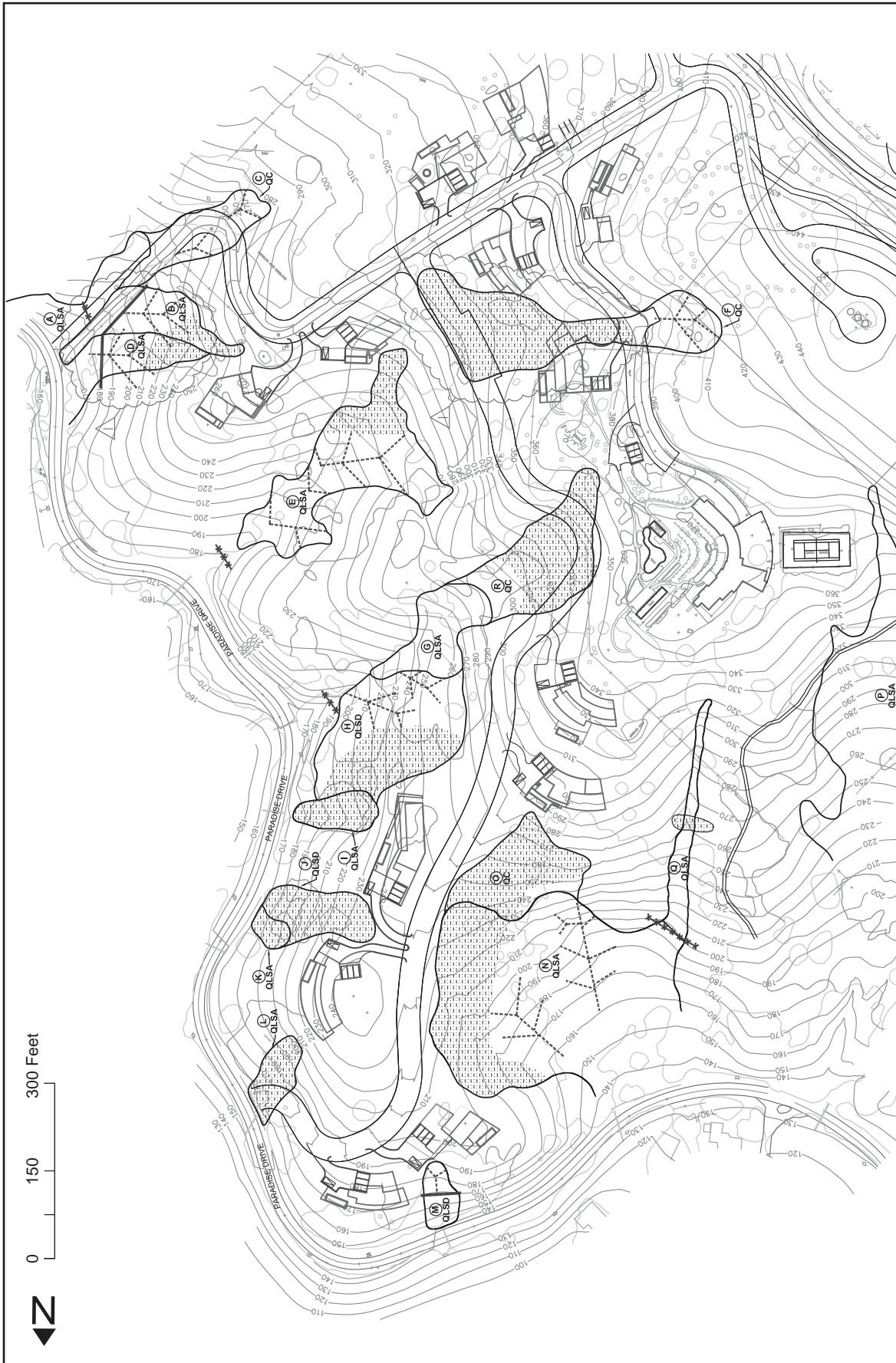
⁹ *Geotechnical Peer Review, Alta Robles Development, Tiburon, California*, C. Herzog, Herzog Geotechnical, April 16, 2007.

¹⁰ *Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California*, S. Stephens, S. Korbay, Miller Pacific Engineering Group, January 28, 2008.

¹¹ *Review of Response to Geotechnical Peer Review, Alta Robles Development, Tiburon, California*, C. Herzog, Herzog Geotechnical, February 5, 2008.

¹² *2nd Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California*, S. Stephens, S. Korbay, March 4, 2008.

**Exhibit 5.6-1
Landslides**



Legend

- ⓐ QLSA Designated Landslide Letter and Type of Landslide
- QLSA Active Landslide having visible geomorphic features that indicate instability with last 50 years
- QLSD Dormant Landslides with poorly defined geomorphic features, no evidence of recent activity
- QC Colluvial filled Swales with potential creep forces
- Retaining Structure
- ⋯⋯⋯ Compacted Fill Buttress
- ⋯⋯⋯ Subsurface Drainage
- ⋆⋆⋆⋆ Debris Fence

Source: Miller Pacific Engineering Group, 2008

Herzog Geotechnical reviewed these responses and accepted the January 28, 2008 Miller Pacific Engineering Group letter as adequately addressing planning-level geotechnical issues with respect to the proposed project.¹³ The review letter recommends that the following geotechnical items be incorporated into the project *Conditions of Approval*:

1. The Applicant's consultant shall perform a design-level geotechnical investigation for the project. The investigation shall include appropriate subsurface investigation, laboratory testing and analyses, and shall summarize the factor of safety of each of the proposed slide repairs / stabilization measures to verify conformance with the requirements of the Town of Tiburon's Landslide Mitigation Policy. The report shall also include design-level geotechnical recommendations for the construction of landslide repairs, subdrain construction, debris barrier design, site preparation and grading, foundation, retaining walls, pavements and geotechnical drainage. The report should be submitted to the Town for review prior to issuance of a building permit.
2. The Applicant's consultant shall review and approve all geotechnical aspects of the project plans to ensure conformance with their geotechnical recommendations. The results of the plan review should be summarized in a letter and submitted to the Town for review prior to issuance of a building permit.
3. The Applicant's consultant shall observe and test geotechnical aspects of the project during construction. The inspections should include, but should not be limited to, site preparation and grading, keyway excavation, subdrain installation, debris barrier siting and installation, fill placement and compaction, subgrade preparation and compaction, foundation excavation, subgrade and baserock compaction, and geotechnical drainage installation. Inspection of keyway excavations should be performed by a registered Certified Engineering Geologist. The results of the construction observation and testing should be summarized in a letter which is submitted to the Town Engineer prior to closure of the building permit.

GEOLOGY AND SOILS SETTING

Site Location and Topography

The 52.21-acre site is located on the north-facing side of westerly trending Tiburon Peninsula and is bounded by Paradise Drive on the north and the natural bedrock ridgeline and Hacienda Drive on the south.¹⁴ The eastern property line is bounded by Town of Tiburon Public Open Space and the western property line is bounded by Common Open Space and privately owned properties. Currently, a fire road ascends from the northwest portion of the site at Paradise Drive along the westernmost spur ridge. At the northeasterly property line, a driveway ascends from Paradise Drive and provides access to the existing Rabin residence. The site is located within the USGS San Quentin Quadrangle.

¹³ Review of 2nd Response to Geotechnical Peer Review, Alta Robles Development, Tiburon, California, C. Herzog, Herzog Geotechnical, March 21, 2008.

¹⁴ As indicated in the project description: although not precisely oriented north-south, for the purpose of this EIR the Paradise Drive boundary will be referred to as north and the Hacienda Drive boundary will be referred to as south.

Maximum relief on the site is about 313 feet. The lowest point is at the northwesternmost corner of the property at Paradise Drive at an elevation of about 146 feet. The highest point is at the westerly trending bedrock ridgeline. This high point is adjacent to the southern property line and is the present location of two existing water tanks. Two generally north trending prominent spur ridges, with a smaller spur ridge in between, are the dominant landforms on the site. These ridges are separated by two similarly trending ravines. The western most ridgeline is the more prominent and intersects with the highest point on the westerly trending Tiburon Peninsula ridgeline.

In general the terrain is moderately sloping with gentle slopes along the ridgelines. The steepest slopes are mostly located adjacent to Paradise Drive.

Regional Geology

The project site is located on the northwest-southeast trending Tiburon Peninsula, which is located in the central portion of the Coast Range geomorphic province. Northwest-southeast trending ridges and valleys dominate the Coast Range geomorphic province. Geologic maps indicate that the Tiburon Peninsula is primarily underlain by metamorphic bedrock of the Franciscan complex terrane and serpentinite of the coast range ophiolite terrane.¹⁵

In this area, the Franciscan complex essentially is an ancient fault zone of Cretaceous- and Jurassic-age bedrock that has been broken and sheared by tectonic forces as the continental crustal plate overrode the thinner subducting Pacific plate. The result is a disrupted mass of hard rock types embedded in a fine-grained matrix, which has been sheared and crushed. This assemblage or “mélange” unit is found throughout eastern Marin County. The Franciscan complex underlying the site generally consists of metamorphosed greywacke, chert, greenstone, blue-schist and seams of serpentinite. Overlying portions of these Franciscan complex rocks is serpentinite, which is highly metamorphosed oceanic crust and mantle. Serpentinite is present in the area around Ring Mountain at the northwest end of the peninsula and it caps the central and southeast portions of the peninsula ridgeline, where it is mapped at several locations within the site. This rock is complexly folded and faulted and prone to landslides.

In the mélange, the comparatively low strength of the fine-grained matrix generally exerts a noticeable effect on slope stability and is a major influence on landsliding. Varying slope stabilities in the area result from differential strengths of the various components of the assemblage.¹⁶ Therefore, this mélange presents inherent problems both in slope stability and through the shrink-swell process of expansive soils.

Another feature of the Franciscan complex rocks and serpentinite is the common presence of springs. The springs essentially emanate from open fractures in large rock masses located near the crests of ridges. Since they are open, they can collect and hold rainwater in their rather impermeable membranes formed by the matrix. As a result, springs commonly are found at or near ridgelines. In addition, the landscape is often strewn with odd outcrops of resistant rocks described as “monument-

¹⁵ *Geologic Map and Map Database of Parts of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California*, M.C. Blake, Jr., R.W. Graymer, D.L. Jones, U.S. Geological Survey, Miscellaneous Field Studies MF-2337, Online Version 1.0, 2000.

¹⁶ *Geology for Planning: Central and Southeast Marin County, California*, *op. cit.*

like masses of hard rock projecting out of otherwise smooth grassy slopes”.¹⁷ These outcrops consist of a variety of rock types (such as sandstone, greenstone, serpentinite, chert and schist).

Overlying the older bedrock are younger surficial deposits that have been deposited within the last 10,000 years, which on the site generally consist of colluvium and residual soils that have been deposited in the mantle portion of the slopes. The colluvium is typically thickest at the axis of the ravines.

Site-Specific Geology

The reports by Kleinfelder and Miller Pacific Engineering Group¹⁸ indicate that the project site is primarily underlain by bedrock of the Franciscan Complex and serpentinite. In the upslope portion of the site, the Franciscan complex bedrock is described as mostly altered sandstone and shale. And, the lower portions of the site are underlain by Franciscan mélangé consisting of fractured and sheared shale with inclusions of sandstone, greenstone, chert and serpentinite. The northwestern most edge of the site, adjacent to Paradise Drive, is underlain by Cretaceous aged sandstone. Based on the preliminary investigations performed by Kleinfelder and Miller Pacific Engineering Group, several geologic hazards were encountered at the site that would have a significant adverse impact if not mitigated.

Slope stability and landsliding is a significant hazard in that several landslides and creep prone colluvial-filled swales are present. Eighteen landslides (identified as Landslide A through R) are mapped within the site boundaries and in general these landslides are associated with the ravines on the moderate to steeply sloped portions of the site. Most of the landslides are described as slower moving slump and flow type slides and based on the subsurface exploration are relatively shallow. There are no indications of deep-seated bedrock landslides underlying the site. Faster moving debris flow type slides and rock avalanches are not mapped as being significant hazards on the site; however, these types of slides are present in the steep ravines on adjacent properties. However, a potential exists for debris-flow type failures to occur at steeper portions of the site.

In addition to landsliding, seismic ground shaking is a significant hazard due to the site being located in close proximity to known active faults in the San Francisco Bay region. Expansive soils were encountered in the soils that mantle the site. In addition, erosion on steep slopes and during grading can be a significant impact at the site. These geologic constraints are discussed in more detail in the following sections.

Slope Stability and Landsliding

The presence of landslides is due to several influences and factors related to slope stability, including: underlying geology, slope angle, weathering, climate, water content, vegetation, overloading, erosion, earthquakes, and human-induced factors. Where landslides are present on undeveloped land, movement can occur naturally during prolonged rainstorms when soils are saturated. Ground shaking during an earthquake can also trigger landslides, especially under saturated conditions. When development occurs on or near landslides, both people and property are exposed to these hazards. Without proper repair and routine maintenance, construction activity, grading, and drainage changes

¹⁷ *Ibid.*

¹⁸ *Preliminary Landslide Assessment, Alta Robles Residential Project, Tiburon, California, op cit.* and *Preliminary Geotechnical Investigation Alta Robles Subdivision, Tiburon, California, op cit.*

caused by development can reactivate long-dormant or more recent landslides, which otherwise would remain stable under static conditions. This can occur because earthmoving changes the ground surface and subsurface and can alter the shape and stability of a slide mass and change drainage and groundwater conditions. Unmitigated dormant landslides also can be activated, at least in part, through the effects of residential landscape irrigation, primarily over-watering attributable to lawn care and planting of non-drought tolerant ornamental species. Over the long-term, irrigation could increase moisture levels sufficiently to precipitate land slippage during years with greater than normal rainfall.

Landslides are caused by the interacting dynamics of the factors discussed above, but they are usually triggered by the following forces that disrupt slope equilibrium:

- Adding weight (adding driving force) to the top of a potential slide area;
- Removing mass (removing support or resisting force) from the base of a potential slide area;
- Increasing the volume of water to create heightening of pore water pressures within a potential slide area; and,
- Vibrations from earthquake, which also can serve to heighten pore water pressures.

Engineering geologists identify potential landslide areas based on evaluations of a site's geology, geomorphology (land shape), and topography (land surface). Once identified, standard landslide mitigation methods can be implemented generally before building and, include grading, installing drains, and constructing retaining walls or caissons. When properly implemented, such methods can eliminate or minimize the potential for damage to man-made structures and off-site properties and roadways.

Review of *Preliminary Photo Interpretation Map of Landslides and Other Surficial Deposits*¹⁹ and *Geology for Planning, Central and Southeastern Marin County*,²⁰ the applicant's preliminary geotechnical / geologic and landslide investigations and regional maps by Snyder & Wilson (the EIR geologists) indicates that parts of the site are covered by active and dormant landslides and potentially unstable colluvial deposits. These landslides are discussed in more detail in the following site-specific landslide section.

Town of Tiburon Landslide Mitigation Policy

The Town of Tiburon has adopted a Landslide Mitigation Policy in order to address the significant impact of landslides on new development.²¹ This policy is applicable to all new development within the Town. The Landslide Mitigation Policy has the following goal:

“The Town of Tiburon shall require physical improvements to landslides and to potential landslide areas necessary to secure the public health, safety and/or welfare, in instances where avoidance of landslides is not feasible or appropriate. This policy sets forth the framework that the Town will use

¹⁹ *Reconnaissance Landslide Map of Parts of Marin and Sonoma Counties, California, op. cit.*

²⁰ *Geology for Planning Central and Southeastern Marin County, op. cit.*

²¹ *Town of Tiburon Landslide Mitigation Policy*, adopted by the Tiburon Town Council, October 6, 2004 (Resolution No. 52-2004).

to determine the type and extent of necessary physical improvements to landslides and potential landslide areas. The intent of such physical improvements is to substantially improve slope stability or construct protective structures to mitigate the impacts of landslide movement.”

Three types of landslides are defined in the Landslide Mitigation Policy, and include: active landslides, dormant landslides, and potential landslide areas. Active landslides are defined as having visible geomorphic features that indicate instability within the last 50 years. Ancient landslides are poorly defined features and have no evidence of recent activity. Potential landslide areas are where the soil type, groundwater conditions, and topography are typically associated with landslide and / or debris flows.

As a minimum requirement for development under this policy, submittal of a geologic map by a Registered Geologist, Certified Engineering Geologist, or Registered Geotechnical Engineer is required. This map shall identify, locate, and define the extent of active landslides, dormant landslides, and potential landslide areas. The landslide information provided on this map will help in determining the level of risk to a property. The Policy defines two risk levels: Risk Level A Mitigation and Risk Level B Mitigation

Risk Level A landslides are defined as having a high risk of causing damage to structures and improvements, and: (1) are within 100 feet of any designated building envelope; (2) have debris flow source areas where the flow path crosses any building envelope or residential use area; (3) are active landslides that could affect adjacent public or private property. All Risk Level A landslides are required to be repaired or avoided.

Risk Level B landslides are defined as having a lower risk of causing significant damage to property or improvements within or outside the property than Risk Level A landslides. In most instances, Risk Level B landslides would be those located in proposed open space areas or in areas outside of any building envelope and any residential use area. All Risk Level B landslides shall be improved or avoided.

All mapping, evaluation, analyses, and design for repair, improvement or avoidance of landslides is subject to review and acceptance by the Town of Tiburon and / or the Town’s Geotechnical Consultant. The Town Engineer shall have sole discretion to determine: (1) The Risk Level of any landslide or potential landslide; (2) whether a proposed project avoids an on-site landslide or landslides; and (3) whether proposed mitigation is adequate under this policy.

Site-Specific Landsliding

As discussed above, 18 landslides / unstable colluvial filled swales are mapped at the site. Active landslides are present on the site and include Landslides A, B, E, G, I, K, L, N, P, and Q. These slides are of the greatest risk to the site and will have the greatest potential for reactivation during significant heavy winter rains, strong earthquake ground shaking and significant human-induced factors resulting from grading and changes to surface / subsurface water conditions.

Three dormant landslides on the site include Landslides H, J and M. These slides show geomorphic evidence that they have been stable for some time. Typically, these types of slides are in equilibrium with the environment and will not likely reactivate. However, dormant landslides are often reactivated if human-induced changes to the local topographic and / or groundwater conditions are not evaluated properly and mitigated during development.

The third type of landslides described are potentially unstable soil deposits and include Landslides C, D, F, O, and R. These landslides are associated with the potentially unstable colluvial deposits that are present in the drainage depressions and are generally associated with shallow surficial failures and long-term downslope soil creep.

Of the landslides described above, several are located in open space or outside of building envelopes and according to the Town's Landslide Mitigation Policy would fall under the Risk Level B landslides that are required to be repaired or avoided. These Risk Level B landslides include: Landslides G, Q, P, C and D.

The subsurface exploration performed indicates that landslide deposits and creep-prone colluvial deposits are relatively shallow, typically less than ten feet thick and mostly consist of low-strength silt and clay with abundant rock fragments. These deposits are generally located within ravines on the site. The deepest landslide deposit explored is Landslide B, which is located at the northwest corner of the site where boring B-2 shows the landslide debris to be 27 feet deep.²²

Slide planes were encountered during test pit exploration for many of the landslides, including: Landslides B, D, E, H, I, J, K, L, N, P. However, some of these slides and those not listed above were explored with test pits that did not encounter apparent slide planes; however, the deposits found in the test pits were mapped as landslide debris and / or creep prone colluvium and include: Landslides B, C, E, F, H, J, M, N, O, R. Landslide A was explored with boring B-1 and encountered about 6.5 feet of colluvium. Landslides G and Q are located in proposed open space areas of the site and were not explored.

Seismic Hazards

The site is located in the seismically active San Francisco Bay Region. Fault rupture and strong seismic ground shaking are inevitable in this portion of the Coast Range province and there is a reported 93 percent probability of at least one magnitude 6.7 or greater earthquake within the next 30 years in northern California.²³ There are no known faults with the potential for surface rupture within the site; however, several known active faults with the potential for rupture are present in the region. The Working Group for California Earthquake Probabilities (WGCEP 2007) has calculated the 30-year probability of a magnitude 6.7 or greater earthquake on these faults, which are listed below by greatest to least probability of rupture within the next 30 years: Hayward-Rodgers Creek (31 percent), Northern San Andreas (21 percent), Calaveras (seven percent), San Gregorio (six percent), Concord-Green Valley (three percent), Greenville (three percent), and Mount Diablo Thrust (one percent).

In Marin County, the San Andreas Fault is the only fault considered sufficiently active to be zoned under the Alquist-Priolo Earthquake Fault Zoning Act.²⁴ The last surface ground rupture was in 1906. The Hayward Fault is also zoned under the Zoning Act, but in Marin County, it lies offshore in the Bay. The fact that the San Andreas fault is the only land based zoned fault in the County does not

²² *Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California, op. cit.*

²³ *The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF)*, by Working Group on California Earthquake Probabilities, U.S. Geological Survey Open-File Report 2007-14378, California Geological Survey Special Report 203 and Southern California Earthquake Center Contribution #1138, Version 1.0, 2008.

²⁴ *Fault-Rupture Hazard Zones in California*: E.W. Hart, W.A. Bryant, Department of Conservation, Division of Mines and Geology Special Publication 42, 1997.

rule out the possibility of fault rupture on some of the other known faults in the region or on potentially unknown faults.

Recent research indicates that there exists the potential for blind thrust fault(s) to be present beneath Marin County.²⁵ These faults are not exposed at the surface. In the Bay region, the Mt. Diablo blind thrust fault, which is associated with the Diablo Range, is reported to possibly be capable of a magnitude 6.75 earthquake.²⁶ A similar blind thrust fault association is suggested for the anomalously high Mt. Tamalpais. Due to the buried nature of these thrust faults, their existence has typically not been known until they produce an earthquake. The risk for surface rupture potential of these buried thrust faults is inferred to be low. However during rupture of a buried thrust fault, distribution of permanent surface ground deformation and damage to man-made structures has been observed and is interpreted to be from movement on coactive slip on other blind faults.²⁷

Ground shaking is the primary cause of damage during an earthquake. The intensity of ground shaking felt by a structure during an earthquake is largely dependent on the type of underlying earth materials. Earthquake waves will travel through bedrock differently than they will travel through younger surficial deposits. Typically, structures built on poorly consolidated sediments will experience longer shaking duration and greater surface wave amplitude than those built on bedrock or other stiffer geologic deposits. Severity of ground shaking damage is also largely dependent on the magnitude and distance from the earthquake source and the type and quality of construction of the structure being affected. The site is underlain by bedrock exposed at or near the surface; and, in general, the severity of ground shaking would likely be less significant than other areas in Marin County constructed on young soft sediment. However, some of the landslide deposits mapped on the site consist of weak material that may be susceptible to movement due to strong ground shaking.

The mitigation of strong ground shaking requires earthquake resistant structural design. Designing structures to be earthquake-proof is generally considered to be impractical, especially of residential dwellings, due to cost limitations. Significant damage to structures may be unavoidable during large earthquakes. Therefore, at a minimum the structural design of the proposed structures should be based on the 2007 California Building Code (CBC). These minimum code values are intended to protect life and may not provide an acceptable level of protection against significant cosmetic damage and serious economic loss. In addition, mitigation of weak deposits is best performed by removing and / or improving these materials to withstand strong ground shaking.

Soils Characteristics

The *Soil Survey of Marin County* identifies four soil types on the site. These soil types are classified in accordance with the Unified Soil Classification System (ASTM Designation D-2487). The southwestern edge of the site along the west trending ridge is mapped as the Los Osos-Bonnydoon

²⁵ *Potential for Blind Thrust(s) Beneath the Marin County – Mt. Tamalpais Region*, K.P. Furlong, E. Kirby, Eos Transactions, American Geophysical Union, 85(47), Fall Meeting Suppl., Abstract T42B-04, 2004.

²⁶ *Characterization of Blind Thrust Faults in the San Francisco Bay Area, California*, J.R. Unruh, in Engineering Geology Practice in Northern California, California Department of Conservation, Division of Mines and Geology, Bulletin 210, 2001.

²⁷ *Evidence that Much of Localized Ground Deformation During the Northridge Earthquake in San Fernando Valley, California, was due to Slip on Coactive, Reverse, Blind Faults*, A.M. Johnson, R.W. Fleming, K.M. Cruikshank, in Proceedings of the NEHRP Conference and Workshop On Research on the Northridge, California Earthquake of January 17, 1994.

complex, 30 to 50 percent slopes. The majority of the central portion of the site along a northwesterly trend is underlain by the Henneke stony clay loam and is typically associated with serpentine bedrock. Along most of Paradise Drive from the east property line to near the northwesterly property lines the lower elevation slopes are underlain by the Tocaloma-McMullin complex, 50 to 75 slopes. The northwesternmost end of the site along the steep slopes of Lots 13 and 14 is underlain by the Tocaloma-Saurin association, very steep. Brief descriptions of the specific soil types and their geotechnical soil properties are discussed below. Possible impacts associated with these soil types include a high erosion hazard and moderate to high shrink-swell potential.

For several of the soil units, descriptions concerning shrink-swell potential of soils derived from bedrock materials present on the site, as well as site-specific laboratory testing, do not necessarily agree with the interpretation of the *Soil Survey of Marin County, Geology for Planning: Central and Southeastern Marin County, California* describes the bedrock materials present on-site to yield soils of moderate to high expansion potential.²⁸ In addition, a plasticity index test performed by Miller Pacific Engineering Group and description of soils units in test pit and boring logs indicate that the shrink-swell potential for project site soils ranges from moderate to high.²⁹

Los Osos-Bonnydoon complex, 30 to 50 percent slopes

Los Osos loam reportedly is formed in material derived dominantly from sandstone or shale on mainly concave to plane side slopes. It is a well-drained soil that is moderately deep (ranging from 20 to 40 inches to rock). The surface layer (zero to 15 inches deep) is classified as a fine-grained soil of inorganic silts and clays with a liquid limit of 25 to 35 percent and a plasticity index of five to ten. The underlying subsoil (15 to 30 inches deep) is classified as inorganic clays with low to medium plasticity and organic clays of high plasticity with a liquid limit of 45 to 60 percent and a plasticity index of 20 to 30. Surface runoff is rapid and the erosion hazard is high. This soil has a moderate to high shrink-swell potential and slippage is high when the soils are wet.

Bonnydoon soils consist of shallow, excessively drained soils that are formed in material derived from sandstone and shale. Typically, this coarse-grained soil is composed of gravels with fines and sands with fines (about 11 inches deep) with 15 to 35 percent gravel. Bedrock is usually at a depth of ten to 20 inches. This soil has a low shrink-swell potential and surface runoff is rapid and the hazard of erosion is high.

Henneke stony clay loam

Henneke stony clay loam reportedly is formed in material derived from serpentine. This soil is generally found in shallow deposits, only ten to 20 inches thick, and contains a high percentage of rock fragments mixed with clay. It transmits water moderately slow and is easily eroded. Its reported shrink-swell potential is considered to be moderate. Surface runoff is rapid and the hazard of water erosion is high.

²⁸ *Geology for Planning: Central and Southeastern Marin County, California, op. cit.*

²⁹ *Preliminary Geotechnical Investigation Alta Robles Subdivision Tiburon, California, op. cit.* and *Response to Geotechnical Peer Review Comments Alta Robles Development, Tiburon, California, op. cit.*

Tocaloma-McMullin complex, 50 to 75 percent slopes

Tocaloma soil reportedly is formed in material derived from sandstone or shale, is well-drained, has a plasticity index of five to ten, and is moderately deep (ranging from 20 to 40 inches to weathered bedrock). The loam (zero to 19 inches deep) is classified as a fine-grained soil of inorganic silts and clays with liquid limits of 50 percent or less. The gravelly loam (19 to 30 inches) is classified as a coarse-grained soil of silty and clayey gravels with fines. This loam reportedly has low shrink-swell potential. Deposits of Tocaloma soil reportedly are found in convex side slopes. The hazard of water erosion is high.

McMullin soil reportedly is formed in material derived from sandstone, is well-drained, has a plasticity index of NP (no plasticity) to 15, and is shallow (ranging from ten to 20 inches to unweathered bedrock). The gravelly loam (zero to four inches deep) is classified as a coarse-grained soil of silty sands with fines. The gravelly clay loam (four to 18 inches) is classified as a fine-grained soil of inorganic silts and clays with liquid limits of 50 percent or less. This loam also has a low shrink-swell potential. Deposits of McMullin soil reportedly are found near the upper parts of convex side slopes. The hazard of water erosion is high.

Tocaloma-Saurin association

The Tocaloma soil was described in the previous soil type. Saurin soil is well drained and formed in material derived from sandstone and shale and is moderately deep (ranging from 20 to 40 inches to bedrock). The typical soil profile consists of a clay loam (zero to 33 inches deep) that is classified as a fine-grained soil of inorganic clays of low to medium plasticity. The plasticity index ranges from ten to 20 and has a liquid limit of 30 to 40 percent. This soil has a moderate shrink-swell potential and surface runoff is rapid and the hazard of water erosion is high.

Groundwater

The *Preliminary Landslide Assessment* by Kleinfelder reports a spring at the southeasternmost head of Landslide E, which is located at the base of a steep rock slope within the boundaries of Lot 7. They attribute the spring to water in the underlying fractured bedrock and infiltration of surface water. Shallow seepage was observed in the broad drainage depression in the southeast corner of the property. In addition, it is noted that shallow seepage was observed in several of the test pits that were excavated by Kleinfelder in March 2002. This seepage is most likely due to surface water infiltration from winter rains.

The *Preliminary Geotechnical Investigation* by Miller Pacific Engineering Group did not encounter any groundwater or significant seepage during their initial subsurface investigation, which was conducted on August 11 and 12, 2006 in the dry season. Groundwater was not encountered in the additional test pits or borings that are reported in their *Response to Geotechnical Peer Review Comments*. This additional exploration was conducted at the end of the dry season on October 24 and 25, 2007.

Groundwater and seepage fluctuations across the site appear to occur due to variations in climate and are controlled by seasonal rainfall. However, future groundwater levels should be anticipated to increase at the site due to landscape irrigation around homes. Engineering solutions to surface drainage, subsurface drainage, and slope stability issues associated with the site may include the placement of subdrains and surface water diversions before development. Subdrains are used to dewater slopes to reduce the potential for landsliding, and surface water diversions, such as culverts and cisterns, commonly are used to prevent local concentrations of stormwater infiltration.

Geology and Soils – Significance Criteria

The geology and soils analysis uses criteria from the *State CEQA Guidelines*, Town of Tiburon environmental review guidelines and procedures, and professional practices. According to these criteria, the project would have a significant geology and soils impact if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
 - Strong seismic ground shaking;
 - Seismic-related ground failure, including liquefaction; or
 - Landslides.
- Result in substantial soil erosion, slope instability, or the loss of topsoil.
- Be located on a geologic unit or soil, which is unstable or would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, or collapse.
- Be located on expansive soil, which created substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water.

Geology and Soils – Impacts and Mitigation Measures

LESS-THAN-SIGNIFICANT IMPACTS

Based on the findings of the analyses completed as a part of this Draft EIR it has been determined that the proposed *Alta Robles Residential Development* would have either no impact or less-than-significant impacts for the following significance criteria.

- *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.*

The site is not located within an Alquist-Priolo earthquake fault zone (EFZ), and no fault traces are mapped across the site or in the nearby vicinity. As reported in their respective reports, Kleinfelder, Inc. and Miller Pacific Engineering Group found no evidence of active faulting on the project site. Therefore, no impact would occur due to ground surface fault rupture.

- *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water.*

The proposed project would connect to the existing sanitary sewer system managed by Sanitary District No. 5. Use of septic tanks or alternative wastewater disposal systems are not proposed as part of the proposed project. Therefore, no impact would occur.

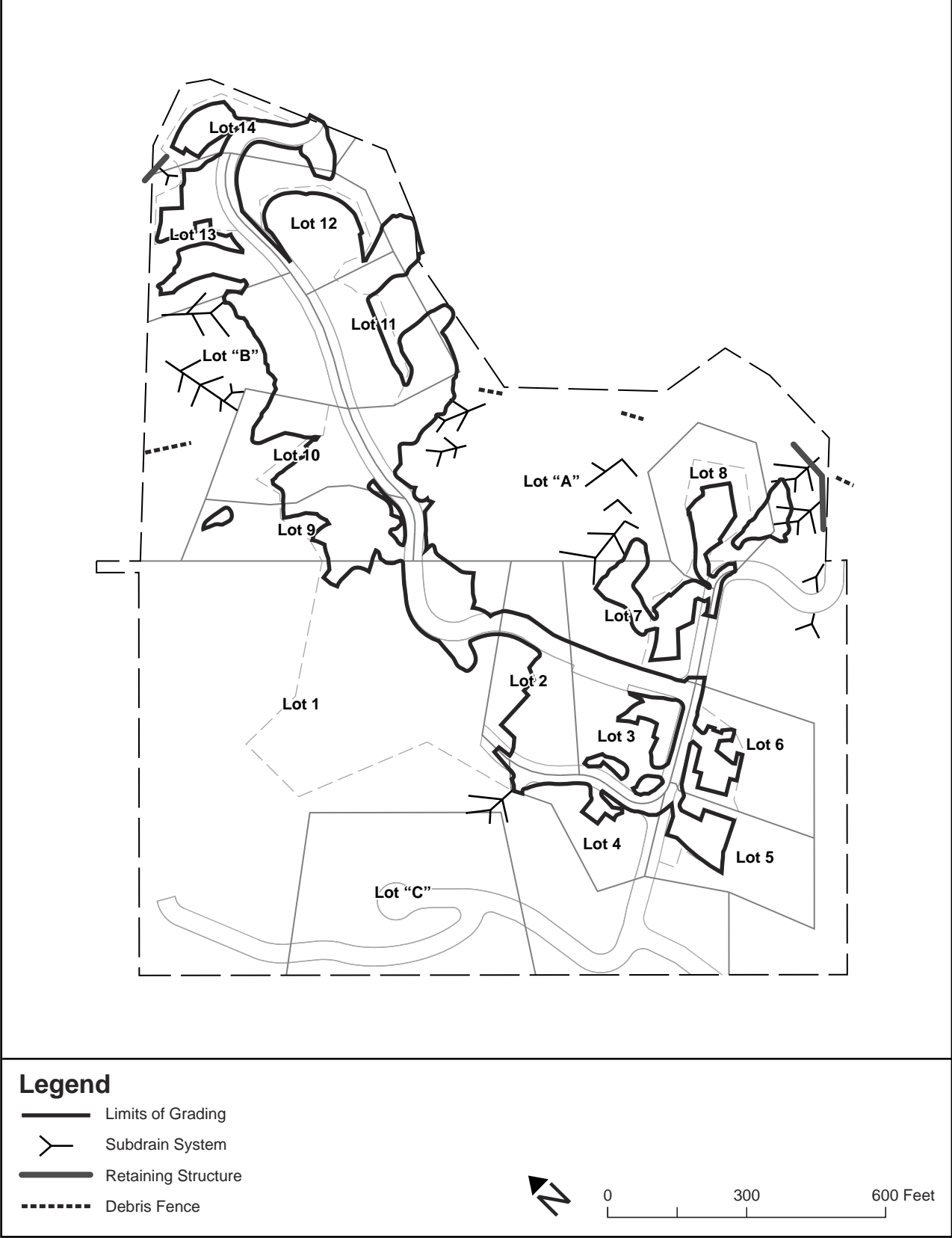
IMPACT ANALYSIS

The Precise Development Plan (PDP) includes a Preliminary Grading and Drainage Plan.³⁰ The PDP also includes a Preliminary Erosion Control Plan.³¹ Both the Preliminary Grading and Drainage Plan and the Preliminary Erosion Control Plan are described in **Chapter 3.0 Description of the Proposed Project**. The project site is mapped as being underlain by 18 landslides (Landslide A through Landslide R). Proposed landslide repair also is described in **Chapter 3.0 Description of the Proposed Project**. **Exhibit 5.6-1** shows the location of the landslides and the proposed landslide stabilization methods. **Exhibit 5.6-2** shows the limits of grading for both the subdivision improvements described on the Preliminary Grading and Drainage Plan and the proposed landslide stabilization.

³⁰ *Preliminary Grading & Drainage Plan, Precise Development Plan, Sheets C8 and C9, CSW/ST2, May 8, 2007.*

³¹ *Preliminary Erosion Control Plan, Precise Development Plan, Sheets C16 and C17, CSW/ST2, May 8, 2007.*

Exhibit 5.6-2
Limits of Grading



Source: CSW/ST 2

Impact 5.6-1 Seismic Ground Shaking

Strong seismic ground shaking is expected to occur on the site some time during the effective "life" of the proposed project and would expose people and structures to adverse seismic effects, including the risk of loss, injury, or death involving strong seismic groundshaking. This would be a significant impact.

Due to the proximity of the project site to active faults, including the Hayward, San Andreas, and Rodgers Creek, there is a high probability that the project will experience strong ground shaking during the lifetime of any proposed structures. Project impacts associated with seismic ground shaking would be significant.

Mitigation Measure 5.6-1 Future site development shall comply with all applicable seismic design provisions of the most currently accepted Building Code in effect at the time the applicant or individual lot owner applies for a building permit from the Town. At the present time, this would be the 2007 California Building Code (CBC).

Significance after Mitigation Implementation of Mitigation Measure 5.6-1 would reduce the impact of seismically induced ground shaking to meet building code criteria. The basic requirement is that new structures should withstand ground movement from a minor earthquake without damage; from a moderate earthquake without structural damage; and from a major earthquake without collapse. It is acknowledged that seismic ground shaking impacts cannot be eliminated even with site-specific geotechnical investigations and building requirements (as discussed in Mitigation Measure 5.6-1). Exposure to seismic hazards is a generally accepted part of living in the San Francisco Bay Area and, therefore, implementation of Mitigation Measure 5.6-1 would reduce seismic ground shaking impacts to a less-than-significant level.

Responsibility and Monitoring The applicant's and individual lot owner's consultants would be responsible for implementing this measure when building and installing infrastructure and developing individual lots. The Town's building inspector would be responsible for monitoring this measure when reviewing submitted plans for permit approval and inspecting construction.

Impact 5.6-2 Seismic-Related Ground Failure

Development at the site would expose people and structures to potential substantial adverse seismic effects, including the risk of loss, injury, or death from seismic-related ground failures; specifically seismically triggered slope failures. This would be a significant impact.

In the event of strong seismic ground shaking, portions of the site could locally experience failure of weak colluvial deposits, poorly compacted man-made fill, generate a new slide or reactivate an old one. Earthquake-induced landslides occur in materials that are highly susceptible to earthquake-induced shaking, and include weakly cemented rock, artificial fills, uncemented colluvium and both active and dormant landslide deposits. Within the project site these materials would be those that have been mapped as colluvium and landslides. As required by the Town's Landslide Mitigation Policy, all Risk Level A landslides shall be repaired or avoided and those that are repaired shall have a calculated factor of safety greater than 1.0 for pseudo-static (seismic) conditions. Risk Level A landslides include Landslides A, B, D, E, H, I, J, K, L, M, and N. These landslides need to be evaluated with seismic slope stability analysis that uses a pseudostatic representation of seismic loading in a conventional limit-equilibrium analysis.

According to Miller Pacific Engineering Group, seismic slope stability analyses were performed on Landslides B, I, M, and N to show the pseudostatic factor-of-safety for conceptual repairs.³² The methods used for analysis are not described in the Miller Pacific Engineering Group reports nor is the reasoning for choosing the seismic coefficients of 0.25g for Landslide B and 0.32g for Landslides I, M and N. The design-level analysis would need to use the appropriate psuedo-static analysis as required by the Town's geotechnical reviewer. The method used would need to satisfy the Town's Landslide Mitigation Policy requirements.

Mitigation Measure 5.6-2 In order to reduce the potential impact from earthquake-induced slope failure and to satisfy the Town's Landslide Mitigation Policy, the applicant's geotechnical consultant shall analyze Risk Level A landslides to determine the calculated factor of safety³³ using appropriate pseudo-static³⁴ values. In addition, as required by the Town's Landslide Mitigation Policy, the consultant shall provide recommendations for repairing or improving unstable slopes and landslides that are categorized as Risk Level A to have a calculated factor of safety greater than 1.0 for seismic conditions.

Significance after Mitigation Repairing / improving Risk Level A unstable slopes and landslides in order to increase the factor of safety for seismic conditions would reduce this impact from impacting proposed structures and improvements to a less-than-significant level.

Responsibility and Monitoring Prior to the issuance of grading, building, or other construction permits the applicant's geotechnical consultant would be responsible for conducting additional subsurface investigations, performing seismic slope stability analysis and determining specific stabilization repairs that would increase the seismic factor of safety above 1.0. The Town would monitor this measure as required by the Town's Landslide Mitigation Policy, with the assistance of an independent geotechnical consultant, if needed, whose review would be funded by the applicant.

Impact 5.6-3 Landsliding

Eighteen landslides / unstable colluvial filled swales are identified as underlying the site. Development can affect the stability of landslides and unstable colluvium if they are not repaired or eliminated. In addition, if not properly repaired or eliminated in accordance with the Town's Landslide Mitigation Policy, landslides could reactivate and threaten new development, adjacent properties, and Paradise Drive. This would be a significant impact.

Landslides are a significant geologic hazard on the site. As discussed in the environmental setting, the site is underlain by active landslides, dormant landslides, and potential landslide areas. In order to conform to the Town's Landslide Mitigation Policy, which requires repair, improvement, or avoidance of all landslides on the site, a combination of repair methods would be required to stabilize these landslide areas. If the hazard of landslides is not properly improved or thoroughly mitigated,

³² *Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California, op. cit.*

³³ The factor of safety is defined as the ratio of the resisting forces to the driving forces. Slopes with a factor of safety less than 1.0 are unstable and a landslide will commence. Slopes with a factor of 1.0 are marginally stable. The higher the factor of safety, the more stable the slope.

³⁴ The seismic acceleration used in the pseudo-static analyses shall be the maximum ground acceleration determined from deterministic methods, or the probabilistic ground acceleration that corresponds with a 10 percent chance of being exceeded in 50 years.

reactivation of landslides could damage new development, roads, adjacent properties, and impact Paradise Drive.

The following are descriptions of the conceptual stabilization repair plans for each of the landslides and a discussion of the adequacy of the repairs.

Landslide A would potentially result in soil debris flowing from a surficial failure into the drainage ditch adjacent to Paradise Drive. The proposed repair for this landslide is to construct a debris fence near Paradise Drive. The repair would trap soil debris flowing down the hill and allow water to drain out of the landslide mass. Debris fences are effective for stopping or slowing small failures, especially when the potential for damage to downslope property is low. This type of mitigation would require periodic fence maintenance and cleaning of soil and plant debris that would accumulate behind the fence.

The repair for Landslide B would consist of retaining the lower section of the slide and removing and recompacting the upper section that is within 100 feet of the planned building envelope for Lot 8. The use of retaining structures would reduce the amount of grading that would be necessary to stabilize the slide and the section above the retaining structure is proposed to have subsurface drainage, which would be effective for improving the stability of the slide mass. This type of repair would be an effective method of repair for Landslide B and adjacent Landslide D.

The repair for Landslide C would consist of installing subdrains in the colluvial swale to drain the colluvium and improve the surficial stability. This type of repair is typical for surficial stability of a potential landslide source area in a swale.

Landslide D is located adjacent to Landslide B and the proposed repair is the same as Landslide B.

Landslide E would involve repair of the upper section of the landslide within Lot 7 using a compacted fill buttress or retaining structures. In addition, subsurface drainage is proposed throughout the landslide to lower groundwater levels, which would improve stability. A debris fence is proposed in the lower portion of the main drainage swale in order to trap any soil debris that would fail toward Paradise Drive.

Most of the unstable colluvium of Landslide F would be removed and replaced with compacted fill during project development for Lots 2, 3, 4, and the Main Road. The remaining colluvium above the Upper Road would be stabilized using subsurface drainage.

No repair is proposed for Landslide G, which is within a wetland setback and in open space of Parcel A. However, downslope a debris fence, which is proposed for the Landslide H repair, would provide a debris trap for any surficial failure debris that would come from the Landslide G area.

A significant portion of Landslide H is proposed to be removed and replaced as a compacted fill buttress in the area within and adjacent to Lot 11. The area outside the 100-foot zone around the building envelope would be stabilized with subsurface drainage and as indicated for Landslide G a debris fence would be located at the lower portion of the north trending swale to provide protection for Paradise Drive.

It is proposed to repair Landslide I by complete removal and replacement as a compacted fill buttress. Another repair method would be use of retaining structures. Complete removal of a landslide and replacement with a compacted fill slope would be an effective method of reducing the landslide hazard.

Landslides J, K, and L would be repaired with the same techniques as Landslide I. Due to their relatively small size, complete removal would be an effective method of mitigation.

Landslide M would be repaired with a retaining structure and subsurface drainage, which would stabilize this relatively small and dormant landslide. The upper half of Landslide M, within the property boundaries, is proposed to be stabilized with a retaining structure and subsurface drainage. However, this would leave the remaining downslope half of Landslide M unrepaired, most of which is not within property boundaries. This unrepaired section is shown by the applicant's geotechnical consultant to have a factor of safety of 1.0, which is at the threshold of being unstable. This unrepaired section could potentially impact Paradise Drive.

Landslides N and O are located adjacent to each other and are mapped as being on the southwest side of the proposed Main Road. Therefore, removal of these landslides adjacent to the Main Road and adjacent building envelopes and replacement with a compacted fill buttress would stabilize the upper portions of these slides. Stabilization of the lower portions of these slides would involve using subsurface drainage to improve stability.

Landslide P is not located within the main development area. Landslide P is in private open space and extends offsite and downslope to the northwest. Miller Pacific Engineering Group recommends that the private owner or Town determine whether landslide stabilization is needed.³⁵ Miller Pacific Engineering Group indicates that this landslide area could be improved by using one or a combination of methods: debris catchment structures, retaining structures, compacted earth buttress, or subsurface drainage.

Landslide Q is a narrow gully where erosion and debris flows would be the most significant hazard. It is proposed that a debris catchment area in the upper portion of the gully and a debris fence in the lower portion would reduce the potential for debris flows or erosion.

It is proposed to repair Landslide R by removing the upper portions of the landslide adjacent to the Main Road and replace with a compacted fill buttress. This repair would remove this landslide hazard.

As discussed in the Landslide Repair section in *Chapter 3.0 Description of the Proposed Project*, the methods proposed for landslide stabilization would significantly reduce the hazard of landsliding to a less-than-significant level. However, the actual repair required would need to be based on a more detailed site-specific analysis in the design-level report.

Mitigation Measure 5.6-3 In order to reduce the significance of the site's landsliding impacts, the applicant shall implement the following mitigation measures:

- Detailed engineering geologic and geotechnical investigations shall be performed before development of roads and utilities and within proposed development areas of each individual lot.
- One comprehensive grading plan shall incorporate all roads, lots, and open space. A design-level landslide repair program shall be established and implemented by the applicant.
- Based on the design level analysis, all landslides shall be repaired, improved or avoided in accordance with the Town's Landslide Mitigation Policy before offering lots for sale.

³⁵ Table A in *Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California, op cit.*

Significance after Mitigation Implementing the recommendations of the applicant's geotechnical consultants and future recommendations of detailed lot-specific investigations would identify landslide repair methods capable of reducing potential slope instability and landsliding to less-than-significant levels.

Responsibility and Monitoring The applicant's geotechnical consultants would be responsible for conducting subsurface investigations, determining specific stabilization repairs and preparing a comprehensive grading plan. The applicant also would be responsible for making drainage improvements, grading and other repairs identified by the comprehensive grading plan in accordance with the Town's Landslide Mitigation Policy. The Town would monitor these measures, with the assistance of an independent geotechnical consultant, if needed, whose review would be funded by the applicant.

Impact 5.6-4 Slope Stability

Cut / fill grading and landslide mitigation would potentially create slopes exposing geologic units or soils that are unstable or that would become unstable because of development. This would be a significant impact.

Plastic clays are present in the site soils and most of the site is underlain by Franciscan mélange bedrock that typically is highly fractured, highly weathered and has a low hardness. The use of these weak materials in cut or fill slopes could result in significant erosion or fail locally until they reach equilibrium. Cut / fill grading would be used to create the building pads and roads for the development, in addition to repairing or improving landslides. The potential instability of cut, fill and natural slopes should be examined and evaluated once exposed by the grading operations.

Cut and fill slopes with these materials have been known to perform poorly. The Franciscan mélange and related bedrock units strength can decrease over time to lower levels when exposed to the elements for a few years and allowed to experience several shrink / swell cycles. It is particularly important to control water on cut and fill slopes where concentrated runoff could increase erosion and lower stability of the slopes. These materials are prone to increased erosion and surficial instability because of their lower long-term strength when saturated. Thus, there is a significant possibility of erosion / surficial instability on graded slopes if proper drainage facilities, erosion control methods, and appropriate engineering design are not provided.

The design-level analysis would need to evaluate the stability of any proposed cut or fill slopes, especially those using the on-site soil and rock materials. Miller Pacific Engineering Group proposes for the preliminary design that the uppermost five feet of cut slopes be rounded to existing topography to a maximum slope gradient of 3:1 (horizontal:vertical). In addition, Miller Pacific Engineering Group proposes that any 2:1 fill slopes using the on-site expansive soils would need to be evaluated and designed with geogrid reinforcement or constructing slopes with a more gentle inclination.³⁶ However, unless retaining structures are used, creating cut or fill slopes with a more gentle inclination would increase the area of disturbance and likely increase the potential secondary impacts. Each proposed cut or fill slope should be evaluated prior to grading and reevaluated during site grading.

Mitigation Measure 5.6-4 The applicant, individual lot owners and their respective geotechnical consultants shall implement the following measures in order to mitigate the impacts of low shear strength of some bedrock / fill materials and potential erosion / failure of some slopes.

³⁶ Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California, op cit.

- Cut slopes shall be examined during construction to determine whether they would be stable in the long-term. If the geotechnical consultant determines that the exposed bedrock materials are weaker than expected, this condition shall be mitigated by decreasing the proposed slope angle or by selectively using retaining walls.
- Depending on the remolded shear strength of compacted fill materials used on the site, some of the proposed fill slopes shall be reinforced with mechanically stabilized embankments. This would allow for steeper slopes with enhanced long-term stability.
- Appropriate drainage facilities shall be designed for all slopes with grades steeper than 5:1. Drainage facilities must be designed to be self-cleaning and allow for quick drainage.
- Incorporate surficial stabilization methods into slope design to reduce erosion and surficial failures (see Mitigation Measure 5.6-7).

Significance after Mitigation Implementing the appropriate recommendations of the applicant's geotechnical consultants and recommendations of lot-specific investigations would identify slope repair / stabilization methods capable of reducing potential slope instability and surficial failure to less-than-significant levels.

Responsibility and Monitoring The applicant's and individual lot owner's geotechnical consultants would be responsible for conducting subsurface investigations and determining specific slope stabilization repairs. The applicant also would be responsible for making improvements, grading and other repairs identified by the comprehensive grading plan in accordance with Town policy. Individual lot owners would be responsible for any slope stability issues on individual lots. The Town would monitor these measures, with the assistance of an independent geotechnical consultant, if needed, whose review would be funded by the applicant.

Impact 5.6-5 Grading

Site development would require grading for construction of roads and building pads, in addition to improving or repairing landslides as required by Town policy. Many slides and unstable colluvium are proposed to be repaired through a combination of drainage and localized cut / fill grading for stabilization. The actual amount of grading necessary to develop the site could change from that anticipated in the Precise Development Plan. This would be a significant impact.

Grading would be required for construction of the building envelopes and the roads. Due to the presence of dormant and active landslides and the Town policy requiring improving or repairing these slides, grading would also be necessary to repair and stabilize these areas. Landslide repair techniques would involve constructing buttress fills, retaining structures and subdrain installations. This typically would involve excavating the unstable materials, installing drainage to divert groundwater and surface water away from landslide areas, and grading that involves filling and compacting the repaired areas.

In order to provide adequate sight distance for vehicles traveling west on Paradise Drive approaching the entrance road, Mitigation Measure 5.1-4 would require cutting back a portion of the hillside east of the entrance road. This would involve cutting into the toe-of-slope east of the entrance and constructing a retaining wall up to eight feet high. There are no mapped landslides at this location; therefore no adverse impacts from landsliding are expected for construction of this wall. Some export of cut material may be required during excavation for the wall.

Minor grading projects typically involve several hundred to 10,000 cubic yards³⁷ of material while operations which involve 100,000 cubic yards of material or more generally are considered to constitute “mass grading.” Based on the Precise Development Plan cut / fill grading for specific subdivision improvements including lot grading and roadwork there would be 24,600 cubic yards of cut and 24,600 cubic yard of fill for a net import / export of zero cubic yards.³⁸ These grading quantities are only those that would be needed to construct the rough grading of the roads and the building pads as shown on the Grading Cut / Fill Diagrams. These quantities do not take into account the unknown variables of grading that would be required to repair the landslides. The area of landslide repair is approximately known; however, it is the depths that would be variable and makes it difficult to determine approximate volumes of material that would be excavated.

An approximation of the grading quantities to be expected during remedial grading for landslide repair has been prepared.³⁹ Approximately 192,258 square feet⁴⁰ and 53,592 cubic yards of remedial grading would be required to stabilize landslides.⁴¹ However, these quantities are an approximation and the actual volumes and areas would not be known until grading is being performed. As indicated in the previous paragraph, the varying landslide thickness would not be known until grading is in progress. These quantities would also change depending on the method chosen for repair. The use of compacted fill buttresses would likely involve greater quantities of cut / fill while the use of retaining structures would involve lesser amounts of cut / fill quantities.

The PDP Grading Quantities Summary indicates that for the grading not involving landslide remediation, cut / fill quantities would be equal and would result in a net volume of zero cubic yards.⁴² When including the grading to repair the landslides the actual amount of import / export would not be known. An approximation of the amount of import / export can be calculated when the design-level repair plans are prepared.

Grading on the project site could result in secondary hydrologic and biotic impacts. The Town Engineer and applicant’s consultants would be responsible for agreeing on the appropriate approaches to mitigate slope stability / landsliding impacts on the project site. This would include determining whether alternatives to conventional grading operations would ensure long-term public safety and simultaneously minimize secondary hydrologic and biotic impacts (see *Impact 5.6-6 Secondary Effects of Grading*).

Mitigation Measure 5.6-5 In order to reduce the impacts of grading to a less-than-significant level, the applicant, individual lot owners and their respective geotechnical consultants shall implement

³⁷ One cubic yard is a unit of volume that is defined as the volume of a cube with sides of 1 yard (3 feet) in length (3' X 3' X 3').

³⁸ *Grading Cut / Fill Diagram, Precise Development Plan, Sheets C10 and C11, CSW/ST2, Inc., May 8, 2007.*

³⁹ *Alta Robles Bioresource Cover, Landslide Remediation Comparison Chart, CSW/ST2., May 5, 2008.*

⁴⁰ One square foot is a unit of area that is defined as the area of a square with the sides of one foot in length (one foot by one foot).

⁴¹ *Alta Robles Bioresource Cover, Landslide Remediation Comparison Chart, CSW/ST2., May 5, 2008.*

⁴² *Grading Cut / Fill Diagram, Precise Development Plan, op. cit.*

acceptable methods of grading and also, where possible, shall minimize the extent of grading and the potential resulting corridor of disturbance. Typical performance criteria shall include:

- Unsuitable materials (such as landslides, colluvium, residual soil and artificial fill) located in or adjacent to areas of proposed grading shall be removed and / or recompacted during landslide repair, grading operations for road and utility construction, or development of individual private lots under the observation of and testing by a geotechnical engineer.
- The geotechnical consultant shall observe and direct grading operations, evaluate the effects of bedding or shear orientations and / or soil shear strength on the gross stability of existing and proposed slopes in the project site, and make site-specific determinations.
- Natural and cut slopes shall be examined during grading to confirm their potential for long-term stability. If the geotechnical consultant determines that the exposed earth materials are weaker than expected, this condition shall be mitigated by recompaction as an earth buttress or stability fill or by the selected use of retaining walls or other acceptable methods.
- Cut and fill slopes shall be planted with ground cover or in order to prevent erosion, raveling, or development of rills, sloughs, and other failures which could reduce the effectiveness of stabilization methods. This is because roots of newly planted vegetation would enhance the stability of graded slopes by holding materials in place.
- All grading shall be performed in accordance with the Building Code and requirements of the Town.
- All fills shall be compacted to a minimum of 90 percent relative compaction in loose lifts of six inches and placed at or near optimum moisture content. Before receiving fills, excavated area shall be stripped of unsuitable materials (such as loose surficial soils, organic materials, and deleterious debris). All unsuitable materials shall be removed from the site.
- Geotechnical exploration shall be performed before grading in areas, which have not been thoroughly investigated in order to determine the depths and limits of removal and recompaction.

Significance after Mitigation The use of proper grading techniques, retaining structures, subdrains and buttresses would reduce grading impacts to a less-than-significant level.

Responsibility and Monitoring The applicant's and individual lot owner's geotechnical consultants would be responsible for conducting grading oversight and inspections. The applicant also would be responsible for performing grading identified by the comprehensive grading plan in accordance with Town policy. Individual lot owners would be responsible for any minor grading issues during individual lot development. The Town would monitor these measures, with the assistance of an independent geotechnical consultant, if needed, whose review would be funded by the applicant.

Impact 5.6-6 Secondary Effects of Grading

In order to satisfy Town policy, improving or repairing landslides and colluvial deposits as proposed would reduce the impacts of landsliding and slope instability to a less-than-significant level. However, building pad grading, stabilization grading and subdrain installation would result in significant impacts.

Impacts on Groundwater, Drainageways and Wetland Habitats

Construction of subdrainage systems in buttress fills and installation of typical five-foot deep subdrain systems would lower existing groundwater levels. This would alter the naturally occurring surface and subsurface water paths, including naturally occurring freshwater marshes / seeps, springs, unvegetated waters and seasonal wetlands. Water paths vital to existing vegetation growth would be altered during improvement / repair grading.

Grading would result in repairs / improvements within Wetland Delineation Buffers and would likely include removal of seasonal wetlands, sedge meadows and freshwater marshes / seeps. Grading on Lots 1, 2, 7, 11 and Parcel A would eliminate wetland areas and wetland vegetation. Grading and subdrain installation would directly impact an estimated 0.07 acre of jurisdictional waters. Installation of subdrain systems would dewater hillside areas and impact wetlands and waters on the site, especially the swales and ephemeral drainages on Parcels A and B (see discussion in *Impact 5.5-3 Wetlands and Drainages*). The following is a list of areas that would be disturbed by the secondary effects of grading:⁴³

- Installation of subdrainage systems for stabilization of Landslide H would likely alter the natural supply of groundwater to the unvegetated waters in the west portion of Lot A.
- Stabilization repairs for constructing the Main Road would require removal of freshwater marshes / seeps in Lot 1 and Parcel A.
- Installation of subdrain systems for stabilization of Landslide E and grading repairs for stabilizing the upper portion of Landslide E would impact the freshwater marsh / seep – sedge meadow at the east side of Lot A and result in removal of the freshwater marsh / seep area on Lot 7.
- Construction of a debris catchment structure or drainage improvements for Landslide Q would likely alter the natural groundwater conditions and impact the seasonal wetland and freshwater sedge meadow on Lot 9.
- Grading removal of Landslide I would result in removal of the Freshwater Marsh / Seep – Sedge Meadow on Lot 11 and Parcel A above Paradise Drive.
- Repair stabilization of Landslide N would result in the grading of the upper reaches of a wetland delineation buffer in Lot 13 and Parcel B. In addition, construction of subdrainage systems to the west would alter the natural groundwater levels that are directed toward this buffer zone.

Impacts on Biotic Resources

Secondary impacts to biotic resources could occur from implementing policies related to landslide and slope stabilization. Trenching or subsurface investigation necessary to accurately understand the depth

⁴³ *Alta Robles Wetland Delineation Constraints Existing Landslide Remediation Comparison*, CSW/ST2, dated May 5, 2008.

and characteristics of unstable features (in order to define stabilization methods) would cause biotic impacts. Site grading to repair landslides and unstable colluvial deposits would require cut / fill grading in areas that would impact biotic resources. Specific locations where biotic resources would be impacted are listed below:

- Construction of a compacted fill buttress for Landslide N would likely disturb at a minimum the perimeter of Marin western flax on Lot 13. This area appears to have already been disturbed by exploration of test pit TP-4. Stabilization of Landslides B, C and D could result in disturbance of Marin western flax in Parcel A. Tiburon buckwheat in the eastern portion of the site near Lot 8 would be affected by landslide remediation and subdrain installation (see discussion in *Impact 5.5-1 Special-Status Species*)
- Approximately 0.4 acre of existing serpentine bunchgrass would be impacted by grading, (especially for stabilizing Landslides B and D), subdrain installation, and installation of a debris fence on Parcel A (see discussion in *Impact 5.5-2 Sensitive Natural Communities*).
- As discussed above grading disturbance and subdrain installation in / near wetland areas would impact wetland vegetation.
- Oak woodland and mature trees would be disturbed / removed for development and slope / landslide stabilization and existing sensitive habitat would be eliminated. This would directly impact existing habitat values and reduce the opportunities for wildlife movement (see discussion in *Impact 5.5-4 Wildlife Habitat and Connectivity*).

Mitigation Measure 5.6-6 In order to comply with the Town's Landslide Mitigation Policy, landslide and slope stabilization would result in secondary impacts; however, implementation of Mitigation Measures discussed in **Section 5.5 Biological Resources** would reduce the secondary impacts of grading and subsurface drainage control on affected biotic resources to a less-than-significant level.

Impact 5.6-7 Expansive Soils

Without appropriate mitigation measures, development (structures, roads, utilities) located on expansive soils would be damaged by differential movement caused by shrinking and swelling of clay soils. This would be a significant impact.

Based on the preliminary geotechnical investigation, on-site soils are considered to have a moderate to high expansion potential.⁴⁴ Expansive soils are naturally prone to large volume changes through the absorption of pore water. The physical manifestations of such moisture changes most often are expansion or swelling during the winter rainy season and subsequent shrinkage due to drying or desiccation in the summer dry season. This cyclic volume change can exert large forces on structures, causing damage to concrete slabs and foundation elements and cosmetic damages to interior and exterior wall surfaces. In addition, moisture added to the built environment from irrigation and pipe leaks will result in swelling of expansive soils. And, removing natural moisture sources via the use of subsurface drains and flatwork would result in shrinkage of expansive soils.

The adverse effects of expansive soils can be avoided through proper subsoil preparation, drainage and foundation design. For new structures, the geotechnical engineer can recommend specific design criteria; notably increasing the minimum embedment depth of footings, higher design loads on

⁴⁴ *Preliminary Geotechnical Investigation, Alta Robles Subdivision, Tiburon, California, op. cit.*

retaining walls, creeps loads, increasing reinforcement in footings, etc. Design requirements such as those in the building code or more conservative design parameters can be implemented on a case-by-case basis. Even though expansive soils are usually considered in design of new structures, the presence and extent of expansive soils on a particular lot would be an important part of any site investigation and should be evaluated.

Miller Pacific Engineering Group recommends that compacted fill material should be non-expansive having a liquid limit of less than 40 and a plasticity index of less than 20.⁴⁵ However, the test pits and laboratory testing encountered highly expansive soils on the project site. Therefore, proposed grading would use highly expansive residual soils, colluvium and landslide debris as compacted fill. The compacted fill criteria proposed by Miller Pacific Engineering Group would be acceptable for any imported fill materials that are brought on site for grading purposes. However, a significant amount of the on-site materials used for compacted fill would most likely not satisfy these criteria. As stated in the January 28, 2008 *Response to Geotechnical Peer Review Comments*, Miller Pacific Engineering Group proposes that “Additional recommendations, including foundation design for the structures, will be included in the design-level report for the project.”⁴⁶

Mitigation Measure 5.6-7 In order to reduce impacts of the site’s expansive soils on development to a less-than-significant level, the applicant and individual lot owners, and their respective geotechnical consultants shall implement design criteria that would reduce the effects of shrinking and swelling soils on sloped, structures, roads and utilities to negligible level. The following measures shall be implemented:

- The measures in Mitigation Measure 5.6-4 shall be followed during the design and construction of slopes that would be constructed with the onsite expansive soils.
- Plasticity index or expansion index testing shall be performed after grading to determine the specific shrink-swell potential for development sites as deemed appropriate by the respective geotechnical engineer(s).
- Site-specific mitigation shall be identified which accounts for conditions present at proposed development sites. Typical measures to mitigate expansive soils shall include the following (or their equivalent):

Pre-saturate fill soils and place wet fill soils (above optimum moisture content) to expand the soils, thereby reducing potential damage to concrete by allowing room for future shrink / swell movement of the soils.

Place a non-expansive imported soil in the upper part of building pads.

Bury expansive soils deep in fills.

Treat soil with lime.

Mix expansive soils with less expansive soils.

⁴⁵ *Ibid.*

⁴⁶ *Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California, op cit.*

Use geogrid reinforcement of compacted fill slopes to increase surficial stability.

Combine these techniques to provide the most effective mitigation.

- Residential development on individual lots shall be designed to account for each site's expansive soil conditions. Measures typically incorporated in building design shall include the following:

Design foundation systems to incorporate measured variations of soil swell with effective confinement (dead weight).

Strengthen foundations (beams).

Use suspended wood floors, drilled piers and grade-beam foundations, floating slabs, or pre-stressed (post-tensions) slab-on-grade.

Significance after Mitigation Implementation of Mitigation Measure 5.6-7 would reduce the impacts of expansive soils to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible for implementing this measure when building roads, retaining walls and installing utilities. Individual lot owners would be responsible for implementing this measure when developing their individual lots. The Town's Engineer would monitor implementation when reviewing the site grading plan and building permit applications.

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5.7 PUBLIC SERVICES AND UTILITIES

The impact analyses of the following public service and facility topics are presented in this section.

- Fire Protection and Emergency Services
- Police Services
- Water Supply
- Wastewater Management
- Public Schools
- Solid Waste

Fire Protection and Emergency Services - Environmental Setting

The Tiburon Fire Protection District (TFPD) would provide fire protection and emergency medical services to the project site. Service to the site is constrained by limited access along Paradise Drive which restricts emergency vehicle speeds to 25 miles per hour.¹ The TFPD responds to approximately 1,500 incidents a year. The most common incidents are calls for medical aid (65-70 percent).

The TFPD has two stations. Station Number 11 (the Headquarters station) is located at 1679 Tiburon Boulevard, and station Number 10 (the Trestle Glen substation) is located at 4301 Paradise Drive. Both stations would have primary responsibility for the site. Existing personnel includes 20 paid firefighters (all EMT trained), 18 volunteer firefighters, and three reserve firefighters. Five paid firefighters are on duty at all times. Two Type-1 engines (designed for structural protection) and one Type-3 engine (designed for wildland fires) are available at the Headquarters station, and one Type-1 engine and one ambulance are available at the Trestle Glen substation. Estimated response times for fire engines to the site are ten minutes from the Headquarters station and five minutes from the Trestle Glen substation.

The TFPD has an automatic aid agreement with the Southern Marin Fire Protection District and the Corte Madera Fire Department. In addition, the Marin County Mutual Aid Pact allows the TFPD to request aid from any department in the County.

WILDLAND FIRE HAZARD

Wildfire poses its greatest risk to human life and property within areas known as wildland-urban interface (WUI), where development occurs within undeveloped wildland and structures are located in close proximity to vegetative fuels. The project site for the proposed *Alta Robles Residential Development* would be located within a WUI, and is shown in both the *Tiburon General Plan* and the

¹ Tiburon Fire Protection Ordinance 115.

Marin Countywide Plan as an area susceptible to wildfires.² During a five year time span (2000-2004) 458 wildfires occurred within the jurisdiction of the Marin County Fire Department.³

The *Marin County Community Wildfire Protection Plan (CWPP)*⁴ was developed through a collaborative effort involving the Marin County Fire Department, Fire Safe Marin, and stakeholders for the purpose of developing methods to reduce wildfire hazards in Marin County. The *CWPP* ranks 80,000 acres of WUI as having a high to moderate fire hazard. The *CWPP* identifies five methods that have been enacted to reduce fire hazards within WUI's in Marin County. These methods include fuel break networks, clearing fire-prone forest, access improvements, wildfire awareness campaigns, and International Urban-Wildland Code adoption.

Prior to the *CWPP*, Marin County, recognizing the need to strengthen code requirements that mitigate hazards to life and property from wildland fires, adopted the *Urban-Wildland Interface Code*.⁵ Adoption of the *Urban-Wildland Interface Code* amended the *Marin County Development Code* to strengthen fire safety requirements including, vegetation management plans that contain hazard assessment matrices.

The TFPD uses a *Hazard Matrix* and *Fuel Modification Matrix* to rate proposed development lots and suggest adequate fuel modification zones for a defensible space to reduce fire risk around structures in wildland areas. The *Hazard Matrix* takes into consideration the slope, aspect, and fuel type adjacent to structures. Based on the number of "hazard points" a particular lot receives using the *Hazard Matrix*, it is possible to rate lots and suggest adequate fuel modification zones for a defensible space to reduce fire risk around structures. The *Fuel Modification Matrix* describes what type of vegetation and what amount of modification (removal, thinning, raising of tree crown, etc.) would be necessary to create a defensible space.

Fire Protection and Emergency Services - Significance Criteria

The fire protection and emergency services analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant environmental impact 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, response times, or other performance objectives for fire protection services.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

² *Tiburon General Plan*, Town of Tiburon, adopted September 7, 2005 and revised through March 31, 2006, Figure 6.3-5 and *Marin Countywide Plan*, Marin County Board of Supervisors, Map 2-13, adopted November 6, 2007.

³ *Marin County Community Wildfire Protection Plan*, Marin County Fire Department, July 2005.

⁴ *Ibid.*

⁵ *International Urban-Wildland Interface Code 2003 edition*, International Code Council, 2003

- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Fire Protection and Emergency Services - Impacts and Mitigation Measures

LESS-THAN-SIGNIFICANT IMPACTS

Based on the findings of the analyses completed as a part of this EIR it has been determined that the proposed *Alta Robles Residential Development* would have either no impact or less-than-significant impacts for the following significance criteria:

- *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.*

The proposed project would not interfere with any emergency response or evacuation plan.

IMPACT ANALYSIS ⁶

Impact 5.7-1 Fire Service Impact

Project site development would result in increased service demands on the TFPD, however, the increase would not be significant. The design of the proposed project may provide some fire fighting concerns. This would be a significant impact.

The TFPD would be able to serve the project site. The TFPD could not estimate the number of service calls project residents would generate but confirmed that the proposed project would not be expected to require additional fire staff, facilities, or equipment. ⁷

A review of the PDP did reveal some concerns from a fire fighting perspective. ⁸ The project proposes the use of “green roofs” on some of the houses. The earthen buildings would include the planting of fire resistant native ground covers planted on portions of the roofs. TFPD staff indicated a concern with the proper selection of plants for the green roofs. The issue is finding plant selections that are a good compromise being non-pyrophytes, non-invasive (if exotic), natives, small and lightweight (good for roof plantings), aesthetically pleasing, and reasonably drought-tolerant. A review of the PDP’s Preliminary Planting Plan indicates a list of plants that reasonably meet the

⁶ Water supply for fire-flow is discussed below in the Water Supply subsection. Emergency access for the TFPD is discussed in *Impact 5.1-10 Projects Impacts Related to Emergency Access and Internal Circulation* in **Section 5.1 Transportation**.

⁷ Nichols • Berman communication with Ron Barney, Fire Marshal, Tiburon Fire Protection District, March 2008.

⁸ *Ibid.*, February 2009.

criteria. This would allow the project to continue with the green roof concept while maintaining a reasonable degree of fire safety for the project site.⁹

A second area of concern is the requirement to provide fire apparatus access to 150 feet of all portions of the ground floors for the new structures. Rather than provide the required access, the PDP proposes to use a multiple dry standpipe system. This is unacceptable to the TFPD. The TFPD would require the PDP to be revised to provide multiple access points to the proposed structures through the inclusion of permanent landscape stairs and paths to the remote portions of the homes.

Mitigation Measure 5.7-1 In order to mitigate fire service impacts, the applicant would be required to revise the PDP to reflect standards of the TFPD related to fire apparatus access. This could be accomplished by providing multiple access points to the proposed structures through the inclusions of permanent landscape stairs and paths to the remote portions of the homes.

Significance After Mitigation Mitigation Measure 5.7-1 would reduce fire service impacts to a less-than-significant level.

Responsibility and Monitoring The project applicant would be responsible to revise the PDP to be consistent with TFPD access requirements. The Town Engineer and the TFPD would be responsible for reviewing and approving revised plans and ensuring consistency of approved plans.

Impact 5.7-2 Wildland-Building Fire Exposure

Development on the project site may expose houses and structures to wildland fire risks. With incorporation of Fire Safe Marin guidelines and TFPD requirements this would be a less-than-significant impact.

As discussed above, the project site for the proposed *Alta Robles Residential Development* would be located within a WUI, and is shown in both the *Tiburon General Plan* and the *Marin Countywide Plan* as an area susceptible to wildfires.¹⁰

The Precise Development Plan includes a conceptual landscape plan for the proposed project.¹¹ The conceptual landscape plan uses the *Marin Fire Safe Guidelines for Defensible Space* as the primary source for establishing landscape planting procedures for the proposed project.¹²

Exhibit 5.7-1 utilizes the TFPD *Hazard Matrix* to rate each of the 13 residential lots.

⁹ *Ibid.*

¹⁰ *Tiburon General Plan, op. cit.* and *Marin Countywide Plan, op. cit.*

¹¹ *Alta Robles Subdivision, Preliminary Planting Plan Defensible Space*, 16 Sheets, Jim Catlin, Landscape Architect, March 2006, revised November 20, 2008.

¹² Fire Safe Marin is a non-profit organization dedicated to reducing wildland fire hazard and improving fire safety awareness in Marin. See www.FireSafeMarin.org.

**Exhibit 5.7-1
Hazard Matrix Index**

Lot Number	Aspect (points)	Slope (points)	Fuel 0 to 30 Feet (points)	Fuel 31 to 50 Feet (points)	Fuel 51 to 100 Feet (points)	Hazard Points	Defensible Space Area
2	NE (1)	11 - 20 (4)	Domestic Garden (1)	Brush (4)	Brush (2)	12	30 x 30 x 30 x 50
3	NE (1)	11 - 20 (4)	Domestic Garden (1)	Brush (4)	Brush (2)	12	30 x 30 x 30 x 50
4	NE (1)	21 - 30 (6)	Brush (5)	Short Grass (2)	Brush (2)	16	30 x 30 x 30 x 50
5	NE (1)	11 - 20 (4)	Short Grass (3)	Short Grass (2)	Tall Grass (1)	11	30 x 30 x 30 x 50
6	NE (1)	11 - 20 (4)	Short Grass (3)	Short Grass (2)	Tall Grass (1)	11	30 x 30 x 30 x 50
7	NE (1)	21 - 30 (6)	Domestic Garden (1)	Brush (4)	Chaparral (4)	16	30 x 30 x 30 x 50
8	NE (1)	31+ (8)	Domestic Garden (1)	Brush (4)	Chaparral (4)	18	30 x 30 x 50 x 100
9	NE (1)	21 - 30 (6)	Domestic Garden (1)	Short Grass (2)	Chaparral (4)	14	30 x 30 x 30 x 50
10	NE (1)	21 - 30 (6)	Domestic Garden (1)	Short Grass (2)	Chaparral (4)	14	30 x 30 x 30 x 50
11	NE (1)	21 - 30 (6)	Short Grass (3)	Brush (4)	Chaparral (4)	18	30 x 30 x 50 x 100
12	NE (1)	21 - 30 (6)	Brush (5)	Chaparral (6)	Chaparral (4)	22	30 x 30 x 50 x 100
13	NE (1)	21 - 30 (6)	Short Grass (3)	Brush (4)	Chaparral (4)	18	30 x 30 x 50 x 100
14	NE (1)	21 - 30 (6)	Short Grass (3)	Brush (4)	Brush (2)	16	30 x 30 x 30 x 50

Source: Jim Catlin, Landscape Architect, March 2006.

Based on **Exhibit 5.7-1** and the number of “hazard points” for the individual lots, the required defensible space for each of the 13 lots would be as follows:

- Lots 2, 3, 4, 5, 6, 7, 9, 10, and 14 - 30 x 30 x 30 x 50 feet ¹³
- Lots 8, 11, 12, and 13 - 30 x 30 x 50 x 100 feet

The identified defensible space for each of the 13 residential lots is shown on the PDP conceptual landscape plan. ¹⁴

Inside the identified defensible space the TFPD requires fuel modification to reduce the fire risk around structures. For example, the TFPD requires all domestic gardens within 30 feet of structures to be planted with fire resistant species and free of dead materials, tree crowns to be raised ten feet above ground, brush thinned, and debris removed from the ground. In addition, pyrophytic hardwoods must be thinned or removed if too dense near a structure. ¹⁵ As discussed in **Section 5.5 Biological Resources**, establishing defensible space around the new lots could result in indirect impacts on existing native vegetation, including stands of native grassland, occurrences of special-status plant species, and oak woodlands.

Furthermore, in accordance with minimum building standards of the Town of Tiburon and TFPD, all developers of individual lots or lot clusters will be required to install:

- Approved spark arresters in all chimneys, consistent with Section 11.201(b) of TFPD Ordinance 120.
- A fire-resistant roof system with a minimum Class “A” rating on all residential and accessory buildings, consistent with the *Town of Tiburon Building Code*.
- Automatic fire sprinkler systems and approved smoke detectors, consistent with Sections 10.306 and 10.305(e) of TFPD Ordinance 120.

The proposed *Alta Robles Residential Development* would incorporate the ordinance criteria of the TFPD and the fire safe practices of Fire Safe Marin. Incorporation of these measures would substantially reduce the chance of a major wildfire starting on the project site or crossing the project site and destroying residences. Although the risk of wildfire would remain, the risk would be similar to that faced by many other homes in the Paradise Drive area and must be accepted if development is allowed in such wildland-urban interface areas. Therefore, incorporation of wildland-building measures would make this a less-than-significant impact.

¹³ The first number is the number of feet upslope, the second and third numbers are the number of feet on either side and the fourth number the number of feet down slope of a residential structure that would require fuel modification.

¹⁴ *Defensible Space, Precise Development Plan*, Sheets, L1.0, L1.0a, and L1.0b, Jim Catlin, March 2006.

¹⁵ *Fuel Modification Matrix*, Tiburon Fire Protection District. The *Fuel Modification Matrix* describes what types of vegetation and what amount of modification (removal, thinning, raising of tree crown, etc.) is necessary to create a defensible space. Pyrophytic trees are those with a higher fire risk. California bay is considered such a species. The amount of pyrophytic vegetation present is known as the “fuel load”.

Mitigation Measure 5.7-2 No mitigation would be required.

Impact 5.7-3 Cumulative Fire Service Impact

Cumulative development in the Tiburon Planning Area could generate additional demand for fire services which may require additional personnel and equipment. This would be a significant cumulative impact.

Development on the project site together with cumulative development in the Tiburon Planning Area could generate additional demand for fire services from the TFPD. According to the TFPD, there are currently no plans to expand facilities and increase personnel to accommodate cumulative growth in the area. The TFPD has experienced an increase in call volumes, and consequently an increase in response times. The TFPD believes traffic increases resulting from cumulative growth has led to delayed response times. The TFPD is currently conducting a Standards of Coverage study, which is an in-depth assessment of a fire agency's resources in order to determine appropriate response times and the number of personnel needed to handle a variety of emergencies. The Standards of Coverage study will also include a survey of fire risks in the community (including all structures within the District). If the study determines a need to expand equipment, personnel, and / or facilities, the next step would be for the District to begin that planning process. According to the TFPD almost all emergency responses travel through Tiburon Boulevard, where significant traffic delays have occurred. The TFPD is considering an intersection traffic signal override system that can send radio signals from emergency vehicles to stop lights (within line of sight) and alter the lighting to clear traffic ahead of the vehicle.¹⁶ If cumulative development within the District requires additional personnel and equipment to maintain current performance standards, expansion of existing facilities may be required to accommodate the additional equipment.¹⁷ The cost for additional TFPD staff and equipment could be at least partially offset by increased tax revenues generated by new development in the District. This would be a significant cumulative impact and the proposed project would make a cumulatively considerable contribution.

Mitigation Measure 5.7-3 The *Tiburon General Plan* includes a number of policies and programs to reduce development-related impacts. These policies include OSC-22 which require buffers of 50 to 100 feet from perennial, intermittent, and ephemeral streams; OSC-26, which directs development away from special status species; OSC-30, which encourages development to be in areas where it least interferes with views; and OSC-35 which requires that grading be kept to a minimum.

Significance After Mitigation Analysis of potential impacts without identified sites and complete designs would be speculative. However, Mitigation Measure 5.7-3 would likely reduce impacts related to the expansion of fire facilities to a less-than-significant level. Therefore, this would be a less than significant cumulative impact.

Responsibility and Monitoring The Community Development Department and Public Works Department would be responsible for implementing and monitoring the policies listed in Mitigation Measure 5.7-3, as well as other Town requirements that reduce construction-related impacts and monitoring their implementation.

¹⁶ Nichols • Berman communication with Ron Barney, Fire Marshal, Tiburon Fire Protection District, April 2009.

¹⁷ Nichols • Berman communication with Ron Barney, Fire Marshal, Tiburon Fire Protection District, March 2009.

Police Services - Environmental Setting

The Town of Tiburon Police Department would provide police protection to the project site. The Town's Police Department provides a comprehensive system of law enforcement services, including patrol; traffic and parking enforcement; and criminal and non-criminal investigation for the purpose of ensuring the safety of the community.

The Police Department has 15 sworn personnel. The Patrol Division handled 6,432 calls for service, including criminal investigations, traffic collisions, and suspicious circumstances in 2006. Officers and Police Service Aides added 308 vehicle citations, 1,462 parking citations, and 260 felony and misdemeanor arrests over the year, which totaled 8,462 calls for service and officer initiated incidents.¹⁸

The California Highway Patrol has jurisdiction on Paradise Drive and has traffic enforcement responsibilities. Paradise Drive is within Beat 3 of the California Highway Patrol's Marin service area. Beat 3 is served by the Corte Madera station. Officers irregularly patrol this portion of Paradise Drive and respond as needed to emergency calls.

Police Services - Significance Criteria

The police services analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant environmental impact 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, response times, or other performance objectives for police services.

Police Services - Impacts and Mitigation Measures

Impact 5.7-4 Increased Demand for Police Protection Services

The Town of Tiburon Police Department would provide police protection to the proposed Alta Robles Residential Development. The proposed project would not generate a substantial increase in calls for police services and would not require additional officers or improvements to the Police Department facility. This would be a less-than-significant impact.

Police services would be provided by the Town of Tiburon Police Department. It is anticipated that the proposed project would not result in a substantial increase in calls for service by the Police Department.¹⁹ The project would not require additional officers, new or expanded facilities or

¹⁸ *Annual Report 2006*, Tiburon Police Department.

¹⁹ Nichols • Berman communication with Police Captain Dave Hutton, Tiburon Police Department, March 2008.

additional equipment. The project, also, would not result in the need for additional staffing or equipment by the California Highway Patrol.²⁰ This would be a less-than-significant impact.

Mitigation Measure 5.7-4 No mitigation would be required.

Impact 5.7-5 Cumulative Increased Demand for Police Protection Services

Cumulative development in the Tiburon Planning Area could generate additional demand for police services which would require the addition of four sworn personnel. This would be a less-than-significant cumulative impact.

Development on the project site together with cumulative development in the Tiburon Planning Area could generate additional demand for police services which would require the addition of four sworn personnel²¹ The Tiburon Police Department facility has capacity to house four additional officers.²² This would be a less-than-significant cumulative impact.

Mitigation Measure 5.7-5 No mitigation would be required.

Water Supply - Environmental Setting

The Marin Municipal Water District (MMWD) would supply water to the project site. MMWD facilities include seven water supply reservoirs, five water treatment plants, and various storage tanks, pumps, and water mains. Approximately 75 percent of the water supply is provided from local watersheds. The remaining 25 percent of MMWD's water supply comes from the Russian River in Sonoma County under a contract with the Sonoma County Water Agency.²³

The Mount Tiburon water tanks, located at the terminus of Mount Tiburon Road, serve homes within the project area, including in the vicinity of Gilmartin Drive, Hacienda Drive, and Mount Tiburon Road. The MMWD's facilities include one 500,000-gallon water tank and one 590,000-gallon water tank. In response to the need for additional storage capacity in the area, MMWD constructed the 590,000-gallon tank in 2007. The Mount Tiburon tanks are able to serve development between the elevations of 200 feet and 500 feet.

An existing six-inch and eight-inch water line in Paradise Drive serves houses along this road. MMWD's Paradise Drive Area Master Plan calls for the eventual replacement of all of the existing six-inch water line under Paradise Drive south of Trestle Glen Boulevard with an eight-inch water

²⁰ Nichols • Berman communication with Lt. Gene Choi, California Highway Patrol, March 2008.

²¹ *Tiburon 2020 General Plan Draft EIR*, Town of Tiburon and Nichols • Berman, May, 2005, page 4.8-12.

²² *Ibid.*

²³ Marin Municipal Water District website, <http://www.marinwater.org>, March 7, 2008.

line. Some of this replacement has been completed to date.²⁴ The proposed Sorokko property residential project includes the replacement of the 3,500 feet of water main.²⁵

MMWD Ordinance 385 requires new development to use pool covers, drought-tolerant landscaping and water-conserving irrigation plans. Ordinance 385 also requires new development to install low-flow toilets, shower heads, and faucets.

MMWD currently has a water supply deficit and that deficit is projected to grow over time.²⁶ The water supply deficit was 3,300 acre-feet²⁷ in 2005 and is projected to increase to a deficit of 6,700 acre-feet in 2025.²⁸ This means that in a drought year, water supplies from existing sources (e.g. Lagunitas Creek and the Russian River) would not be sufficient to meet demand. The MMWD is evaluating several options to increase its water supply to meet project demand. The MMWD Master Plan assumes that additional supplies can be obtained from the Sonoma County Water Agency. However, without the completion of a pipeline project, the MMWD will not be able to obtain additional supplies as planned.²⁹ As a result, the MMWD has sought to increase its available supply through construction of a desalinization plant. MMWD is investigating the use of desalinated water from the San Francisco Bay. The proposed plant would initially produce five million gallons per day and be expandable to 15 million gallons per day of potable water. If approved, this project would solve the current shortfall for the next ten or more years.³⁰ MMWD anticipates being able to supply water to the project site and cumulative development consistent with existing land use designation until 2025.³¹ In addition to water supply projects MMWD has undertaken several water conservation projects to in order to reduce demand.

The Tiburon Fire Protection District (TFPD) requires the installation of water mains capable of supplying a minimum of 1,500 gallons per minute (gpm) at 20 psi for two hours to approved fire hydrants, spaced at 350-foot intervals throughout new subdivisions.³² Based on proposed home sizes, all larger than 3,600 square feet, the TFPD would require a water supply capable of providing a

²⁴ *Sorokko Property Draft EIR*, Leonard Charles and Associates, October 2007, page 4.10-2.

²⁵ *Ibid.*, page 4.10-4.

²⁶ *Urban Water Management Plan 2005*, Marin Municipal Water District, as amended November 2007, page 34.

²⁷ One acre-foot of water is equal to 325,829 gallons of water. This measurement refers to the amount of water covering one acre to a depth of one foot.

²⁸ *Urban Water Management Plan 2005*, *op. cit.*

²⁹ Nichols • Berman communication with Eric McGuire, Marin Municipal Water District, March 2008.

³⁰ MMWD has postponed considering approval of the desalination project in order to allow to time analyze impacts of climate change on water supplies and demand in Marin County. Climate researchers predict that droughts will be longer and more intense in the future, and MMWD will be determining how best to incorporate these predictions into its planning scenarios, *MMWD News Release March 11, 2009*, available at MMWD website: www.marinwater.org.

³¹ Nichols • Berman communication with Eric McGuire, *op. cit.*

³² The TFPD requires 1,500 gpm for developments with homes larger than 3,600 square feet. The standard 1,000 gpm is sufficient for smaller homes.

minimum of 1,500 gpm to fire hydrants for two hours, thus a minimum of 180,000 gallons. The MMWD and TFPD will review the subdivision improvement plans to determine the appropriate line size for adequate fire flow.

Description of the Proposed On-Site Water System According to the PDP's Preliminary Utility Plan, new water distribution pipelines would be constructed along the alignments of the Main Road and the Upper Road and connected to an existing water line in Hacienda Drive / Middle Ridge Top Fire Road. Connection to the water line in Hacienda Drive would require the construction of a water line in the gravel road extension of the Upper Road, south of Lots 4 and 5. In addition, approximately 1,400 feet of an existing eight-inch water line in Hacienda Drive would be replaced with a new 12-inch water line. As proposed, the water line would be extended to serve Lots 1-14 but would stop approximately 177 feet short of Paradise Drive and not connect to Paradise Drive.

The PDP Preliminary Utility Plan does not define diameters of new water mains (except for the replacement line in Hacienda Drive / Middle Ridge Top Fire Road) but does show preliminary locations of fire hydrants.

Water Supply - Significance Criteria

The water supply analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant environmental impact if it would:

- Have insufficient water supplies available to serve the project from existing entitlements and resources;
- Could not be served by the MMWD due to insufficient potable water supply; or
- Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Water Supply - Impacts and Mitigation Measures

Impact 5.7-6 Increased Water Demand

Development of the project site would increase water demand on MMWD. However, MMWD has sufficient capacity to serve the project site. This would be a less-than-significant impact.

MMWD estimates that project site development would account for 0.73 acre-foot of water per lot per year. Given this estimated water use rate, the 13 proposed lots would result in an increased demand of about 9.49 acre-feet of water per year. MMWD states that water supply would be adequate to serve the project.³³

Mitigation Measure 5.7-6 No mitigation would be required.

³³ Nichols • Berman communication with Eric McGuire, *op. cit.*

Impact 5.7-7 Water Service Impacts

The proposed on-site water system would not be adequate to serve Lot 14. This would be a significant impact.

Other than the replacement of a portion of the existing eight-inch water line in Hacienda Drive / Middle Ridge Top Fire Road with a 12-inch water line as proposed by the project, the existing Mount Tiburon tanks would not need to be expanded to serve the proposed project. According to MMWD, the two Mount Tiburon tanks would be adequate for both domestic and fire flow requirements. The Mount Tiburon tanks, however, would not provide adequate domestic service to any house built with the highest water use fixture under 200 feet elevation. Lot 14 would result in the construction of a house below 200 feet elevation and thus could not be served by the Mount Tiburon tank system. Lot 14 would need to be served by MMWD's existing water line in Paradise Drive.

Mitigation Measure 5.7-7 The on-site water supply system shall be redesigned so that Lot 14 would be served by MMWD's existing water line in Paradise Drive.

Significance after Mitigation Implementation of Mitigation Measure 5.7-7 would ensure that adequate domestic water supply would be provided to all of the proposed houses and reduce water service impacts to a less-than-significant level.

Responsibility and Monitoring Prior to issuance of building permits, the Town will verify that the applicant has satisfied the requirements of the MMWD.

Impact 5.7-8 Cumulative Water Service Impacts

Cumulative development would result in increased water demands. This would be a less-than-significant cumulative impact.

MMWD has stated that it has sufficient water supplies to meet project demand within the MMWD service area and plans to provide additional water to meet projected water shortages.³⁴ As stated in the setting section above, as long as future development is consistent with the land use designation for the site, MMWD has plans to be able to provide water through 2025.

Mitigation Measure 5.7-8 No mitigation would be required.

Wastewater Management - Environmental Setting

Sanitary District No. 5 provides sanitary sewer service to the Town of Tiburon, City of Belvedere, and parts of unincorporated Marin County. The service area extends from Trestle Glen (west) to San Francisco Bay (east). Some unincorporated pockets within the geographic boundaries of the District's service area are not served by Sanitary District No. 5 but instead use septic systems.

In May 2007 the Marin Local Agency Formation Commission (LAFCo) approved the expansion of Sanitary District No. 5 to include an additional approximately 70 acres along and near Paradise Drive.³⁵ As a part of this boundary expansion the SODA property was annexed to Sanitary District

³⁴ *Ibid.*

³⁵ Annexation of the Lands of Jansheski et al to Sanitary District No.5, Marin LAFCO File # 1281.

No. 5.³⁶ The entire project site, therefore, is currently inside Sanitary District No. 5. Included in the annexation was Seafirth Estates. There are 30 existing homes located within the Seafirth Estates that were served by a private sewer district and treatment plant.³⁷ In addition, Sanitary District No. 5 accepted a previously private sanitary sewer line (referred to as the “Rabin line” or the “1993 line”). This line includes the existing sanitary sewer line in the existing driveway that provides service to the existing Rabin residence.

Wastewater Treatment Plants Sanitary District No. 5 operates two wastewater treatment plants - the main treatment plant located at 2001 Paradise Drive on Point Tiburon and the smaller Paradise Cove treatment plant located at 3700 Paradise Drive. The *Alta Robles Residential Development* is proposed to be served by the Paradise Cove plant.

The Paradise Cove facility has a dry weather capacity of 20,000 gallons per day (gpd) and treats an average of 8,500 gpd generated by 64 existing homes. With 11,500 gpd of excess capacity, the plant is operating at 43 percent capacity. Assuming sewage disposal needs approximate existing demand patterns, demand for sewage treatment approximates 133 gpd for each residential connection. Accordingly, the excess capacity could serve approximately 86 additional residences. Currently, the Paradise Cove facility is operating under a National Pollutant Discharge Elimination System (NPDES) permit issued by the Regional Water Quality Control Board in 2006.³⁸

Sanitary District No. 5 has recently taken the necessary actions to upgrade the Paradise Cove treatment facility. This upgrade has modernized and replaced outdated equipment. In January 2008 the District Board of Directors approved the purchase of two 20,000 gpd package treatment plants as replacements for the Paradise Cove plant. The District’s current NPDES permit allows for 20,000 gpd. The upgraded treatment facility became operational in January 2009.³⁹ Currently only one of the two new package treatment plants is in operation. When 80 percent of the permitted dry weather flow is reached, which is 16,000 gallons per day, Sanitary District No. 5 will contact the State Water Resources Quality Board for an amendment to the current NPDES permit.

Sanitary District No. 5 has projected the amount of additional wastewater that would be generated by the buildout of the service area served by the Paradise Cove treatment plant. The replacement for the Paradise Cove plant has been designed to ensure that adequate treatment capacity will be available to meet the needs of the buildout of the service area.⁴⁰

Conveyance System A sanitary sewer line exists in the existing driveway and serves the existing house on the Rabin property. This sanitary sewer line (the “Rabin line” or the “1993 line”) extends

³⁶ The Rabin property was previously annexed to Sanitary District No. 5.

³⁷ *Annexation of the Land of Jansheski et. al. to the Tiburon Sanitary District Initial Study*, Marin LAFCo, February 16, 2007.

³⁸ *Ibid.*

³⁹ Nichols • Berman communication with Tony Rubio, Facilities Manager, Sanitary District No. 5, May 2009.

⁴⁰ Nichols • Berman communication with Robert Lynch, General Manager, Sanitary District No. 5, March 2008.

across Paradise Drive down Paradise Cove Road and then cross-county to near the shoreline. It then follows an unpaved road to the south to the Paradise Cove treatment plant.⁴¹

Sanitary District No. 5 recently completed construction of a new Paradise Drive sanitary sewer line. A four-inch force main extending approximately 6,400 feet north of existing facilities located near the intersection of the Playa Verde Road / Paradise Drive intersection was recently constructed. The new line is located entirely within the Paradise Drive right-of-way. The new line allows connection of Seafirth Estates homes to Sanitary District No. 5 facilities and abandonment of the existing Seafirth Estates treatment plant.

Description of the Proposed On-Site Sewer System According to the PDP's Preliminary Utility Plan, new sanitary sewer lines would be constructed along the alignments of the Main Road and the Upper Road.⁴² One sanitary sewer line would be constructed from Lot 2 down the Main Road to connect to the existing sanitary sewer line in Paradise Drive. Lots 1 and 2 and Lots 9 through 14 would connect to this sanitary sewer line. A second sanitary sewer line would be constructed in the Upper Road and serve Lots 3 through 8. This sanitary sewer line would connect to the existing sanitary sewer line in the existing driveway, just above Lot 8, which in turn is connected to an existing sewer line in Paradise Drive.

The PDP Preliminary Utility Plan does not define diameters of the new sanitary sewer lines.

Wastewater Management- Significance Criteria

The wastewater management analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant environmental impact if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Result in the determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Violate any water quality standards or waste discharge requirements; or
- Otherwise substantially degrade water quality.

⁴¹ *Sorokko Property Draft EIR, op. cit.*, page 4.11-1.

⁴² The existing house on the Rabin property currently is provided sanitary sewer service by Sanitary District No. 5.

Wastewater Management - Impacts and Mitigation Measures

Impact 5.7-9 Increased Project Wastewater Treatment Demand

Development of the project site would increase sewage treatment demands on Sanitary District No. 5. Existing facilities, including the Paradise Cove Treatment Plant would have sufficient capacity to serve the project. The additional flow would not require the construction of additional treatment facilities nor would it exceed wastewater treatment requirements of the Regional Water Quality Control Board or violate water quality standards. This would be a less-than-significant impact.

Based on a wastewater generation rate of 150 gallons per day (gpd) per single-family house, the proposed project would generate an additional 1,950 gpd.

Currently, there is sufficient capacity at the Paradise Cove treatment plant to serve the projected wastewater flows generated by the proposed *Alta Robles Residential Development* and Sanitary District No. 5 anticipates no problems providing the necessary treatment.⁴³ No new or expanded treatment facilities would be required. Furthermore, the existing Paradise Drive sewer line would be adequate to accommodate the project.

Sanitary District No. 5 would review the final utilities plan before approval. At that time, the District would make specific recommendations for changes or additions to the project.

Mitigation Measure 5.7-9 No mitigation would be required.

Impact 5.7-10 Increased Cumulative Wastewater Treatment Demand

Cumulative development would increase sewage treatment demands on Sanitary District No. 5. Existing and planned facilities, including the expanded Paradise Cove Treatment Plant would have sufficient capacity to serve the project. This would be a less-than-significant impact.

Based on the expanded boundaries approved in May 2007, Sanitary District No. 5 projects that existing homes together with the number of potential homes in the service area the District would be using approximately 97 percent of the capacity of the Paradise Cove treatment plant.⁴⁴ Additional annexation requests would result in development that would generate sewage treatment demands in excess of the capacity of the existing facility.

As discussed above, Sanitary District No. 5 has recently taken the necessary actions to upgrade the Paradise Cove treatment facility. This upgrade will modernize and replace outdated equipment and expand sewage disposal capacity to 30,000 gallons per day.

Sanitary District No. 5 has projected the amount of additional wastewater that would be generated by the buildout of the service area served by the Paradise Cove treatment plant. The replacement for the Paradise Cove plant has been designed to ensure that adequate treatment capacity will be available to meet the needs of the buildout of the service area.⁴⁵

⁴³ Nichols • Berman communication with Robert Lynch, *op. cit.*

⁴⁴ *Annexation of the Land of Jansheski et. al. to the Tiburon Sanitary District Initial Study, op. cit.*

⁴⁵ Nichols • Berman communication with Robert Lynch, *op. cit.*

Mitigation Measure 5.7-10 No mitigation would be required.

Public Schools - Environmental Setting

The project site is located in the Reed Union School District (RUSD) and Tamalpais Union High School District (TUHSD).

Reed Union School District The RUSD includes Belvedere, Tiburon, Angel Island, east Corte Madera, and parts of unincorporated areas, including Paradise Cay. The western District boundary is near Blackfield Drive. The RUSD operates three schools:

- Reed School (grades K-2) has a capacity of 460 students. Enrollment for the 2008-2009 school year is 411 students, and a remaining capacity of 49.
- Bel Aire School (grades 3-5) has a capacity of 600 students. Enrollment for the 2008-2009 school year is 391 students, and a remaining capacity of 209.
- Del Mar School (grades 6-8) has a capacity of 504 students. Enrollment for the 2008-2009 school year is 356 students, and a remaining capacity of 148.

Tamalpais Union High School District The TUHSD extends from the Golden Gate Bridge to the San Rafael City boundary. The TUHSD operates five grade 9-12 schools -- three comprehensive schools (Redwood, Sir Francis Drake, and Tamalpais) and two alternative schools (San Andreas and Tamiscal). Redwood High School would serve the project site.

The TUHSD projects enrollment at each high school based on an average of the continuation of enrollment from students in lower grades. This method generally has proven to be accurate within one to three percent of actual enrollment over the past nine years. Enrollment for the 2008-2009 school year is approximately 1,440 students, leaving a remaining capacity of approximately 60 students. Class sizes vary in the different grades. Based on the TUHSD's enrollment projections, enrollment numbers will rise and fall annually over the next five years. The projected enrollment at Redwood High School during the 2013-2014 school year is 1550 students. The current capacity at Redwood High School is 1,500 students, however the District has an open enrollment policy that permits students to attend any high school in the District, thus distributing the enrollment among the various high schools during peak years.⁴⁶

In March 2001 the TUHSD passed a school modernization bond issue. Revenue from this bond sale has been used for modernization of various facilities at Redwood High School, including the construction of two new science classrooms (which are now in use) and other infrastructure improvements. Another bond issue passed in June 2006 will allow additional modernization, including more infrastructure improvements, an auxiliary gymnasium to be constructed east of the existing gymnasium, and replacement of the existing swimming pool with a new 40-meter-by-25-yard

⁴⁶ Nichols•Berman communication with Lori Parrish, Chief Business Official, Tamalpais Union High School District, February 27, 2009. Enrollment projections do not account for the possibility that the current economic recession may lead to enrollment increases as some families in the area can no longer afford private school tuition. Enrollment projected at Redwood High School for the next 5 years is: 2009/2010 - 1,396 students, 2010/2011 - 1,405 students, 2011/2012 - 1,379 students, 2012/2013 - 1496 students, 2013/2014 - 1,550 students.

pool with a pool house and restrooms. Once renovations are completed, the school is expected to have sufficient capacity for the next ten to 20 years.⁴⁷

Public Schools - Significance Criteria

The public schools analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant environmental impact if it would:

- Would result in adverse physical impacts associated with the provision of new or physically altered school facilities or the need for new or physically altered schools facilities, the construction of which could cause significant environmental impacts.

Public Schools - Impacts and Mitigation Measures

Impact 5.7-11 Reed Union School District

Project implementation would generate approximately seven students who would attend Reed Union School District schools.

The RUSD uses a generation rate of 0.5 student for new single-family housing units which would result in seven new students from the project site upon buildout.⁴⁸ These seven students would be distributed among grades K-8, but the number per grade during any given year is not known and cannot be estimated. All three district schools (Reed, Bel Aire, and Del Mar) have adequate residual capacity to accommodate project-generated students. Because RUSD has sufficient capacity, the project's potential impact is considered to be less-than-significant.

Mitigation Measure 5.7-11 No mitigation would be required.

Impact 5.7-12 Tamalpais Union High School District

Project implementation would generate about three to five students who would attend Redwood High School. This would be a less-than-significant impact.

The TUHSD has no specific generation rate to estimate the number of students added by new development. Instead, the District projects enrollment based on actual enrollment in the feeder schools. Assuming, for purposes of this analysis, a generation rate of 0.2 to 0.4 high school students for new single-family housing units would result in three to five new high school students.⁴⁹ There would be sufficient capacity at the high schools to accommodate this potential increase. Therefore, the project would not result in a significant impact on the TUHSD.

⁴⁷ *Sorokko Property Draft EIR, op. cit.*, page 4.13-1.

⁴⁸ The generation rate for multi-family units is much lower (0.065 student per unit).

⁴⁹ Student generation rate based on *Sorokko Property Draft EIR, op. cit.*, page 4.13-3.

Mitigation Measure 5.7-12 No mitigation would be required.

Impact 5.7-13 Cumulative Public School Impacts

Both the Reed Union School District and the Tamalpais Union High School District would have adequate capacity to accommodate future students due to cumulative development. This would be a less-than-significant cumulative impact.

Development on the project site together with cumulative development in the Tiburon Planning Area would result in an increase in students and demands on both the RUSD and the TUHSD. The 435 housing units included in the cumulative development total would generate approximately 171 students, based on the RUSD student generation rates.⁵⁰ Assuming a 0.2 to 0.4 high school student per housing unit the 435 housing units would generate 87 to 174 students.

The increased number of elementary school students could cause overcrowding in the RUSD schools, especially for grades K-3 where there is a maximum of 20 students allowed per classroom; one additional student requires that there be a new classroom. The impact would depend on the time period during which the students attend RUSD schools and the distribution of students through the grade levels. Although each school site has adequate classroom space to house additional students, the additional students may have a detrimental impact on the enrichment programs offered at each site; many of the rooms used for the enrichment programs would have to be returned to core classroom use to accommodate student growth.

Redwood High School would have capacity for the additional students since the TUHSD expects a steady rise in enrollment up to 1550 students in the 2013 and 2014 school year that could be accommodated by the open enrollment program and the installation of portable classrooms.

Mitigation Measure 5.7-13 No mitigation would be required.

Solid Waste - Environmental Setting

Mill Valley Refuse Service, a private company under contract to provide solid waste disposal services, would provide waste collection service to the project site. Waste collected at the project would be disposed at the Redwood Landfill, located just north of Novato. Based on the remaining capacity currently permitted at the Redwood Landfill, it is projected to have adequate capacity at least through 2024.⁵¹ In December 2008, following extensive environmental review, the Marin County Environmental Health Services Division issued a revised Solid Waste Facility Permit that allowed for an increase of total capacity from 19.1 million cubic yards (mcy) to approximately 26 mcy. However the projected closure date remained July 2024.

⁵⁰ 328 single-family units times 0.5 student per units = 164 students plus 107 multi-family and second units times 0.065 student per unit = 7 students.

⁵¹ *Marin Countywide Plan Update Draft EIR*, Nichols • Berman and Marin Community Development Agency, January 2007, page 4.10-31.

Solid Waste - Significance Criteria

The solid waste analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant environmental impact if it would:

- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Not comply with federal, state, and local statutes and regulations related to solid waste.

Solid Waste - Impacts and Mitigation Measures

LESS-THAN-SIGNIFICANT IMPACTS

Based on the findings of the analyses completed as a part of this EIR it has been determined that the proposed *Alta Robles Residential Development* would have no or less-than-significant impacts for the following significance criteria:

- *Not comply with federal, state, and local statutes and regulations related to solid waste.*

All applicable federal, state, and local regulations related to solid waste would be complied with as part of the proposed project.

IMPACT ANALYSIS

Impact 5.7-14 Project and Cumulative Increased Demand for Solid Waste Services

Project implementation would result in an increased demand for disposal of solid waste. This would be a less-than-significant impact.

The 13 additional houses on the project site would house approximately 30 people.⁵² Based on California Integrated Waste Management Board estimates, the 30 residents would generate approximately 81 pounds per day.⁵³ Cumulative development in the Tiburon Planning Area would generate an increased solid waste disposal demand.

Marin County's Integrated Waste Management Plan indicates that the Redwood Landfill will have adequate capacity beyond 15 years and into the foreseeable future. Based on the available capacity it has been projected that Marin County can provide at least 15 years of permitted disposal capacity for

⁵² According to ABAG's *Projections 2005*, the average household size in the Tiburon Sphere of Influence is 2.25 people. *Town of Tiburon General Plan*, Town of Tiburon, adopted September 7, 2005, page 9-13.

⁵³ The California Integrated Waste Management Board estimates 2.71 pounds of waste per resident per day. *Sorokko Property Draft EIR*, Leonard Charles and Associates, October 2007, page 4.14-3.

all jurisdictions within the County.⁵⁴ This, therefore, would be a less-than-significant project and cumulative impact.

Mitigation Measure 5.7-14 No mitigation would be required.

⁵⁴ *Marin Countywide Plan Update Draft EIR, op. cit.*, page 4.10-34.

Visual Quality - Introduction

INTRODUCTION

This section examines potential adverse changes to the visual and aesthetic quality of the project site and vicinity that could occur from development of the *Alta Robles Residential Development* project. The analysis uses photographs of existing conditions and photosimulations of the proposed project that were prepared to present “before” and “after” representations of three views of the project site. The methodology used to evaluate visual changes resulting from site development is discussed below, followed by descriptions and analyses of the three views selected for evaluation in this EIR.

VISUAL QUALITY METHODOLOGY

The methodology used in this EIR was developed by combining and refining visual assessment techniques originally formulated by government resource agencies for their large-scale land use and management projects.² The methodology was further adjusted to modify specific elements to address the types and scales of project sites and proposed projects normally evaluated in environmental documents prepared pursuant to the California Environmental Quality Act (CEQA). The methodology also was designed to provide an objective basis for determining the significance of visual and aesthetic impacts under CEQA.

Tasks conducted to evaluate visual impacts of the proposed *Alta Robles Residential Development* project included viewing the site from several locations around the property, selecting representative viewpoints for consideration in the EIR, describing the site from those locations and determining the sensitivity of each view, illustrating post-project visibility, and determining the significance of impact. These tasks are summarized below.

Determine Viewpoints and Future Conditions

Paradise Drive provides views of the project site to a large number of people. The project site is visible to passing motorists, bicyclists, and walkers traveling along the roadway in both directions. Nearby residential streets from where the project site is visible include Gilmartin Drive, Hacienda Drive, and Acacia Drive. The project site also is visible from the town-owned Middle Ridge open space.

¹ The organization of this section differs slightly from the other sections in *Chapter 5.0 Environmental Setting, Impacts, and Mitigation Measures*. Rather than provide the entire setting information in one discrete subsection at the beginning of this section, existing conditions for each viewpoint are described immediately preceding the analysis of each view.

² The methodology was derived from those originally identified by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) and modified for CEQA EIR purposes.

In November 2007, Vallier Design Associates (the EIR visual analyst) performed field reconnaissance and photo documentation of the project site and surrounding areas to develop an inventory of existing visual resources and illustrate the proposed project in the photographic simulations. Based on the field reconnaissance and the photo documentation, Town of Tiburon staff and the EIR consultants selected three viewpoints for preparation of photosimulations. Viewpoint number 1 is from the Middle Ridge open space, viewpoint number 2 is from Paradise Drive and viewpoint number 3 is from Acacia Drive. These viewpoints, shown in **Exhibit 5.8-1** represent typical views of the project site from nearby public locations. **Exhibits 5.8-4, 5.8-6, and 5.8-8** show existing conditions from these viewpoints while **Exhibits 5.8-5, 5.8-7, and 5.8-9** provide photosimulations of the proposed *Alta Robles Residential Development* that illustrate post-development conditions.

Characterize Views

This EIR considers two elements that characterize a view in order to measure objectively the change to the view and determine the significance of project impacts, sensitivity and visual dominance.

Sensitivity

The first element is the *sensitivity* of the view. Sensitivity describes the nature of the landscape cover (e.g., grassland or woodland); prominence of the view (e.g., on a ridge, along a slope, in a valley); surroundings (e.g., developed and undeveloped surrounding uses); and plans and policies governing the use of the land that provide an expectation of development and encourage or discourage certain types of development.

Visual Dominance

The second element is the *visual dominance* of the project, which is a measure of how the form, line, color, and texture of structures added to a view interact with those elements of the natural surroundings of the project site. These terms are further defined below:

Form The shape or structure of something as opposed to the material which composes it. Important sub-elements of form include *geometry* (i.e., shape of the form), *complexity* (i.e., simplicity of the form), and *orientation*.

Line The path, real or imagined, the eye follows when perceiving abrupt differences in form, color, or texture. The most common line in the landscape is the edge of shapes or masses. Important sub-elements of line include *boldness* (i.e., strength of the line), *complexity* (i.e., simplicity of the line), and *orientation*.

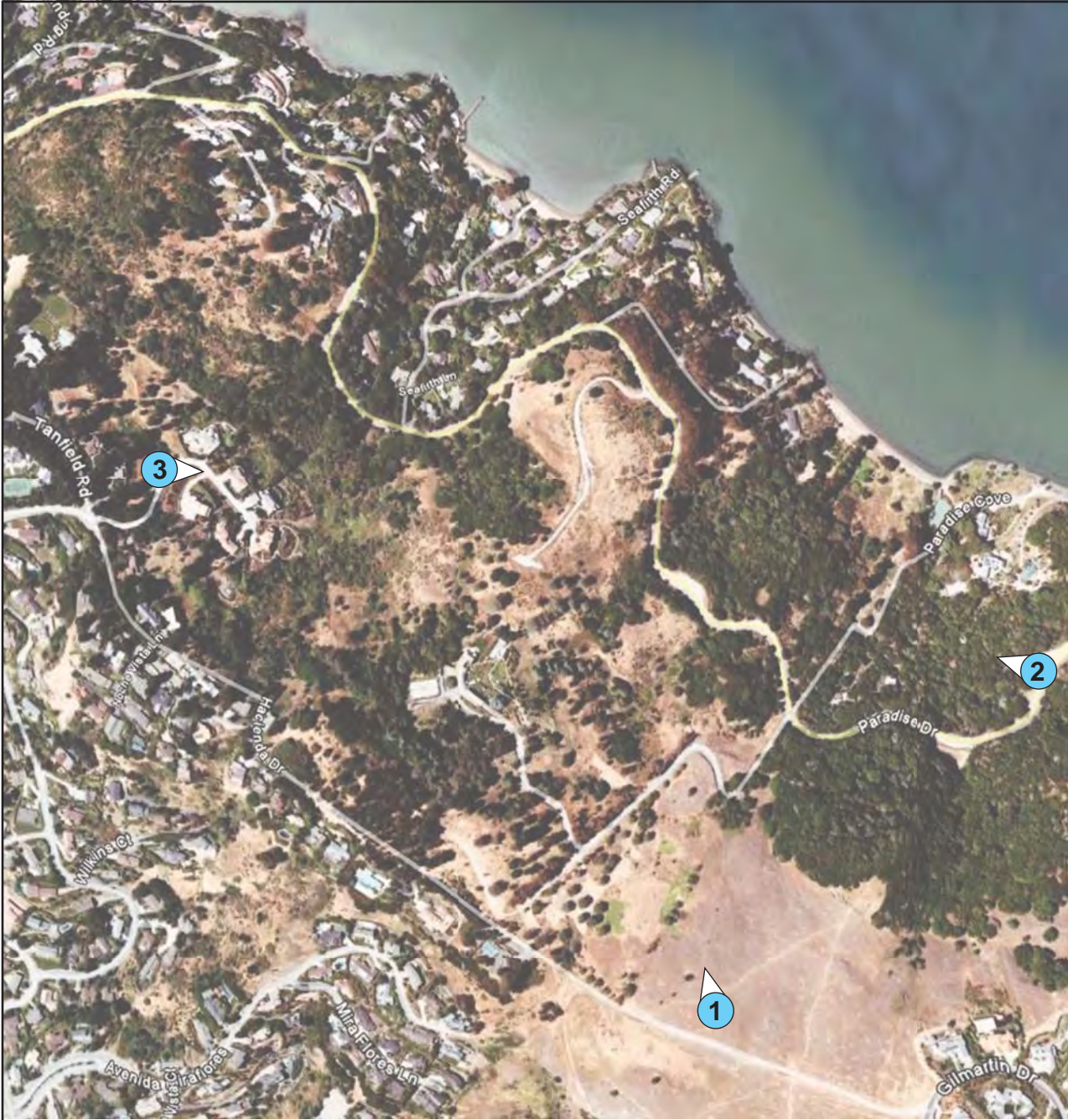
Color The property of reflecting light. Color is composed of *hue* (i.e., aspect of color we know by name, such as blue or green), *value* (i.e., degree of darkness from black to white), and *chroma* (i.e., degree of color saturation or grayness, ranging from pure [i.e., high chroma] to dull [i.e., low chroma]).

Texture The visual or tactile surface characteristics of something. Texture consists of *grain* (i.e., relative dimensions of surface variation, from fine to coarse), *density* (i.e., spacing of surface variation), and *regularity* (i.e., amount of evenness and randomness).

Determine Sensitivity Level of Views

Existing views have variations in form, line, color, and texture. These elements were used to describe existing views as well as the relationship of development to the site. Defining the sensitivity level of a

**Exhibit 5.8-1
Viewpoint Locations**



Viewpoint Locations

- 1 Gilmartin Open Space Trail
- 2 Paradise Drive
- 3 Acacia Drive



Source: Vallier Design Associates, 2007

view represents an attempt to combine the nature of the landscape cover, the prominence of the view, the surrounding uses, and plans and policies that might permit development and create an expectation of change or might discourage certain types of development that could bring about a negative change.

Both the *Tiburon General Plan* and *Tiburon Municipal Code* designate the project site for residential development, thus indicating an expectation of development. As further described in **Chapter 3.0 Description of the Proposed Project** the land use designation for both the SODA and Rabin properties is Planned Development - Residential (PD-R). The maximum number of housing units for the Rabin property is 12. The maximum number of housing units for the SODA property is eight (see **Exhibit 3.0-4**). In addition to the residential land use designation, as described in the *Tiburon General Plan*, both properties contain several prime open space characteristics (see **Exhibit 3.0-5**).

The Rabin property is designated by the *Tiburon Municipal Code* as Residential Planned Development (RPD).³ The RPD zoning is “intended to protect and preserve open space land as a limited and valuable resource without depriving owners of a reasonable use of their property for residential purposes”.⁴

This EIR uses the sensitivity levels of *low*, *moderate*, *high*, and *maximum* to determine the level of visual dominance appropriate for the project at the project site. The setting sections for each study viewpoint explain the sensitivity level chosen for the project site. **Exhibit 5.8-2** summarizes the appropriate visual dominance of the project for each sensitivity level.

Exhibit 5.8-2
Sensitivity Level and Appropriate Visual Dominance

Sensitivity Level	Appropriate Visual Dominance	
	Level of Dominance	Characteristics
Low	Dominant	Project dominates the landscape. Project elements are strong in that they stand out against the setting and attract attention away from the surrounding landscape. Form, line, color, and texture can contrast with existing elements.
Moderate	Co-Dominant	Project co-dominates. Project elements are moderate in that they are prominent within the setting and attract attention equally with other landscape features. Project generally must borrow from naturally established form, line, color, and texture so that visual characteristics are compatible with their surroundings.
High	Subordinate	Project is visibly subordinate. Element contrasts are weak in that they can be seen but do not attract attention. Project generally must repeat the form, line, color, and texture of its surroundings.

³ Because the SODA property is not within the Town boundaries the property does not have a Town zoning designation. It is proposed to prezone the SODA property to RPD in anticipation of annexation to the Town.

⁴ Section 16-2.7 of the Tiburon Municipal Code.

Sensitivity Level	Appropriate Visual Dominance	
	Level of Dominance	Characteristics
Maximum	Inevident	Project is generally not visually evident. Element contrasts are not visible or perceived. Project changes in the characteristics of size, amount, intensity, pattern, etc. should not be evident.

Source: Nichols • Berman, 2007.

The sensitivity level for each of the views analyzed in this EIR is discussed in the individual impact section for the specific view.

Prepare Photosimulations

Photosimulations were prepared to illustrate development of the *Alta Robles Residential Development* project as seen from the three study viewpoints. **Exhibits 5.8-5, 5.8-7, and 5.8-9** illustrate project features discussed in **Section 3.2 Project Description** and presented below. As further discussed below, as a part of the PDP application, individual house designs have been submitted for each of the 13 proposed new houses. For Lots 2 through 14 the PDP includes a site plan, individual floor plans, a roof plan, house sections, and house elevations.⁵ In addition, the PDP includes a conceptual landscape plan for the proposed project.⁶ The proposed landscaping is shown in the photosimulations at five to seven years maturity.

Visual Changes Created by the Project

Chapter 3.0 Description of the Proposed Project presents the aspects of the proposed project defined by the applicant’s PDP, the most relevant visual characteristics of which are described below, including key design assumptions used to prepare the photosimulations.

Residential Lots - As a part of the PDP application, individual house designs have been submitted for each of the 13 proposed new lots. An individual lot site plan and concept building design has been prepared for each of the 13 new lots (Lots 2 through 14). For Lots 2 through 14, the PDP includes a site plan, individual floor plans, a roof plan, house sections, and house elevations (**see PDP Sheets A02-00 through A14-32**). In addition to the house footprint, each site plan shows the proposed driveway. The project applicant is committed to ensuring that the individual house designs submitted as a part of the PDP are the designs submitted to the Town for subsequent design review.⁷ Following subdivision approval, individual house designs would be submitted to the Town for site plan and architectural review and approval.

⁵ The project applicant is committed to ensure that the individual house designs submitted as a part of the PDP are the designs submitted to the Town for subsequent design review. Email to Bob Berman from Scott Hochstrasser (applicant’s representative), October 4, 2007.

⁶ *Alta Robles Subdivision, Preliminary Planting Plan Defensible Space*, 11 Sheets, Jim Catlin, Landscape Architect, March 2006.

⁷ Email to Bob Berman from Scott Hochstrasser (applicant’s representative), October 4, 2007.

Exhibit 3.0-9 provides characteristics of the individual house designs. Except for Lot 7, which is proposed to be a three-story house, the other 12 houses would be two stories.⁸ With the exception of Lot 5 with a building height of 16 feet one inch, the building heights would range from 21 feet eight inches on Lot 12 to 29 feet one inch on Lot 8.

The applicant has proposed two distinct residential building types - earthen buildings and terraced buildings. The design objective of the earthen buildings is to place structures into existing land contours, fitting buildings into the native environment as underground service spaces. The design objective of the terraced building types would be to reduce building bulk and mass with horizontal and vertical articulated massing. Stepped building composition would integrate with site contours to reduce visibility.

Grading, Retaining Walls, and Landslide Repair - Grading is intended to prepare the project site for residential development by installing roadways and utilities and repairing landslides and unstable areas. **Exhibit 3.0-12** provides a summary of the volume of excavation and fill operations. The project site is mapped as being underlain by 18 landslides. **Exhibit 3.0-10** shows the location of the landslides on the project site. The *Town of Tiburon Landslide Mitigation Policy* requires repair, improvement, or mitigation of these landslides and potential landslide areas. See **Section 3.2 Project Description** for a discussion of proposed methods for addressing landslides. **Exhibit 3.0-13** summarizes all of the retaining walls proposed for site stabilization and landslide repair or site preparation for residential development.

Landscaping - The PDP includes a conceptual landscape plan for the proposed project.⁹ The conceptual landscape plan uses the Marin Fire Safe Guidelines for Defensible Space as the primary source for establishing landscape planting procedures for the proposed project.¹⁰

The conceptual landscape plan identifies project tree removal. A conceptual tree, native and non-native, replacement plan is included. Additionally, a lot by lot preliminary planting plan is provided. Impacts of tree removal are discussed in **Section 5.5 Biological Resources**. Mitigation Measure 5.5-5 would ensure there would be no net loss of trees on the project site.

The intent of the conceptual landscape plan is to respect the primary viewsheds available to surrounding residents and to users of the public open space. The location and species type of the new landscaping would be such that, at maximum height, landscaping would not block scenic views of significant natural features (such as Tiburon Ridge and San Francisco Bay) or cast substantial shadows onto adjacent properties.

The PDP's landscape design guidelines states that on-site landscaping would utilize primarily native plant species which are compatible with the existing vegetation on the project site. Existing trees and natural vegetation would be retained where possible. Introduced landscaping would include

⁸ The house on Lot 4 is described as a two-story house. The house would appear as a three-story house from some viewpoints due to the fact that the lowest level is a garage (600 square feet) and stair that are not included in the total floor area.

⁹ *Alta Robles Subdivision, Preliminary Planting Plan Defensible Space*, 16 Sheets, Jim Catlin, Landscape Architect, March 2006.

¹⁰ Fire Safe Marin is a non-profit organization dedicated to reducing wildland fire hazard and improving fire safety awareness in Marin. See www.FireSafeMarin.org.

approximately 80 percent California native species tolerant to drought, fire, and frost which are consistent with plants approved by the Marin Municipal Water District and the Tiburon Fire Protection District. Mitigation Measure 5.5-1 would restrict all plantings, seeding, and revegetation within the Common Open Space exclusively to native, indigenous species.

In the photosimulations all proposed landscaping is shown at five to seven years' maturity.

Public Facilities and Utilities - Project implementation would involve the extension and installation of on-site water facilities, sewer facilities, and utilities. Water and sewer lines plus other utilities would be constructed underground.

Circulation - Site access would be provided by a new roadway from Paradise Drive. The intersection with Paradise Drive would be at the existing fire road access with Paradise Drive. This road would roughly follow the alignment of the existing fire road on the SODA property. Two main roads are proposed on the project site. The Main Road would serve Lots 9, 10, 11, 12, 13, and 14. The Upper Road would serve Lots 1, 2, 3, 4, 5, 6, 7, and 8. Both roads would have two 12-foot wide travel lanes with two foot shoulders on both sides.

Design Assumptions and Preparation of Photosimulations

As discussed above, the photosimulations are based on information submitted by the project applicant as a part of the PDP. As a part of the application process the applicant installed story poles on the project site.¹¹ The story poles are visible in the three existing conditions photographs (see **Exhibits 5.8-4, 5.8-6, and 5.8-8**).

In order to represent the proposed project accurately, a three-dimensional Computer Aided Design (3D CAD) model was developed using AutoCAD software and software specifically designed to be used in conjunction with AutoCAD. This software was used to develop the 3D terrain and architectural aspects of the model. The model includes proposed grading and structures as defined in the project application.

The proposed building materials and paint colors were then applied to the model and rendered accurately, duplicating the view angle, distance, lighting conditions, and time of year in the existing conditions photograph. Existing elements visible in the baseline photograph were included in the 3D model and used as control points to register the model to the photograph. Once accurately registered, the model was rendered together with the baseline photograph for each viewpoint location. The simulations represent the mass, scale, density, and visibility of the project according to the information provided in the project application.

Determine Significance

Views would be changed by the addition of structures and alterations to the natural site. Whether the structures adopt the existing variations in form, line, color, and texture or create new ones determines the level of visual dominance of a project. For example, if the existing view is composed of natural colors or earth tones, a structure could adopt those colors and have a lower visual dominance or could be painted or plastered with a completely different contrasting color and create a high level of visual dominance. This EIR uses four levels of visual dominance, dominant, co-dominant, subordinate, and

¹¹ Story poles are three-dimensional, full-scale, silhouette structures that outline the location, bulk, and mass that a proposed structure would occupy on a site. Story poles allow Town staff, neighbors, and others to assess the location and general massing of proposed buildings from various vantage points.

inevident, with a different maximum level of visual dominance appropriate to each level of view sensitivity identified above.

The significance of a project’s resultant change to the site’s visual quality can be determined using the matrix in **Exhibit 5.8-3**. The level of significance is determined by placing a view's sensitivity in a matrix with the project's visual dominance. *The level change to the site’s visual quality is considered significant if visual dominance exceeds what is considered appropriate for the view's sensitivity level.*

Exhibit 5.8-3
Visual Significance Matrix

Sensitivity Level	Visual Dominance			
	Dominant	Co-Dominant	Subordinate	Inevident
Maximum	Significant	Significant	Significant	Less-than-Significant
High	Significant	Significant	Less-than-Significant	Less-than-Significant
Moderate	Significant	Less-than-Significant	Less-than-Significant	Less-than-Significant
Low	Less-than-Significant	Less-than-Significant	Less-than-Significant	Less-than-Significant

Source: Nichols • Berman, 2007.

Visual Quality – Significance Criteria

The visual quality analysis uses criteria from the *State CEQA* Guidelines. According to these criteria, the project would have a significant visual quality impact if it:

- Substantially affects a scenic vista;
- Substantially damages scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway;
- Substantially degrades the existing visual character or quality of the site and its surroundings; or
- Creates a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

While all projects create some visual change, CEQA provides little guidance about how much change is significant. Most EIRs rely on two methods to determine what change is significant. The first is conformance with adopted plans and policies, and the second is a visual analysis. Both methods are used in this EIR. *Chapter 4.0 Land Use and Planning* presents the former, and the visual analysis is presented here.

Visual Quality – Setting, Impacts, and Mitigation Measures

INTRODUCTION

The photographs showing existing conditions and the photosimulations of those views are grouped with the respective impact discussions on the following pages. **Exhibit 5.8-1** shows the three viewpoint locations.

Impact 5.8-1 View Looking North from Middle Ridge Open Space (Viewpoint No. 1)

In this view, implementation of the proposed project would not substantially affect a scenic vista, would not substantially damage any scenic resources, and would not substantially degrade the visual character of the site or its surroundings. However, the project as proposed would cause a significant change in the visual quality of the site. This would be a significant visual quality impact.

Setting Exhibit 5.8-4 shows the view looking toward the project site from Viewpoint No. 1 as it is presently seen without the proposed development. The view is panoramic, as are others from the Middle Ridge open space. The project site is just beyond the grassy area in the immediate foreground of the scene and occupies part of the foreground and middle ground of the view. The site appears mostly wooded with a few open, grass-covered areas and some evidence of development, including utility poles with overhead lines, short sections of the existing Rabin property driveway, and portions of the existing Rabin house on Lot 1 plus an existing utility shed. Aside from these developed features, the site has the visual character of open space.

The project site comprises only a portion of the larger view from Viewpoint No. 1. Land within the Middle Ridge open space forms the immediate foreground of the view. San Francisco Bay forms the right side of the view and extends in the distance to the hills of San Rafael and farther to Sonoma and Napa counties. The western portion of the Richmond-San Rafael Bridge can be seen. The community of Paradise Cay is seen along San Francisco Bay just above and beyond the project site. A small portion of the hills that make up the Tiburon Peninsula can be seen beyond the project site.

View Sensitivity and Dominance The Middle Ridge open space is public land that is regularly used by the public. The Tiburon Ridge Trail traverses the open space. The open space and trail provide an elevated viewpoint for panoramic views of long duration. The views include San Francisco Bay, as depicted in **Exhibit 5.8-4**. People visit the open space, in part, to experience the view and enjoy the scenery. These factors make the sensitivity of this view *high*. To avoid causing a significant change in visual quality in this case, proposed development on the project site would need to be visually subordinate or not evident (see **Exhibits 5.8-2** and **5.8-3**).

Impacts Exhibit 5.8-5(a) presents a photosimulation of the site after development as it would appear from Viewpoint No. 1 in the Middle Ridge open space. The exhibit includes labels that identify each of the proposed development lots that are in view. **Exhibit 5.8-5(b)** presents the same simulation without the labels for the proposed development lots. From this viewpoint, new houses would be seen on 12 of the 13 lots proposed for development. Only the house on Lot 14 would be unseen from this viewpoint. Similar to viewpoints No. 2 and No. 3 discussed below, the introduction of new houses would alter the visual character of the project site. This alteration, however, would be consistent with both the Town's General Plan and zoning that designate the project site for residential development.

The amount of the structure that would be visually exposed varies on each lot as shown in the photosimulation. In some cases, topography would hide part of the structure, such as on Lot 7 and Lot 8 and to an even greater extent on Lot 13. In other cases, the development would be partially hidden by vegetation, such as on Lot 4 and Lot 9. The distance of each proposed new house from Viewpoint No. 1 varies. The houses on Lots 3, 4, 5, and 6 would be closest to the open space, ranging from about 500 feet (Lot 6) to about 825 feet (Lot 4) from Viewpoint No. 1. By contrast, the house on Lot 13 which is the farthest of any is about 2,225 feet away. In addition to the houses themselves, short segments of new paved roads would be seen within the development. Other proposed site features that would be in view include retaining walls, driveways, and landscaping.

The exterior colors of the houses shown in the photosimulation are those proposed by the project applicant. The colors are primarily neutral browns and grays that appear sympathetic to the surrounding setting. The colors would be distinguishable within the setting yet would not create a high degree of contrast. The total area of glass surfaces (windows and doors) varies with each façade of each house. The glass surfaces yield a higher degree of visual contrast than non-glass, painted exterior surfaces, as can be seen in the photosimulation. Glass surfaces also have the potential to reflect glare. Houses with large areas of glass on sides that face the Middle Ridge open space, such as the houses on Lots 4, 5, 6, and 7, would be more conspicuous due to the higher contrast of the glass.

The elevation of Viewpoint No. 1 is higher than any of the proposed building lots. Looking down at the site, most of the proposed buildings would be seen against a near backdrop which helps to lessen their visual prominence. The roofline of the house on Lot 13 would appear at the edge of the water of San Francisco Bay but would not protrude above it. The profile of the houses on Lots 9 and 10 would be seen against a more distant backdrop of land and the development at Paradise Cay. The close proximity to Viewpoint No. 1 of the houses on Lots 3, 4, 5, and 6 plus the fact that much of their exterior surface area would be exposed cause them to be the most conspicuous features of the proposed project from this viewpoint.

Overall the proposed development would meet the visual dominance characteristic definition of *co-dominant* as presented in **Exhibit 5.8-2**. Although the color contrast of the new houses is relatively low, project elements are prominent and attract attention from Viewpoint No. 1 due to their contrast in form, line, and texture with those naturally established in the surrounding setting. It should be noted, however, that the some of the most visually striking elements in the view from this location are San Francisco Bay, the bridge, and the distant hills. The Bay itself is the focus of the scene. Although proposed project elements would appear *co-dominant* with other landscape features, the new development would not directly affect this portion of the scene. Instead the proposed development would compete for the viewer's attention more so than the project site currently does in its undeveloped state. Because the proposed project would appear *co-dominant* from Viewpoint No. 1, based on **Exhibit 5.8-3**, the project would result in a significant visual impact from this location.

Mitigation Measure 5.8-1 In order to mitigate the impact identified above, the applicant shall be required to meet the standards outlined below.

- Reduce the visual exposure and perceived mass of proposed houses on Lots 3, 4, 5, and 6 and the visual exposure of houses on the other lots to the extent that project elements do not attract attention when viewed from the Middle Ridge open space and therefore meet the visual dominance characteristic definition of subordinate. Means to accomplish this include the following:
 - For proposed houses on Lots 3, 4, 5, and 6:

- Limit building height to 16 feet, consistent with the proposed height for the house on Lot 5.
 - Limit total floor area to a size considered appropriate by the Design Review Board and less than the maximum allowable FAR.
- For all proposed houses that are in view from the open space:
- Consistent with the mitigation measures in **Section 5.5 Biological Resources** revise the Preliminary Planting Plan to plant native trees where they would screen the buildings so as to limit the exposure of each visible building façade to no more than 30 percent of the total façade area that would otherwise be seen in the view from Viewpoint No. 1.
 - Use glass that has a Visible Light Reflectance / Reflection value of less than nine percent for all exterior glass.

Significance After Mitigation Implementation of this mitigation measure would reduce the obtrusiveness of proposed houses on Lots 3, 4, 5, and 6 and would reduce the visual dominance of project features. Project elements in view from the Middle Ridge open space would, however, still appear *co-dominant*. Therefore, project implementation would result in a significant unavoidable visual impact.

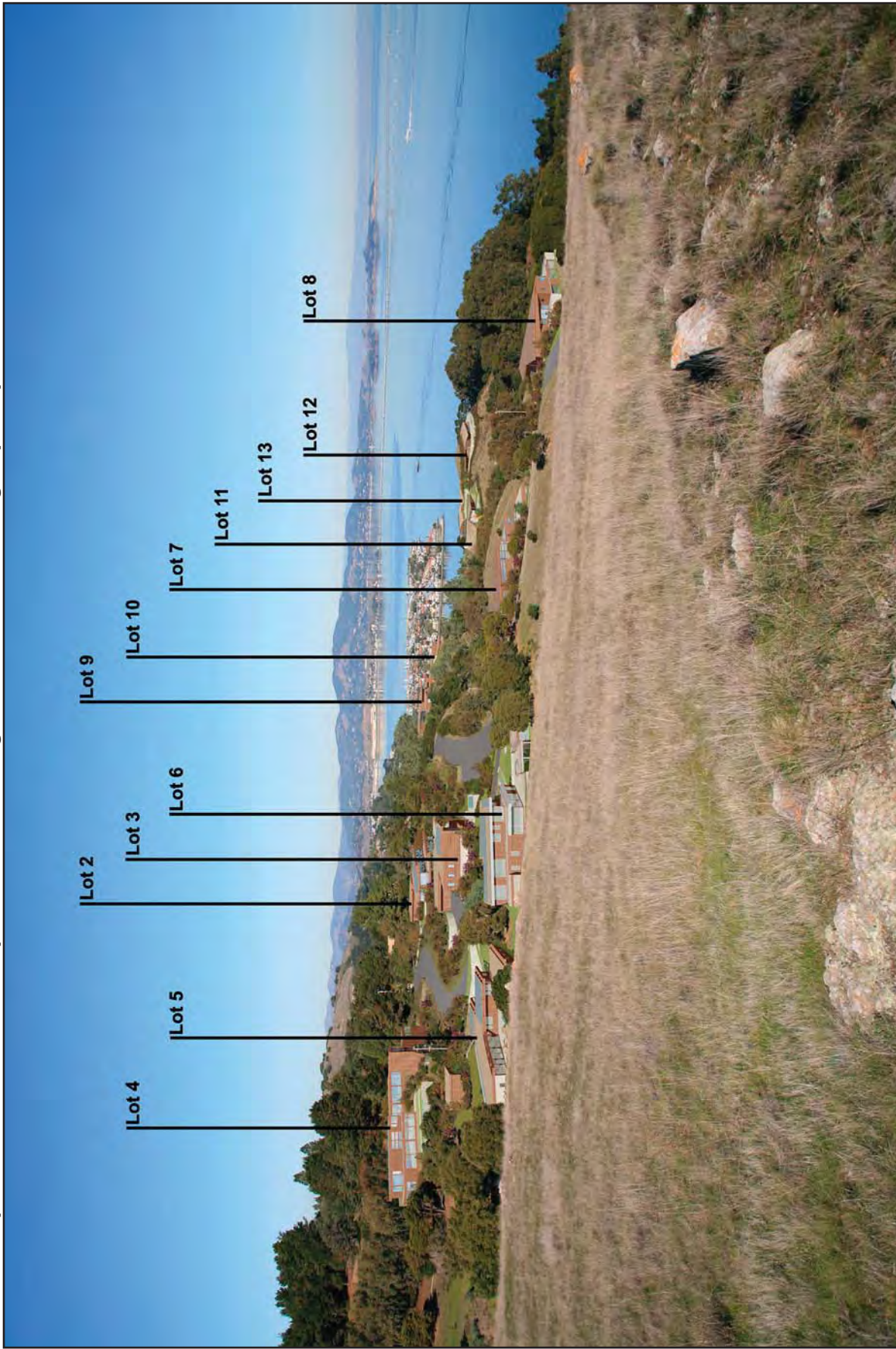
Responsibility and Monitoring Individual house designs would be required to undergo design review with the Town of Tiburon Design Review Board. At this time, the Design Review Board would assess the individual house designs for conformance with the Town's Zoning Ordinance and the Hillside Design Guidelines and would require the design to demonstrate conformance with the above mitigation measures. The Design Review Board may require additional photosimulations or architectural renderings.

Exhibit 5.8-4
Existing Conditions at Viewpoint No.1 - Looking West from Middle Ridge Open Space



Source: Vallier Design Associates, 2008

Exhibit 5.8-5 (a)
Post-Development Conditions at Viewpoint No.1 - Looking West from Middle Ridge Open Space



Source: Vallier Design Associates, 2008

Exhibit 5.8-5 (b)
Post-Development Conditions at Viewpoint No.1 - Looking West from Middle Ridge Open Space



Source: Vallier Design Associates, 2008

Impact 5.8-2 View Looking West from Paradise Drive (Viewpoint No. 2)

From this viewpoint, implementation of the proposed project would not substantially affect a scenic vista, would not substantially damage any scenic resources, and would not substantially degrade the visual character or quality of the site or its surroundings. This would be a less-than-significant impact.

Setting Exhibit 5.8-6 shows the view of the project site from Viewpoint No. 2 on Paradise Drive as it presently appears without the proposed development. The project site occupies nearly the entire hillside that is in view except for the lower left portion of the scene. The site appears partially wooded with an open, grass-covered band extending across the site about two-thirds of the way up the slope. Some evidence of development can be seen, including a road scar and several utility poles with overhead lines. Near the top of the slope, a small dome-like structure and small portions of the existing Rabin house on Lot 1 can be seen. The visual character of the site is that of open space.

View Sensitivity and Dominance Paradise Drive is a public road that is used by both motorists and bicyclists. It is the only public through-road on the east side of the Tiburon Peninsula, connecting with Trestle Glen Boulevard and Tiburon Boulevard to form a ring around the peninsula. Paradise Drive twists its way along the base of the hills as it passes the northeast boundary of the project site. The road is about 150 to 170 feet above San Francisco Bay. The land slopes sharply upward on the south side of the road where it passes the site and sharply downward on the north side. Dense stands of trees occur on both sides of the road in many places. Topography and vegetation generally confine views to short distances. Views of the project site from Paradise Drive are few and last only briefly for passing motorists or bicyclists. The view from Viewpoint No. 2 is the only location on Paradise Drive where a relatively open view of the site occurs, although the view lasts for only a matter of seconds. These factors make the sensitivity of this view *moderate*. To avoid causing a significant change in visual quality in this case, the visual dominance of proposed development on the project site would need to be *co-dominant* or less (see **Exhibits 5.8-2** and **5.8-3**).

Impacts Exhibit 5.8-7(a) presents a photosimulation of the site after development as it would appear from Viewpoint No. 2 on Paradise Drive. The exhibit includes labels that identify each of the proposed development lots that are in view. **Exhibit 5.8-7(b)** presents the same simulation without the labels for the proposed development lots. From this viewpoint, new houses would be seen on nine of the 13 lots proposed for development. All would appear in the upper portion of the project site and to see them, viewers would need to look up the slope. The houses proposed on Lots 5, 6, 13, and 14 would be unseen from this viewpoint. The extent of the structure that would be visually exposed varies on each lot as shown in the photosimulation. Topography and vegetation would hide some parts of the structures. The distance of the new houses from Viewpoint No. 2 varies. The house on Lot 8 is about 1,300 feet away, the closest of any, while the house on Lot 10 is about 2,300 feet away which is the farthest. Other than the houses themselves, site features that would be in view include retaining walls and landscaping. The open space character of the site would be at least partially retained since the proposed development would occupy only the upper part.

The primarily brown and gray exterior colors of the houses proposed by the project and shown in the photosimulation appear sympathetic to the surrounding setting and do not create a high degree of contrast. Large areas of glass would create a higher degree of visual contrast, as would be the case with houses on Lots 2, 3, and 4. Glass surfaces also have the potential to reflect glare. The elevation of Viewpoint No. 2 is lower than the project site. Looking up at the site, most of the proposed buildings would be seen against a near backdrop which would help minimize their visual prominence. The profile of the houses on Lots 9 and 10 would be seen against a more distant backdrop. Part of the roofline of the house on Lot 9 would be seen against the sky.

The proposed development meets the visual dominance characteristic definition of *co-dominant* as presented in **Exhibit 5.8-2**. While the color contrast of the new houses would be relatively low, several of the buildings would be sufficiently exposed to attract attention from Viewpoint No. 2. This would be due to contrasts in form and line with those naturally established in the surrounding setting. Since the sensitivity of the view from Viewpoint 2 is *moderate*, new development that would be visually *co-dominant* with other landscape features would cause a less than significant change in the site visual quality. Because the proposed project would appear *co-dominant* from Viewpoint No. 2, based on **Exhibit 5.8-3**, the project would result in a less-than-significant visual impact from this location.

Mitigation Measure 5.8-2 No mitigation would be required.

Exhibit 5.8-6
Existing Conditions at Viewpoint No. 2 - Looking West from Paradise Drive



Source: Vallier Design Associates, 2008

Exhibit 5.8-7 (a)
Post-Development Conditions at Viewpoint No. 2 - Looking West from Paradise Drive

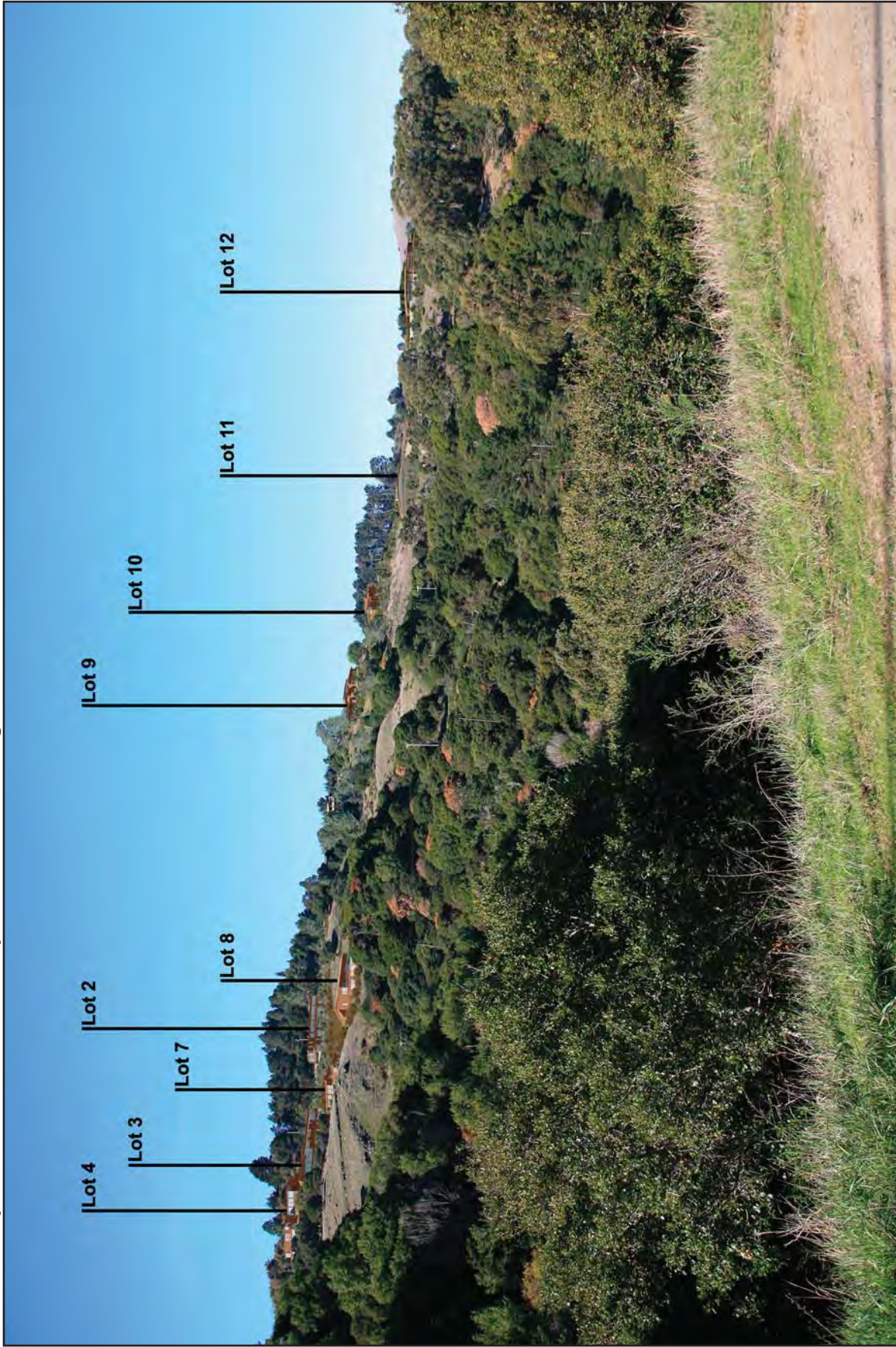


Exhibit 5.8-7 (b)
Post-Development Conditions at Viewpoint No. 2 - Looking West from Paradise Drive



Source: Vallier Design Associates, 2008

Impact 5.8-3 View Looking East from Acacia Drive (Viewpoint No. 3)

From this viewpoint, implementation of the proposed project would not substantially affect a scenic vista, would not substantially damage any scenic resources, and would not substantially degrade the visual character or quality of the site or its surroundings. This would be a less-than-significant impact.

Setting Exhibit 5.8-8 shows the view of the project site from Viewpoint No. 3 on Acacia Drive as it presently appears without the proposed development. The view in this direction is panoramic and includes San Francisco Bay. In this view, the project site occupies the hillside and ridge that is seen against the backdrop of San Francisco Bay and the sky. The site appears wooded with an open, grass-covered area on the lower half of the ridge. The only evidence of development on the site is a road scar that crosses the open area. The site has the visual character of open space.

View Sensitivity and Dominance Acacia Drive is a public street, but not a through street. It extends east off of Hacienda Drive for about 740 feet and ends in a cul-de-sac. Acacia Drive serves six private houses. Presumably the street is used mostly by residents of the private houses and not by the public at large. Views of the project site from the street occur between and over the private houses on the east side of the street. The duration of the view is likely to be short, occurring only while persons are driving or walking east on Acacia Drive. These factors make the sensitivity of this view *moderate*. To avoid causing a significant change in visual quality in this case, the visual dominance of proposed development on the project site would need to be no greater than *co-dominant* (see **Exhibits 5.8-2 and 5.8-3**).

Impacts Exhibit 5.8-9(a) presents a photosimulation of the site after development as it would appear from Viewpoint No. 3 on Acacia Drive. The exhibit includes labels that identify each of the proposed development lots that are in view. **Exhibit 5.8-9(b)** presents the same simulation without the labels for the proposed development lots. From this viewpoint, new houses would be seen on five of the 13 lots proposed for development. They include Lots 9, 10, 12, 13, and 14. The houses on Lots 2, 3, 4, 5, 6, 7, 8, and 11 would not be seen from this viewpoint. The extent of the structure that would be visually exposed varies on each lot as shown in the photosimulation. The houses on Lots 12 and 14 would be almost entirely screened by topography and vegetation. The house on Lot 13 would be almost entirely exposed while those on Lots 9 and 10 would be partly exposed. The distance of the new houses from Viewpoint No. 3 varies. The house on Lot 10 would be closest. It would be about 1,300 feet away while the house on Lot 14 would be the farthest, about 1,650 feet away. Other than the houses themselves, site features that would be in view include retaining walls and landscaping. The open space character of the site would be primarily retained.

The primarily brown and gray exterior colors of the houses proposed by the project and shown in the photosimulation appear sympathetic to the surrounding setting and do not create a high degree of contrast. Large areas of glass would create a higher degree of visual contrast, as is the case with houses on Lots 9 and 13. Glass surfaces also have the potential to reflect glare. The elevation of Viewpoint No. 3 is about equal to or higher than the project site. Looking down at Lots 12, 13, and 14, the proposed buildings would be seen against a near backdrop which helps to minimize their visual prominence. Looking across the site the profile of the houses on Lots 9 and 10 would be seen against the sky which makes them more prominent.

The proposed development would meet the visual dominance characteristic definition of *co-dominant* as presented in **Exhibit 5.8-2**. While the color contrast of the new houses would be relatively low, some buildings would be sufficiently exposed to attract attention from Viewpoint No. 3. This would be due to contrasts in form and line with those naturally established in the surrounding setting,

particularly the houses on Lots 9 and 10. Because the proposed project would appear *co-dominant* from Viewpoint No. 3, based on **Exhibit 5.8-3**, the project would result in a less-than-significant visual impact from this location.

Mitigation Measure 5.8-3 No mitigation would be required.

Exhibit 5.8-8
Existing Conditions at Viewpoint No. 3 - Looking East from Acacia Drive



Source: Vallier Design Associates, 2008

Exhibit 5.8-9 (a)
Post-Development Conditions at Viewpoint No. 3 - Looking East from Acacia Drive



Exhibit 5.8-9 (b)
Post-Development Conditions at Viewpoint No. 3 - Looking East from Acacia Drive



Source: Vallier Design Associates, 2008

Impact 5.8-4 Light Pollution

Implementation of the proposed project would result in new lighting sources on the project site which could lead to increased light pollution. This would be a significant impact.

Although a precise definition does not exist, light pollution is generally considered an excessive amount of light beyond what is needed for nighttime safety, utility or security. Such light produces glare, visual clutter, light trespass (i.e., unwanted light from a neighboring property or roadway), and wastes energy and natural resources.¹² A product of light pollution is *urban sky glow*, the brightening of the nighttime sky due to manmade lighting.¹³

As landforms cannot generally be seen at night, the location, type, and quantity of light sources become dominating visual elements. Nighttime sources of light can include vehicle headlamps, streetlights, decorative outdoor landscape or security lighting, and interior lighting. Highly visible lights at night can disrupt views by interrupting the viewshed and may be seen for miles if geography and landscaping do not intervene. Moving sources of light and glare (e.g., vehicles) easily catch the eye and are difficult to ignore.

The project applicant did not submit a detailed lighting plan. The project application does state that exterior lighting should be limited to the minimum amount necessary to safely illuminate points of access and outdoor living areas.¹⁴ Furthermore it is stated that exterior lighting should be designed and located to avoid or to minimize visibility from surrounding properties and roadways. Exterior lighting generally should be avoided in areas which are visible from surrounding properties and roadways, unless necessary for safety or security. In areas where exterior lighting would be visible from roadways or surrounding properties, light fixtures should be mounted at low elevations and fully shielded to direct lighting downward to the immediate area underneath the fixture. Lighting along walkways should be mounted on low-elevation bollards or posts.

Flood lighting would be prohibited as would night lighting for outdoor recreational activity areas.

The Town's Site Plan and Architectural review would include a review of the location, type, intensity, and design of exterior lighting.

There would be an increase in light generated by the proposed project. As illustrated in the photosimulations, development on the project site would be visible from the three selected viewpoints (from the Middle Ridge open space, Paradise Drive, and Acacia Drive). Based on the photosimulations it is reasonable to conclude that nighttime lighting would be visible off-site. Without a detailed *Lighting Plan*, it cannot be assumed that the project would not result in substantial adverse changes. Therefore, this would be a significant impact.

Mitigation Measure 5.8-4 The applicant shall prepare a *Lighting Plan* to incorporate into the Precise Development Plan. The lighting plan shall require:

¹² *The Problem with Light Pollution*, International Dark-Sky Association, Information Sheet 1, May 1996.

¹³ *Light Pollution – Theft of the Night*, International Dark-Sky Association, Information Sheet 90, October 1993.

¹⁴ *Alta Robles Architectural Design Guidelines*, *Alta Robles Precise Development Plan*, March 2007.

- All light sources shall be shielded from off-site view.
- All lights shall be downcast.
- Escape of light to the atmosphere shall be minimized.
- Low intensity, indirect light sources shall be encouraged.
- Motion-activated lighting systems shall be encouraged.
- Security lighting of driveways, parking areas, and garages shall use low-level bollards with shielded light unless this poses a safety hazard (as determined by the Tiburon Police Department), in which case the area shall be lit using as few as possible, motion-activated shielded lights.
- Lighting of outdoor use areas and walkways shall be mounted on low-level elevation bollards or posts.
- Floodlighting shall be prohibited.
- Lighting of outdoor recreation areas shall be prohibited.
- Mercury, sodium vapor, and similar intense and bright lights shall not be permitted except where their need is specifically approved and their source of light is restricted.
- Submittals for Site Plan and Architectural Review shall include information on the location, types, intensity, and design of exterior lighting consistent with the Lighting Plan.

Significance After Mitigation Implementation of Mitigation Measure 5.8-4 would reduce adverse effects from nighttime lighting to a less-than-significant impact.

Responsibility and Monitoring The applicant would be responsible to prepare the Lighting Plan and to incorporate it into the PDP. The Town of Tiburon would monitor implementation through design review.

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5.9 CULTURAL RESOURCES

This section addresses potential impacts to cultural resources as a result of the proposed *Alta Robles Residential Development*. This section is based on archival research and archaeological studies conducted at the project site.

Cultural Resources - Environmental Setting

EXISTING CONDITIONS

An archival record and information search for the project area was conducted on August 30, 2007 by the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University. The information center record search file number is 07-0318. This research included a review of:

- National Register of Historic Places (NRHP) (*Directory of Determinations of Eligibility*, California Office of Historic Preservation, Volumes I and II, 2001);
- *Historic Properties Directory* (California Office of Historic Preservation 2007);
- *California Inventory of Historic Resources* (State of California 1976);
- *California Points of Historical Interest listing*, May 1992 (State of California 1992).

The record search revealed that eight cultural resource studies had been conducted within the Alta Robles project site or within a one-quarter mile radius of it. Three of those studies (see **Exhibit 5.9-1**) overlapped or wholly encompassed the project site (S-006780, S-026053, and S-011506), and while two of those studies resulted in the recordation of cultural resources, none led to the identification of cultural resources within the project site. Of the other five studies that were conducted outside the Alta Robles project site but within a one-quarter mile radius of it (see **Exhibit 5.9-2**), four resulted in the identification of cultural resources. To date, none of those resources have been evaluated or deemed eligible for listing on the National Register of Historic Places (NRHP).

Exhibit 5.9-1

Cultural Resources Studies Overlapping or Encompassing the Project Site

Study Number	Author	Date	Results	Type	Resources identified within the project area
S-006780	Christian Gerike and Suzanne Stewart	1984	Positive	Archaeological Survey	No
S-011506	David Chavez and Jan Hupman	1989	Positive	Archaeological Survey	No
S-026053	Stephen Bryne	2002	Negative	Archaeological Survey	No

Source: Pacific Legacy 2007

Of the three studies that overlapped with the Alta Robles project site, the most comprehensive was the 1989 study conducted by David Chavez & Associates (S-011506) for Ralph Alexander and Associates as a part of the Paradise Master Plan Project. The David Chavez & Associates study included a pedestrian survey of the entire Alta Robles Project Area “wherever degree of slope allowed”.¹ Particular attention was paid to those areas of “more level terrain adjacent to the existing drainages and along the ridges, where cultural resources could reasonably be expected to occur”.² David Chavez & Associates failed to discover any cultural resources within the Alta Robles project site; however they did re-record sites CA-MRN-48 and CA-MRN-50 along the coast near El Campo Cove. Two previously recorded sites that lay within their project boundaries were found to be destroyed (CA-MRN-49) or could not be relocated (CA-MRN-53).

Exhibit 5.9-2
Cultural Resources Studies within One-Quarter Mile of the Project Site.

Study Number	Author	Date	Results	Type	Resources Recorded within ¼ mile
S-020377	William Roop	1996	Positive	Archaeological Survey	CA-MRN-48
S-020735	David Chavez	1998	Negative	Archaeological Survey	None
S-024357	William Roop	2000	Positive	Archaeological Survey	CA-MRN-48
S-025996	William Roop and Sally Evans	2002	Positive	Archaeological Survey	CA-MRN-50
S-029378	Sally Evans	2004	Positive	Site-specific Monitoring	CA-MRN-48

Source: Pacific Legacy 2007

A second study, conducted in 1984 by Christian Gerike and Suzanne Stewart of the Cultural Resources Facility, Sonoma State University (S-006780), encompassed nearly the entire proposed Alta Robles project site. The study included a pedestrian survey that employed zig-zag transects and a survey interval of less than 15 meters. “In places where archaeological remains could be expected, small areas of the soil surface were scraped clear of obstructions for better view of possible archaeological deposits”;³ rock outcrops were also examined for petroglyphs and bedrock mortars, though subsurface investigations were not carried out. As with the David Chavez & Associates study, Gerike and Stewart failed to record any sites within the Alta Robles project site, though they did

¹ *Archaeological Resources Evaluation for the Paradise Master Plan Project, Tiburon, California*, David Chavez and Jan Hupman, Report on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California, 1989, page 4.

² *Ibid.*

³ *Archaeological Investigation of the Paradise Cove Wastewater Collection System Study Area, Tiburon Peninsula, Marin County, California*, Gerike, Christian and Suzanne Stewart, Report on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California, 1984, page 2.

record an isolate adjacent to it. The isolate consisted of the remains of a rock wall that was found to be in a state of poor preservation. It was posited to mark the General Land Office Range 5/6 West line, and was never given an official designation within the California Historical Resources Information System (CHRIS). Beyond the Alta Robles project site Gerike and Stewart re-recorded CA-MRN-48, found CA-MRN-49 to be destroyed, and could not access the area including CA-MRN-50. Two areas that overlapped to varying degrees with the Alta Robles project site could not be accessed during their survey. These areas included “Area A” and “Area B”, both of which were found to be occupied, heavily developed residential areas.

A third cultural resource study that overlapped with the Alta Robles project site and with the two studies cited above was conducted in 2002 by Garcia and Associates on behalf of Redhorse Constructors, Inc. The study consisted of a 30 acre pedestrian survey extending southwest of Paradise Drive. All areas of level to moderate slope were inspected and particular attention was paid to those areas that might feature petroglyphs or prehistoric remains. Again, no cultural remains were detected.

Though no cultural resources were recorded within the Alta Robles project site, one resource has been identified adjacent to the parcel boundaries and a further four resources have been recorded within a one-quarter mile radius (see **Exhibit 5.9-3**). The resource adjacent to the Alta Robles parcel was recorded by Gerike and Stewart as an isolate. It consisted of the remains of a low rock wall, possibly built to mark the General Land Office Range 5/6 West line. It was observed to be in poor condition in 1984 and was deemed “not a significant cultural resource due to lack of integrity,” though it was never formally evaluated.⁴ The other four cultural resources located within a one-quarter mile radius of Alta Robles project site consisted of the remains of prehistoric shell mounds (CA-MRN-48, CA-MRN-49, CA-MRN-50, and CA-MRN-51), all of which were located along the immediate coast and well away from the Alta Robles project site.

The four sites noted above were all initially recorded in 1907-08 by Nels Nelson during his survey of San Francisco Bay Area shell mounds. Through his work along the San Francisco, San Pablo, and Suisun bays, Nelson recorded 425 prehistoric mounds, many of which had already suffered from the effects of natural processes and human development.⁵ **Exhibit 5.9-3** describes these sites as they existed when they were most recently recorded. Though none have been formally evaluated, David Chavez & Associates argued that CA-MRN-48 and CA-MRN-50 comprise significant cultural resources under criterion B and D as presented in Appendix K of the California Environmental Quality Act (CEQA). Because CA-MRN-49 has been independently recorded as “destroyed” during two separate archaeological site visits in 1984 and 1989, it likely lacks the integrity necessary to be deemed significant under CEQA. According to the records on file with the NWIC, CA-MRN-51 has not been re-recorded or evaluated since Nelson’s 1907 visit to the site and its status and condition therefore remain unknown. As to the rock wall isolate recorded in 1984, Gerike and Stewart noted that their “report mitigates any adverse impact, since the deteriorated condition of this historic feature does not allow further meaningful study”.⁶

⁴ *Ibid.*

⁵ *Shellmounds of the San Francisco Bay Region*, Nelson, Nels, University of California Publications in American Archaeology and Ethnology 7(4), The University Press, Berkeley, 1909, page 322.

⁶ *Archaeological Investigation of the Paradise Cove Wastewater Collection System Study Area, Tiburon Peninsula, Marin County, California, op. cit.*, page 8.

Exhibit 5.9-3
Identified Resources within One-Quarter Mile of the Project Site

<i>Trinomial / Primary Number</i>	<i>Author</i>	<i>Date</i>	<i>Description</i>	<i>Eligible for or listed on NRHP</i>
CA-MRN-48 / P-21-000078	Christian Gerike and Suzanne Stewart	1984	Remains of a large prehistoric shell mound; midden soil, marine shell, and fire-altered rock (FAR) were observed. Note that the updated site form by David Chavez & Associates was unavailable at the NWIC.	Not evaluated
CA-MRN-49 / P-21-00079	David Chavez & Associates	1989	Conical shell mound site recorded by Nels Nelson in 1907; reported as “destroyed” by Gerike & Stewart in 1984 and by David Chavez & Associates in 1989.	Not evaluated
CA-MRN-50 / P-21-00080	Sally Evans	2002	Remains of a large prehistoric shell mound; midden soil, marine shell, and fire-altered rock (FAR) were observed	Not evaluated
CA-MRN-51 / P-21-00081	Nels Nelson	1907	Remains of a large prehistoric shell mound; marine shell was observed.	Not evaluated
Undesignated isolate	Christian Gerike and Suzanne Stewart	1984	Remains of a rock wall that may mark the General Land Office Range 5/6 West line.	Not evaluated

Source: Pacific Legacy 2007

NATIVE AMERICAN CONSULTATION

On August 28, 2007, Pacific Legacy requested a search of the Sacred Lands Inventory maintained by the Native American Heritage Commission (NAHC) for the Alta Robles project site. A response was received on August 30, 2007 stating that no Native American cultural resources listed on the Sacred Lands Inventory were identified within the project site. The NAHC also provided a list of Native American stakeholders, however with potential knowledge of the Tiburon region. Letters were sent via certified mail to persons on this list on September 1, 2007. The recipients, who were apprised of the proposed project and its spatial extents, included Kathleen Smith, Greg Sarris, Frank Ross, and Ya-Ka-Ama. On September 17, 2007, Pacific Legacy received a response to its enquiries. In a letter written by Nick Tipon, Chairperson of the Federated Indians of Graton Rancheria Sacred Sites Protection Committee (SSPC), the SSPC responded that they had “no knowledge of specific sacred lands” within the Alta Robles project site. Concerns were expressed, however that the parcel be surveyed for cultural resources and that it be surveyed for native plants that may have been used in sacred ceremonies.

In addition to potential Native American stakeholders, the Tiburon Peninsula Landmarks Society was also contacted regarding the Alta Robles project area. A letter describing the Project Area and the activities proposed within it was sent via certified mail on September 27, 2007. No response from the Tiburon Peninsula Landmarks Society was received.

STUDY RESULTS

The record search and Native American consultation revealed that no previously recorded ethnographic, historic, or archaeological sites are located within the Alta Robles project site. Because the project site has been successively surveyed between 1984 and 2002 with negative results (i.e., no cultural resources were recorded within its boundaries), additional pedestrian survey was deemed to be unnecessary.

Cultural Resources - Significance Criteria

The cultural resources analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant cultural resources impact if it:

- Caused a substantial adverse change in the significance of a historical resource;
- Caused a substantial adverse change in the significance of an archaeological resource; or
- Directly or indirectly destroyed a unique paleontological resource or site or unique geology feature.
- Disturbed any human remains, including those interred outside formal cemeteries.

The definitions of substantial adverse change, historical resource, and archaeological resource are defined below:

Substantial adverse change is defined as:

- Physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
- Demolition or material alteration in an adverse manner of those physical characteristics of an historical resource which convey its historical significance and justify its inclusion in or eligibility for inclusion in the California Register of Historical Resources (CRHR), inclusion in a local register, or identification in a historical resources survey.

Historical resource is defined as:

- A resource listed in or determined to be eligible by the State Historical Resources Commission for listing in the California Register of Historical Resources (mandatory significance).
- A resource included in a local register of historical resources or identified as significant in an historical resource survey unless the preponderance of evidence suggests it is not significant (presumptive significance).
- An historical resource still may be considered significant in the absence of a Federal, State, or local listing if substantial evidence demonstrates its significance (discretionary significance). This includes any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Generally, a resource shall be historically significant if it:
 - Is associated with events which made a significant contribution to the broad patterns of California's history and cultural heritage.
 - Is associated with the lives of people important in our past.

- Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values.
- Has yielded or may be likely to yield information important in prehistory or history.

Archaeological Resource

The *State CEQA Guidelines* state that CEQA applies to effects on archaeological sites and direct that, when a project would impact an archaeological site, the lead agency should first determine whether the site is a historic resource as defined immediately above or whether it meets the definition of a “unique archaeological resource” contained in Section 21083.2 of the Public Resources Code. “Unique archaeological resource” refers to an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability it:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest or best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Cultural Resources -- Impacts and Mitigation Measures

LESS-THAN-SIGNIFICANT IMPACTS

Based on the findings of the analyses completed as a part of this EIR it has been determined that the proposed *Alta Robles Residential Development* would have either no impact or less-than-significant impacts for the following significance criteria:

- *Create a substantial adverse change in the significance of a historical resource.*

No historic resources exist on the project site. The proposed project would have no impact on an historical resource.

- *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

There are no known unique paleontological resources or unique geologic features within the vicinity of the project site. Therefore, no impact would occur.

IMPACT ANALYSIS

Impact 5.9-1 Potential Subsurface Cultural Deposits

While no discernible impacts to subsurface cultural resources including human remains are anticipated, the possibility cannot be precluded that prehistoric cultural deposits and features are present below the ground surface and could be damaged during land alteration activities. This would be a significant impact.

The record review, site survey, and Native American consultation did not result in the identification of any ethnographic, prehistoric or historic sites within the project site. While the project site has been subjected to some land altering activities, buried or otherwise obscured cultural resources associated with prehistoric and historic period use of the area may still exist.

While no archaeological sites were identified as a result of this study, ground-disturbing activities could disturb previously unidentified buried or otherwise obscured cultural deposits and result in the loss of integrity of cultural deposits and a loss of information. Such adverse changes would represent a significant impact to cultural resources.

Mitigation Measure 5.9-1 The following mitigation measure would be required to mitigate significant impacts to cultural resources:

- Workers involved in ground disturbing activities shall be trained in the recognition of archaeological resources (e.g., historic and prehistoric artifacts typical of the general area), procedures to report such discoveries, and other appropriate protocols to ensure that construction activities avoid or minimize impacts to potentially significant cultural resources;

- In the event that archaeological artifacts, features or other cultural deposits are encountered during future grading, excavation, or other land alteration efforts, all work in the immediate vicinity of the find must be terminated until the discovery can be evaluated by an archaeologist. These discoveries may include prehistoric and / or historic materials. Depending on the extent and cultural composition of the materials, it may be advisable for subsequent excavations to be monitored by an archaeologist who would be ready to record, recover, and / or protect significant cultural materials from further damage. In the case of prehistoric resources, consultation with interested Native American groups is advised; and
- In the event that human skeletal remains are discovered anywhere on the site, work in the vicinity of the discovery must be discontinued and the Marin County Coroner must be contacted. If skeletal remains are found to be prehistoric Native American (not modern), the Coroner will call the Native American Heritage Commission in Sacramento within 24 hours; they in turn will identify the person(s) believed to be the "Most Likely Descendant" of the deceased Native American. The Most Likely Descendant would be responsible for recommending the disposition and treatment of the remains. The Most Likely Descendant may make recommendations to the landowner or the person responsible for the excavation work regarding the appropriate treatment and disposition of the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

Significance after Mitigation Implementation of Mitigation Measure 5.9-1 would reduce significant impacts to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible for including this measure in the contracts of all contractors engaged in applicant-implemented construction. In the event that prehistoric archaeological resources are discovered, local Native American organizations should be consulted and involved in making resource management decisions. All applicable State and local requirements concerning the handling and disposition of archaeological finds should be strictly enforced.

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6.0 ALTERNATIVES TO THE PROPOSED PROJECT

This EIR examines several alternatives to the project as presently proposed. These alternatives include two on-site No Project alternatives, an on-site development alternative and potential off-site locations.

The alternatives were formulated to provide a realistic and representative range of potential use and development concepts for the site. The principal criterion for selecting the alternatives studied in this Draft EIR was to ensure that the range of concepts evaluated would be sufficient to provide information to the public and public officials to make decisions about the project.

An EIR conceivably can analyze an infinite number of alternatives or variations on alternatives. However, CEQA directs EIRs to analyze a reasonable range of alternatives to the project or project location which would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects of the project. The analysis of a range of alternatives is governed by a "rule of reason" for alternatives that could feasibly attain the basic objectives of the project. Similarly, it is prudent to present feasible alternatives. In order for the analyses to be meaningful for readers, the alternatives must be distinct and readily discernible. This also is necessary to distinguish between their effects and determine the environmentally preferred alternative.

As discussed above, the range of alternatives to be included in an EIR should focus on those which are feasible and capable of attaining the basic objectives of the project. The project applicants' objectives and goals for the project are provided in *Section 3.2 Project Description*.

6.1 ALTERNATIVE 1 – NO PROJECT / NO BUILD ALTERNATIVE

As discussed in *Chapter 3.0 Description of the Proposed Project*, the 52.21-acre project site is located on the northeast side of the Tiburon Peninsula. The project site is bordered on the north by Paradise Drive and on the south by Hacienda Drive.

The project site consists of two contiguous parcels: the SODA property and the Rabin property. The 20.95 acre SODA property is located in an unincorporated portion of Marin County within the Town of Tiburon's Sphere of Influence. The SODA property is currently undeveloped. The *Marin Countywide Plan* land use designation for the SODA property is Planned Residential. This designation provides for a density range of one housing unit per one to ten acres. County zoning of the SODA property is RMP-0.40 (Residential, Multiple Planned, 0.4 units per acre).

The 31.26 acre Rabin property is located within the Town of Tiburon. The Rabin property is currently developed with one single-family residence and several ancillary structures, including a tennis court. The *Tiburon General Plan* land use designation for the Rabin property is Planned Development – Residential (PD-R). The Zoning Map of the Tiburon Municipal Code (Chapter 16) designates the Rabin property as Residential Planned Development (RPD).

Alternative 1, the No Project / No Build Alternative, assumes that no development would occur on the SODA property and no additional development would occur on the Rabin property. There would be no changes to existing conditions on the project site, thus maintaining the status quo.

Analysis of No Project / No Build Alternative

LAND USE AND PLANNING

With *Alternative 1*, the No Project / No Build Alternative, no new development would occur on the Rabin or SODA property. Although no land use conflicts would occur, this alternative would forego the opportunity to implement goals and policies in the *Tiburon General Plan* that are applicable to the project site. As discussed in **Chapter 4.0 Land Use and Planning**, the proposed project is consistent with density requirements for the site, maintains consistent character with surrounding development in the area, respects environmental constraints with appropriate mitigation measures, is within the capacity of public utilities and services, and features a combination of high quality residential design and open space preservations. With *Alternative 1* these potential benefits would be foregone. Furthermore, the proposed project demonstrates consistency with policies and guidelines in the *Tiburon Town Code*, *Town of Tiburon Design Guidelines for Hillside Dwellings*, *Paradise Drive Visioning Plan*, and *LAFCo Policy Guidelines*.

TRANSPORTATION

No development would occur on the site with *Alternative 1*. Existing conditions would remain the same at each of the three studied intersections within the study area, which are currently operating at an acceptable level of service (LOS). With *Alternative 1* there would be no significant safety impacts resulting from inadequate sight distance for westbound motorist approaching the proposed unsignalized intersection of Paradise Drive and the Project Entrance (*Impact 5.1-4 Safety Impact Due to Inadequate Sight Distance Approaching the Unsignalized Intersection of Paradise Drive with the Project Entrance*). Therefore it would not be necessary to grade the hillside adjacent to the project entrance as proposed with Mitigation Measure 5.1-4. With *Alternative 1* the project site would not contribute additional vehicle or bicycle trips to the existing unsafe conditions for bicyclists on Paradise Drive (*Impact 5.1-7 Project Impact on Bicycle Facilities and / or Safety*). However, it should be noted that while the proposed project would make an incremental contribution of bicycle and vehicle trips to this significant cumulative impact, proposed mitigation measures (*Mitigation Measure 5.1-7*) would enhance bicycle safety by installing a four to six feet wide shoulder on Paradise Drive along the project frontage (approximately 1,700 feet). With *Alternative 1* this improvement to bicycle safety would not occur.

With *Alternative 1* cumulative development in the area would still increase traffic and reduce the LOS at the signalized intersection of Tiburon Boulevard and Trestle Glen Boulevard to an unacceptable level (*Impact 5.1-2 Cumulative-plus-Project Impact on Signalized Intersections*). Also, with *Alternative 1* cumulative development would still result in a significant cumulative impact on regional roadways (*Impact 5.1-5 Impact on Regional Roadways*). The proposed project would make an incremental contribution to these cumulative impacts and proposed mitigation measures would not directly alleviate the level of impact. As discussed in **Section 5.1 Traffic**, these impacts would only be mitigated through regional efforts.

AIR QUALITY

With *Alternative 1*, the No Project / No Build Alternative, there would be no significant air quality impacts resulting from grading or other dust generating construction activities and the use of heavy duty diesel powered vehicles that release toxic air contaminants (*Impact 5.2-1 Construction-Period*

Air Pollutant Emissions). As discussed with *Impact 5.2-3 (Greenhouse Gas Emissions)* there are no standards for determining the significance of a project's greenhouse gas emissions. However, the proposed project would result in larger residences that typically consume more energy and would be located in an area dependent of vehicle traffic, resulting with the generation of more greenhouse gases than what would occur with *Alternative 1*.

NOISE

With *Alternative 1*, existing noise levels at the project site would remain unchanged. Noise impacts to adjacent residences from project construction, which has been identified as a significant unavoidable impact (*Impact 5.3-1 Construction Noise*), would not occur.

HYDROLOGY AND WATER QUALITY

With implementation of *Alternative 1*, the No Project / No Build Alternative, there would be no alteration of the existing on-site drainage pattern and no increase of impermeable surfaces. Therefore no significant impacts resulting from the risk of increased erosion and downstream sedimentation as identified with *Impact 5.4-2 (Alteration of Existing Drainage Patterns and Erosion and Downstream Sedimentation)* would occur. With *Alternative 1* there would be no increase in paved surfaces and irrigated landscaping, and therefore there would be no increase in polluted runoff from the project site, as identified with *Impact 5.4-4 (Impacts on Water Quality)*.

BIOLOGICAL RESOURCES

Under *Alternative 1*, the No Project / No Build Alternative, no development would occur on the site and the existing condition of biological resources would not be changed. Compared to the proposed project, this alternative would not result in significant impacts to special-status species through habitat loss or direct incidents during the construction of, and the long term management of the project (*Impact 5.5-1 Special-Status Species*). With this alternative, significant impacts resulting from the loss of native habitat and disruption to sensitive natural communities would not occur (*Impact 5.5-2 Sensitive Natural Communities*). With the No Project / No Build Alternative there would be no direct impacts to jurisdictional waters located on-site, and indirect impacts resulting from subdrain installation for the purpose of landslide remediation would be avoided (*Impact 5.5-3 Wetlands and Drainages*).

With *Alternative 1*, wildlife habitat connectivity would not be impeded by the development of new structures and fences (*Impact 5.5-4 Wildlife Habitat and Connectivity*). As discussed with *Impact 5.5-5 (Conflicts with Tiburon Tree Ordinance and Wetland Policies)*, 261 protected trees would require removal to accommodate the proposed project. With *Alternative 1* no trees would be removed.

GEOLOGY AND SOILS

Under *Alternative 1*, the No Project / No Build Alternative, no development would occur on the site and existing geology and soils conditions would not be changed. Unlike the proposed project, significant impacts resulting from seismic groundshaking (*Impact 5.6-1*), seismic related ground failure (*Impact 5.6-2*), development within landslide areas (*Impact 5.6-3*) and expansive soils (*Impact 5.6-7*) would not occur. With *Alternative 1*, cut and fill grading and landslide remediation would not

be necessary. Therefore, significant impacts to slope stability (*Impact 5.6-4*) and grading (*Impact 5.6-5*) would not occur.

With *Alternative 1* no new development would occur and there would be no need to repair existing landslides on the SODA and Rabin properties. Therefore, secondary impacts related to landslide remediation, including disruption of sensitive habitat, groundwater recharge, and dewatering of sensitive habitat would not occur (*Impact 5.6-6 Secondary Effects of Grading*).

PUBLIC SERVICES

With *Alternative 1* there would not be any increase in the demand for any public services studied in the EIR; significant impacts resulting from the proposed project (*Impact 5.7-1 Fire Service, Impact 5.7-3 Cumulative Fire Service Impact, and Impact 5.7-7 Water Service Impacts (Lot 14)*) would not occur. However, it should also be noted that the proposed project would include vegetation management plans that comply with defensible space requirements, which would reduce the amount of vegetative fuels in this wildland area and help to reduce wildland fire risks. With *Alternative 1* these wildland fire risk reducing measures would not be implemented.

VISUAL RESOURCES

With *Alternative 1* the No Project / No Build Alternative, existing views of the project site from Middle Ridge Open Space, Paradise Drive, and Acacia Drive would remain unchanged (see **Exhibits 5.8-4** thru **5.8-9**). Therefore no significant changes to the visual quality of the project site would occur, and significant unavoidable impacts to views (*Impact 5.8-1 View Looking North from Middle Ridge Open Space (Viewpoint No. 1)*) would be avoided. Additionally, *Alternative 1* would avoid significant impacts resulting from light pollution (*Impact 5.8-4*).

CULTURAL RESOURCES

As discussed in *Section 5.9 Cultural Resources*, the potential occurrence of subsurface cultural deposits exists on the project site. With *Alternative 1*, significant impacts resulting from disturbance of subsurface cultural deposits (*Impact 5.9-1*) would not occur because there would be no grading or other earthmoving activities.

6.2 ALTERNATIVE 2 – NO PROJECT / REASONABLY FORESEEABLE DEVELOPMENT ALTERNATIVE

The *State CEQA Guidelines* state that the no project alternative shall discuss “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.”¹

As discussed above, the 31.26 acre Rabin property is located within the Town of Tiburon and is currently developed with one single-family residence and several ancillary structures, including a tennis court. Under *Alternative 2* the No Project / Reasonably Foreseeable Development Alternative,

¹ *State CEQA Guidelines*, Section 15126.6(e)(2).

it is assumed that no additional development would occur on the Rabin Property for the foreseeable future.

The 20.95 acre undeveloped SODA property is located in an unincorporated portion of Marin County. The *Marin Countywide Plan* land use designation for the SODA property is Planned Residential.² This designation provides for a density range of one housing unit per one to ten acres. The SODA property is also located in the County's Ridge and Upland Greenbelt Area.³ The *Marin Countywide Plan* directs that a variety of strategies be used to protect views of Ridge and Upland Greenbelt areas. It is also stated that the density for Ridge and Upland Greenbelt subdivisions should be calculated at the lowest end of the General Plan designation range.

County zoning of the SODA property is RMP-0.40 (Residential, Multiple Planned, 0.4 units per acre). The RMP zoning district is intended for a full range of residential development types within the unincorporated urban areas of the County. Permitted uses in this district include single-family, two-family dwellings, multi-family residential development and limited commercial uses in a suburban setting. The RMP-0.40 zoning would permit a maximum of eight housing units on the SODA property.

Under *Alternative 2* the No Project / Reasonably Foreseeable Development Alternative, it is assumed that development would occur on the SODA property in unincorporated Marin County. The SODA property would not annex to the Town of Tiburon.

With *Alternative 2* the SODA property would be subdivided into eight residential lots consisting of one single-family home and accessory structures on each lot. A possible eight-unit residential development of the SODA property is shown in **Exhibit 6.0-1**. This possible site plan is based on a preliminary site plan prepared for the SODA property in 2004.⁴

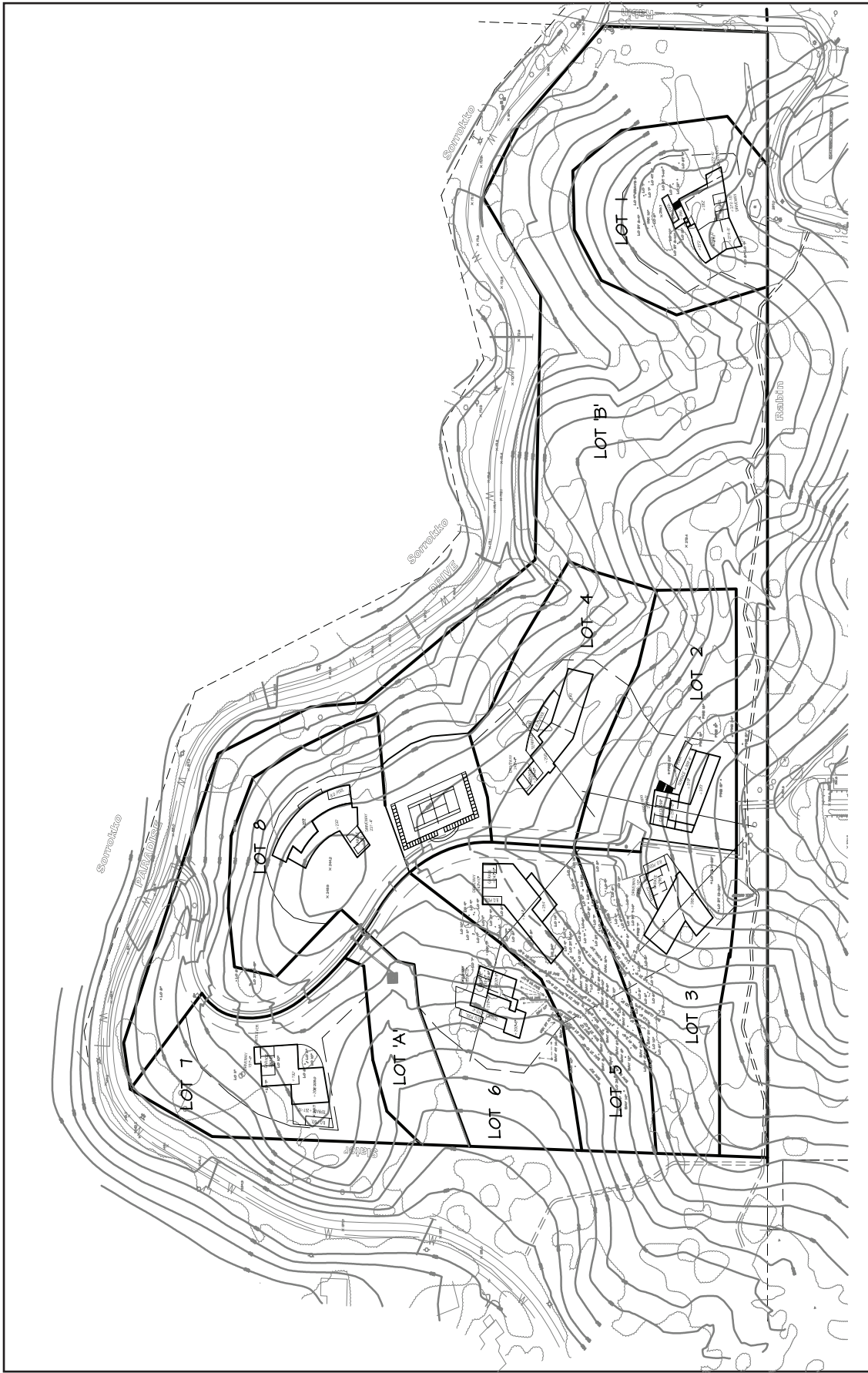
Landslide repair would be required and a roadway system developed. As shown in **Exhibit 6.0-1**, the existing private driveway from Paradise Drive would continue to serve the existing Rabin residence and provide access to Lot 1. Access to Lots 2 through 8 would be provided by a new roadway from Paradise Drive. This road would roughly follow the alignment of the existing fire road on the SODA property and terminate in a hammerhead at Lots 2 and 3.

² Map 6.5 Tiburon Peninsula Land Use Policy Map, *2007 Marin Countywide Plan*, November 2007.

³ Although it is located within the Town of Tiburon, the Rabin property also is shown in the County's Ridge and Upland Greenbelt area.

⁴ The development application was submitted to Marin County, however, the application was deemed incomplete by the County. Nichols • Berman communication with Robin Welter, CSW/ST2, May 2009.

**Exhibit 6.0-1
Alternative 2 Site Plan**



Not To Scale

Analysis of No Project / Reasonably Foreseeable Development (Alternative 2)

LAND USE AND PLANNING

Policy LU-29 of the *Tiburon General Plan* recognizes that the unincorporated Paradise Drive area is an “island” completely surrounded by the Town of Tiburon and that the area is functionally a part of Tiburon. Policy LU-29 further states that the Town supports the annexation of the area into Tiburon at such a time as annexation is economically, procedurally, and other wise viable. With *Alternative 2* the SODA property would not be annexed to the Town. Rather, with *Alternative 2* the SODA property would be developed and remain under the jurisdiction of Marin County.

Alternative 2 would be consistent with the prescribed residential densities of the *Marin Countywide Plan*, which allows for one housing unit per one to ten acres, and the *County Development Code*, where the RMP 0.40 zoning would allow a maximum of eight housing units on the SODA property. The project site is designated as Ridge and Upland Greenbelt by the *Marin Countywide Plan*. Policy DES-4.1 of the *Marin Countywide Plan* strives to protect scenic quality and views of the natural environment – including ridgelines and upland greenbelts, hillsides, water, and trees – from adverse impacts related to development. Program DES-4.e states that densities for Ridge and Upland Greenbelt subdivisions should be calculated at the lowest end of the General Plan designation range. While the *Marin Countywide Plan* does not prohibit development in the Ridge and Upland Greenbelt the number of housing units and their location may not be in compliance with the Ridge and Uplands Greenbelt policies and programs.

TRANSPORTATION

A forecasted vehicle trip generation rate for *Alternative 2* has been prepared using the same trip generation rates that were used for the proposed project (see **Exhibit 5.1-12**). **Exhibit 6.0-2** contains the forecasted vehicle trip generation for *Alternative 2*.

Exhibit 6.0-2 **Alternative 2 Trip Generation Forecast**

Land Use	ITE Land Use Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour			Weekend Peak Hour		
					In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Residential	210	8	DU	77	2	4	6	6	4	9	4	3	8

Source: Fehr & Peers, 2008.

Alternative 2, the No Project / Reasonably Foreseeable Development Alternative, would result in approximately 77 daily vehicle trips, which would be a 39 percent decrease in trip generation from the proposed project. With *Alternative 2* the three intersections identified in the traffic study (Trestle Glen Boulevard / Tiburon Boulevard, Paradise Drive / Trestle Glen Boulevard, and Paradise Drive / the Project Entrance) would continue to operate at an acceptable Level of Service (LOS). As with the

proposed project, *Alternative 2* would require mitigation for significant safety impacts resulting from inadequate sight distance for westbound vehicles approaching the proposed intersection of Paradise Drive and the Project Entrance (*Impact 5.1-4 Safety Impact Due to Inadequate Sight Distance Approaching the Unsignalized Intersection of Paradise Drive with the Project Entrance*), and bicycle facilities along Paradise Drive (*Impact 5.1-7 Project Impact on Bicycle Facilities and / or Safety*).

As discussed with *Impact 5.1-2 (Cumulative-plus-Project Impact on Signalized Intersections)* and *Impact 5.1-5 (Impact on Regional Roadways)*, cumulative impacts to the intersection of Tiburon Boulevard and Trestle Glen Boulevard would occur with or without *Alternative 2's* contribution. While *Alternative 2* would still make an incremental contribution to these cumulative impacts, it would be less than the proposed project. It should be noted the projected contribution of the proposed project would be less than cumulatively considerable, and these impacts would only be adequately mitigated through regional efforts.

AIR QUALITY

Alternative 2 would result in the construction of five fewer residences than the proposed project and would require less grading for road construction and landslide repair as well as house construction. Therefore, *Alternative 2* would reduce dust generating construction activities and the use of heavy duty diesel powered vehicles that would release toxic air contaminants, as discussed with *Impact 5.2-1 (Construction Period Air Pollutant Emissions)*. With *Alternative 2*, existing residences adjacent to the south of the project site (Hacienda Drive) would benefit from the elimination of dust generating activities in that vicinity. However since the release of airborne pollutants (PM₁₀ and DPM) would still occur during construction activities, albeit to a lesser extent, *Alternative 2* would result in significant air quality impacts due to construction period pollutant emissions. As with the proposed project, these emissions would be reduced to a less-than-significant level with implementation of preventive measures contained in Mitigation Measure 5.2-1.

Similar to the proposed project, new residences would be an additional source of greenhouse gas (GHG) emissions. Compared to the proposed project, the amount of GHG emissions would be reduced due to the reduced number of houses and residents. This would be a less-than-significant impact.

NOISE

As discussed in *Section 5.3 Noise*, the project site is located in a quiet area, and once developed would be exposed to minimal noise. Similar to the proposed project, *Alternative 2* would result in construction related noise impacts. With *Alternative 2* noise generating construction activities on the Rabin property would be eliminated. This would greatly reduce noise impacts to existing residences along Hacienda Drive, adjacent to the south and west of the Rabin Property. However, as discussed with *Impact 5.3-1 (Construction Noise)*, the project site is located in a very quiet area that is sensitive to increases in ambient noise levels. *Alternative 2* would still involve the use of dozers, tractors, backhoes, compactors, rollers, dump trucks, and other noise generation equipment during a construction period that could span over multiple seasons. Therefore, similar to the proposed project, even with mitigation measures, noise impacts resulting from *Alternative 2* would remain a significant unavoidable impact.

HYDROLOGY AND WATER QUALITY

With *Alternative 2* five fewer residences would be constructed than the proposed project. Six of the 15 Drainage Areas identified in **Section 5.4 Hydrology and Water Quality** would not be disturbed by the development of *Alternative 2* (Drainage Areas 10 thru 15, depicted in **Exhibit 5.4-3**). *Alternative 2* would reduce the amount of disturbance in Drainage Areas 1 and 7 thru 9.

Whereas the proposed project would include installation of two 15 inch storm drain outlets on the project site, only one would be required to serve *Alternative 2*. Therefore, because of the reduced amount of development, *Alternative 2* would involve fewer drainage facilities, and would produce less concentrated runoff flow that could lead to erosion and downstream sedimentation (*Impact 5.4-2 Alteration of Existing Drainage Patterns and Erosion and Downstream Sedimentation*). However, because a storm drain outfall would be required in the vicinity of Lots 2 thru 4 (see **Exhibit 6.0-1**), the potential for significantly increased erosion and sedimentation would still exist under *Alternative 2*. Furthermore, as discussed with *Impact 5.4-2* the potential for incomplete connections from project drainage to existing culverts would also result in a significant impact with *Alternative 2*. It should be noted that with both the proposed project and *Alternative 2* mitigation measures would reduce these impacts to a less-than-significant level.

Information contained in **Section 5.4 Hydrology and Water Quality** estimates that the average lot would have 7,500 square feet of impervious surface. Therefore, *Alternative 2* would result in approximately 60,000 square feet of impervious surface, which would represent 2.3 percent of the total watershed the project site is located in. *Alternative 2* would require the applicant to prepare and submit an NPDES permit and Notice of Intent (NOI) to the State Water Resources Control Board which would include a Storm Water Pollution Prevention Plan (SWPPP) that would incorporate Best Management Practices (BMPs) to alleviate potential impacts associated with this type of development. However, due to the increase in impervious surfaces and irrigated landscaping, *Alternative 2* would increase polluted runoff that could detrimentally affect shoreline water along Paradise Cove, resulting in a significant impact to water quality. As with the proposed project, measures described in Mitigation Measure 5.4-4 would reduce this impact to a less-than-significant level.

BIOLOGICAL RESOURCES

Alternative 2 would require less tree removal and disruption of grasslands than the proposed project, therefore resulting in fewer impacts to biological resources. Similar to the proposed project, *Alternative 2* would result in direct and indirect biological impacts resulting from landslide remediation. For example, the largest occurrence of the Marin western flax located at the eastern portion of the site would still be affected by landslide remediation as discussed with *Impact 5.5-1 (Special-Status Species)*.

Unlike the proposed project, *Alternative 2* would not include development of single family lots on the eastern portion of the Rabin property, where serpentine bunchgrass and sedge meadow communities occur (*Impact 5.5-2 Sensitive and Natural Communities*). *Alternative 2* would result in fewer impacts to wetlands and drainages (*Impact 5.5-3 Wetlands and Drainages*), particularly those located on the Rabin property which would not be developed as part of this alternative.

With *Alternative 2* potential impacts to wildlife habitat and habitat corridors would be reduced because the project would involve less development that would impede habitat connectivity, as discussed with *Impact 5.5-4 (Wildlife Habitat and Connectivity)*. As with the proposed project, these impacts to

biological resources would be significant, but would be reduced to a less-than-significant level with implementation of mitigation measures contained in **Section 5.5 Biological Resources**.

GEOLOGY AND SOILS

Alternative 2 would avoid development in the vicinity of landslides F and P, which are both located exclusively on the Rabin property and not a part of this development alternative. However, as discussed in **Chapter 3.0 Description of the Proposed Project**, there are 16 landslides located within the project site that would require repair with *Alternative 2*. Therefore *Alternative 2* would result in significant impacts from development in landslide areas (*Impact 5.6-3*), slope instability from cut and fill grading and landslide remediation (*Impact 5.6-4*), and excessive grading (*Impact 5.6-5*). Additionally, with *Alternative 2* mitigation measures required for landslide repair would result in secondary impacts to groundwater, drainageways, wetland habitats, and biotic resources (as discussed with *Impact 5.6-6 (Secondary Effects of Grading)*). Although it should be noted that with *Alternative 2* the significance of these impacts would lessen because less landslide repair would be required.

Similar to the proposed development, *Alternative 2* would result in significant impacts related to seismic ground shaking (*Impact 5.6-1*), seismic related ground failure (*Impact 5.6-2*), and development on expansive soils (*Impact 5.6-7*). Under *Alternative 2*, as with the proposed development, these impacts could be reduced to less-than-significant levels with proposed mitigation measures.

PUBLIC SERVICES

With *Alternative 2*, impacts to public services would be similar as those resulting from the proposed project. With the exception of police services, which would be provided by the Marin County Sheriff Department rather than the Town of Tiburon, all public services would be provided by the same agencies. The development of *Alternative 2* would not increase demand on police services beyond the service capacity of the Marin County Sheriff's Department.⁵

Alternative 2 would likely decrease the demand on fire service than what would be anticipated with the proposed development. However, *Alternative 2* would still result in significant impacts to fire service demands (*Impact 5.7-1*) and cumulative fire services impacts (*Impact 5.7-3*). As with the proposed project, implementation of mitigation measures would reduce these impacts to a less-than-significant level. It should also be noted that with fewer residential lots, less defensible space fuel clearance would be required and, therefore, a greater quantity of vegetative fuels for wildland fires would remain in the area.

As with the proposed project, if any of the new residences proposed with *Alternative 2* would have water using fixtures at an elevation under 200 feet they could not be served by the Mt. Tiburon Water Tanks. This would result in a significant water service impact (*Impact 5.7-7*). A review of detailed development plans would be required to determine if all residences proposed with *Alternative 2* would be served by the existing Mt. Tiburon Water Tanks, or require connection to the existing water line located in Paradise Drive (as discussed in Mitigation Measure 5.7-7).

⁵ Nichols • Berman communication with Lt. Cheryl Fisher, Marin County Sheriff's Department, March 2009.

Alternative 2 would result in less demand on water supply and the development would generate less wastewater and solid waste than the proposed project. Furthermore, as with the proposed project, there would be no significant impacts on the capacities of public schools.

VISUAL RESOURCES

With *Alternative 2* impacts to Viewpoint No. 1, as discussed in **Section 5.8 Visual Resources**, would be reduced (*Impact 5.8-1 View Looking North from Middle Ridge Open Space*). Under *Alternative 2* approximately six residences would be visible from this viewpoint, compared to 12 residences that would be visible with the proposed project. Therefore with *Alternative 2*, changes to this view would be subordinate to the overall viewshed, which would be a reduction from the co-dominant changes with the proposed project, reducing this impact to a less-than-significant level.

Alternative 2, like the proposed project, would result in a significant impact caused by light pollution (*Impact 5.8-4*). Implementation of Mitigation Measure 5.8-4 would reduce this impact to a less-than-significant level.

CULTURAL RESOURCES

With *Alternative 2*, impacts to cultural resources would be the same as for the proposed project. Although there would be less development with *Alternative 2*, the potential to disturb subsurface cultural deposits would remain a significant impact (*Impact 5.9-1 Potential Subsurface Cultural Deposits*). Mitigation would be the same as that of the proposed project.

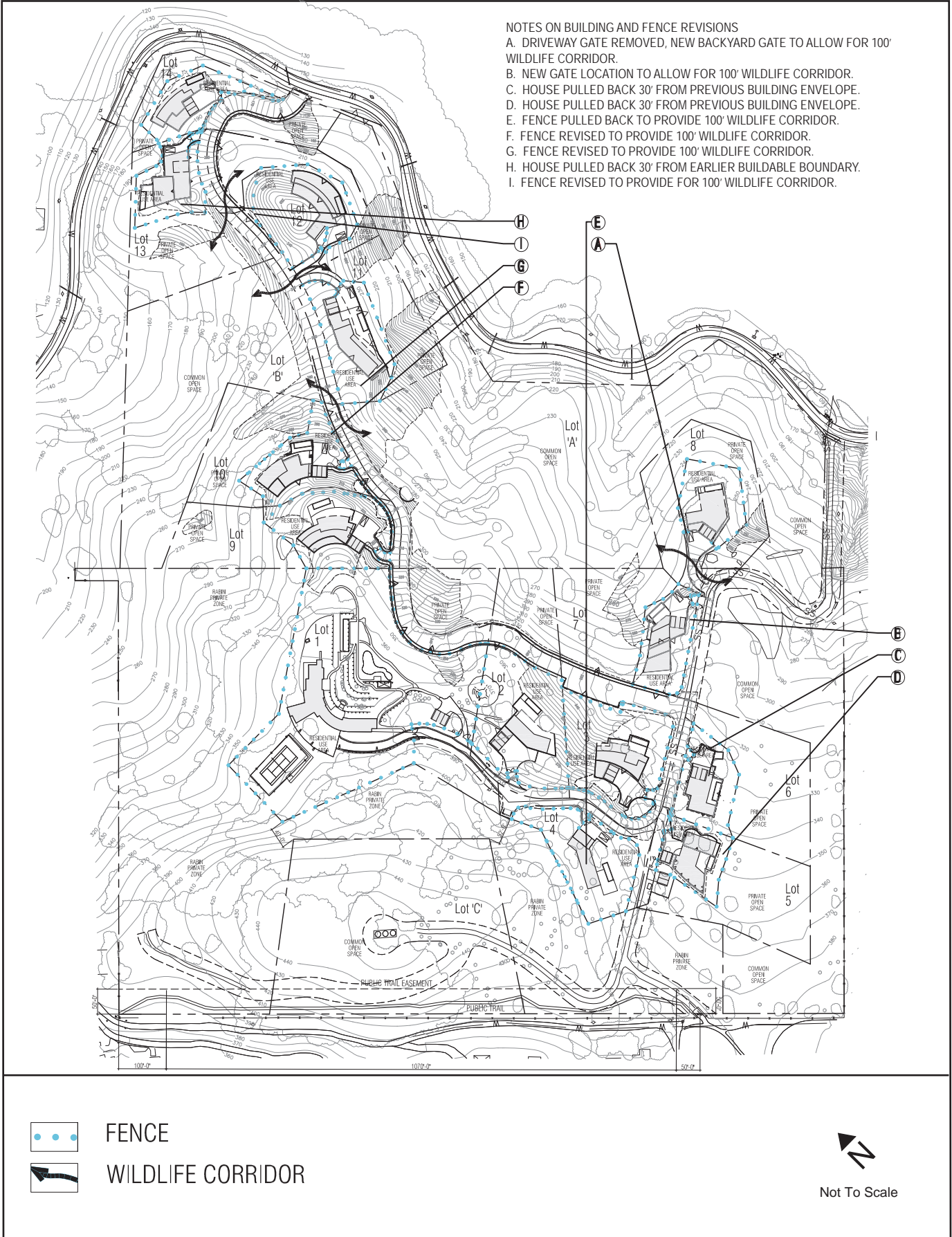
6.3 ALTERNATIVE 3 – REVISED SITE PLAN

In response to a review of potential impacts associated with implementation of the proposed project, a revised site plan was prepared. The revised site plan was prepared by the applicant's project team based on input and consultation with the Town of Tiburon staff and the EIR preparers.

Exhibits 6.0-3, 6.0-4, and 6.0-5 show the revised site plan and the proposed lot and building revisions. As illustrated in **Exhibits 6.0-3, 6.0-4, and 6.0-5**, the revised site plan would include the following site revisions:

- A. Driveway gate removed, new backyard gate to allow for 100 foot wildlife corridor.
- B. New gate location to allow for 100 foot wildlife corridor.
- C. House on Lot 6 pulled back 30 feet from previous building envelope boundary to provide a buffer for serpentine bunchgrass.
- D. House on Lot 5 pulled back 30 feet from previous building envelope boundary to provide a buffer for serpentine bunchgrass.
- E. Fence pulled back to provide 100 foot wildlife corridor.
- F. Fence revised to provide 100 foot wildlife corridor.
- G. Fence revised to provide 100 foot corridor.

**Exhibit 6.0-3
Alternative 3 Site Plan**



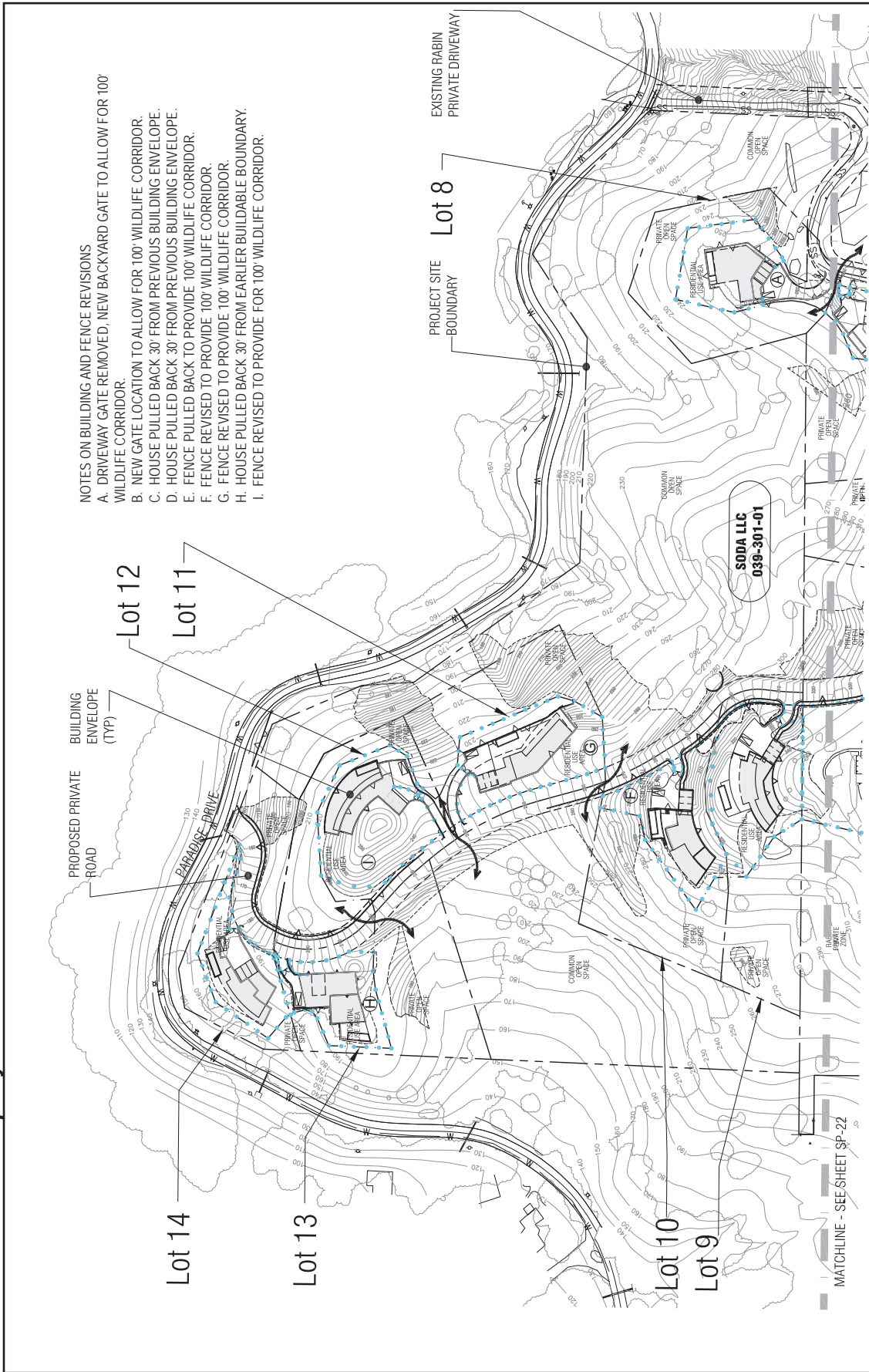
- NOTES ON BUILDING AND FENCE REVISIONS
- A. DRIVEWAY GATE REMOVED, NEW BACKYARD GATE TO ALLOW FOR 100' WILDLIFE CORRIDOR.
 - B. NEW GATE LOCATION TO ALLOW FOR 100' WILDLIFE CORRIDOR.
 - C. HOUSE PULLED BACK 30' FROM PREVIOUS BUILDING ENVELOPE.
 - D. HOUSE PULLED BACK 30' FROM PREVIOUS BUILDING ENVELOPE.
 - E. FENCE PULLED BACK TO PROVIDE 100' WILDLIFE CORRIDOR.
 - F. FENCE REVISED TO PROVIDE 100' WILDLIFE CORRIDOR.
 - G. FENCE REVISED TO PROVIDE 100' WILDLIFE CORRIDOR.
 - H. HOUSE PULLED BACK 30' FROM EARLIER BUILDABLE BOUNDARY.
 - I. FENCE REVISED TO PROVIDE FOR 100' WILDLIFE CORRIDOR.

- FENCE
- WILDLIFE CORRIDOR

Not To Scale

Source: KAO design group, 2009.

**Exhibit 6.0-4
Alternative 3 SODA Property**



- NOTES ON BUILDING AND FENCE REVISIONS**
- A. DRIVEWAY GATE REMOVED. NEW BACKYARD GATE TO ALLOW FOR 100' WILDLIFE CORRIDOR.
 - B. NEW GATE LOCATION TO ALLOW FOR 100' WILDLIFE CORRIDOR.
 - C. HOUSE PULLED BACK 30' FROM PREVIOUS BUILDING ENVELOPE.
 - D. HOUSE PULLED BACK 30' FROM PREVIOUS BUILDING ENVELOPE.
 - E. FENCE PULLED BACK TO PROVIDE 100' WILDLIFE CORRIDOR.
 - F. FENCE REVISED TO PROVIDE 100' WILDLIFE CORRIDOR.
 - G. FENCE REVISED TO PROVIDE 100' WILDLIFE CORRIDOR.
 - H. HOUSE PULLED BACK 30' FROM EARLIER BUILDABLE BOUNDARY.
 - I. FENCE REVISED TO PROVIDE FOR 100' WILDLIFE CORRIDOR.

North Arrow
Not To Scale

**Exhibit 6.0-5
Alternative 3 Rabin Property**



- NOTES ON BUILDING AND FENCE REVISIONS**
- A. DRIVEWAY GATE REMOVED, NEW BACKYARD GATE TO ALLOW FOR 100' WILDLIFE CORRIDOR.
 - B. NEW GATE LOCATION TO ALLOW FOR 100' WILDLIFE CORRIDOR.
 - C. HOUSE PULLED BACK 30' FROM PREVIOUS BUILDING ENVELOPE
 - D. HOUSE PULLED BACK 30' FROM PREVIOUS BUILDING ENVELOPE.
 - E. FENCE PULLED BACK TO PROVIDE 100' WILDLIFE CORRIDOR.
 - F. FENCE REVISED TO PROVIDE 100' WILDLIFE CORRIDOR.
 - G. FENCE REVISED TO PROVIDE 100' WILDLIFE CORRIDOR.
 - H. HOUSE PULLED BACK 30' FROM EARLIER BUILDABLE BOUNDARY
 - I. FENCE REVISED TO PROVIDE FOR 100' WILDLIFE CORRIDOR.

- PROPOSED FIRE ACCESS EASEMENT
- PROPOSED PUBLIC TRAIL EASEMENT
- PROPOSED PUBLIC TRAIL

-  FENCE
-  WILDLIFE CORRIDOR



Not To Scale

- H. House on Lot 13 pulled back 30 feet from previous building envelope boundary to provide a buffer between the limits of landslide N and the occurrence of Marin western flax.
- I. Fence revised to provide for 100 foot wildlife corridor.

Exhibits 6.0-6 and **6.0-7** illustrate the proposed revisions to the landslide stabilization and grading. As illustrated in **Exhibits 6.0-6** and **6.0-7** the revised site plan would include the following landslide stabilization and grading revisions:

1. Adjacent to Lot 13, grading around Marin western flax modified to maintain a minimum 25 foot setback from edge of species. Grading within landslide area maintained within 100 feet of Lot 13 house footprint.
2. For landslides N and O grading modified to incorporate a buried wall or buried reinforced earth slope for landslide mitigation. This would be a variation from the Town of Tiburon Landslide Policy.
3. Grading modified at Lot 10 to incorporate a buried wall or buried reinforced earth slope and removal and replacement within 90 feet of the house footprint. This would be a variation from the Town of Tiburon Landslide Policy.
4. Grading modified at Lot 7 to avoid impact to fresh water seep and to remove and replace landslide within 85 feet of the footprint of the house. This would be a variation from the Town of Tiburon Landslide Policy.
5. Grading modified at Lot 8 to minimize impact on Serpentine bunch grass and Tiburon buckwheat areas and to remove and replace landslide within 77 feet of the footprint of the house. This would be a variation from the Town of Tiburon Landslide Policy.
6. Near Lot 8, proposed subdrains removed upslope to avoid impacts to biological resources.

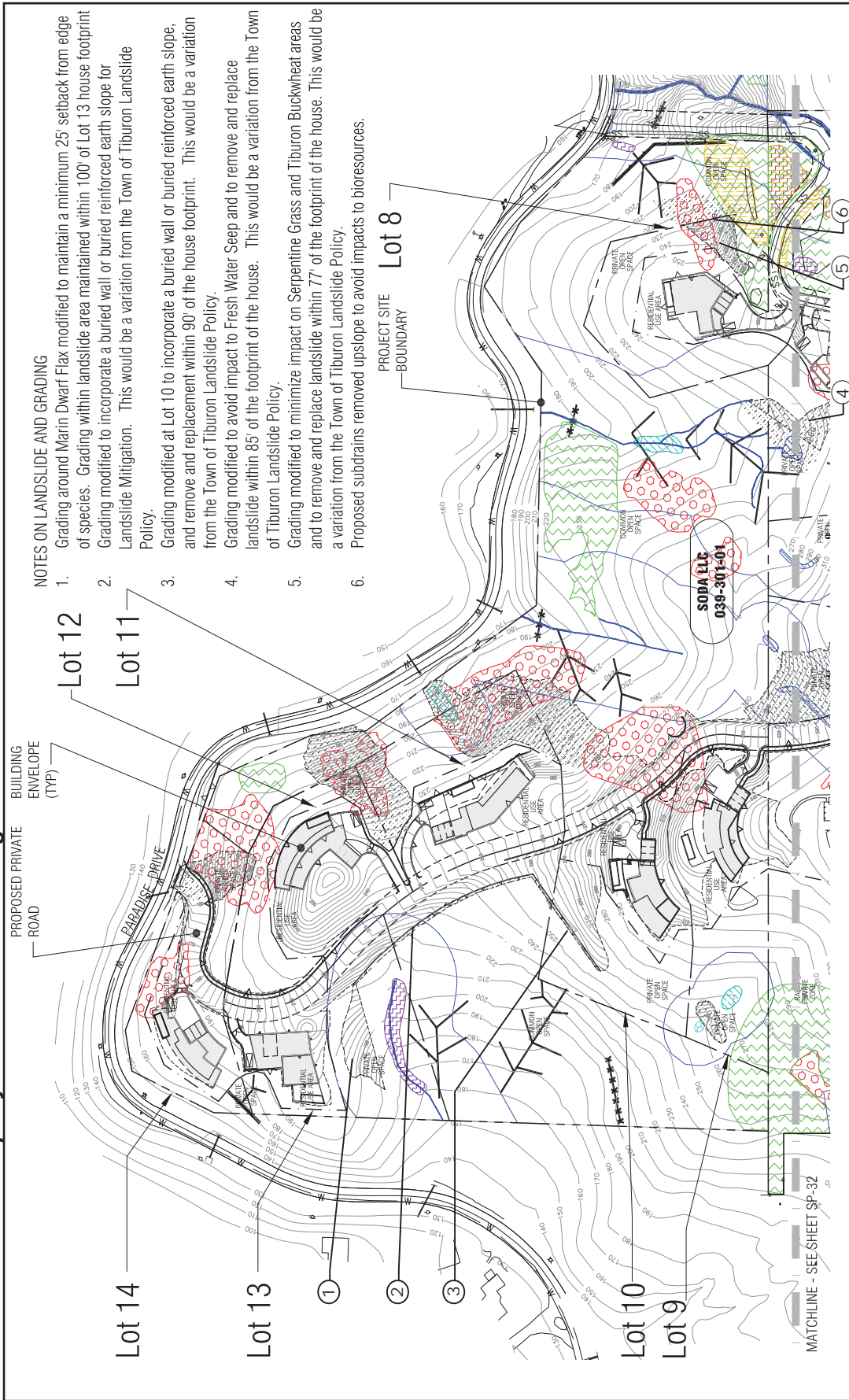
The portion of the proposed public trail that would travel north and south along the project site's western boundary has been removed to help prevent incidental impacts, resulting from recreation use, to the known occurrence of North Coast semaphore grass and other sensitive natural communities in the area.

In addition to the revised site plan, revised house plans were prepared for Lot 4, Lot 5, Lot 6 and Lot 13. The purpose of the revisions was to reduce the visual impacts of the four proposed houses, especially as they are viewed from the Middle Ridge Open Space.

Based on the revised site plan, a *revised Preliminary Planting Plan*, *revised Defensible Space Plan* and a *revised Tree Removal Plan* were prepared.⁶

⁶ The revised house site plans, *revised Preliminary Planting Plan*, *revised Defensible Space Plan* and *revised Tree Removal Plan* are available for review at the Town of Tiburon Planning Division, 1505 Tiburon Boulevard, Tiburon.

**Exhibit 6.0-6
Alternative 3 SODA Property Landslide and Grading**



NOTES ON LANDSLIDE AND GRADING

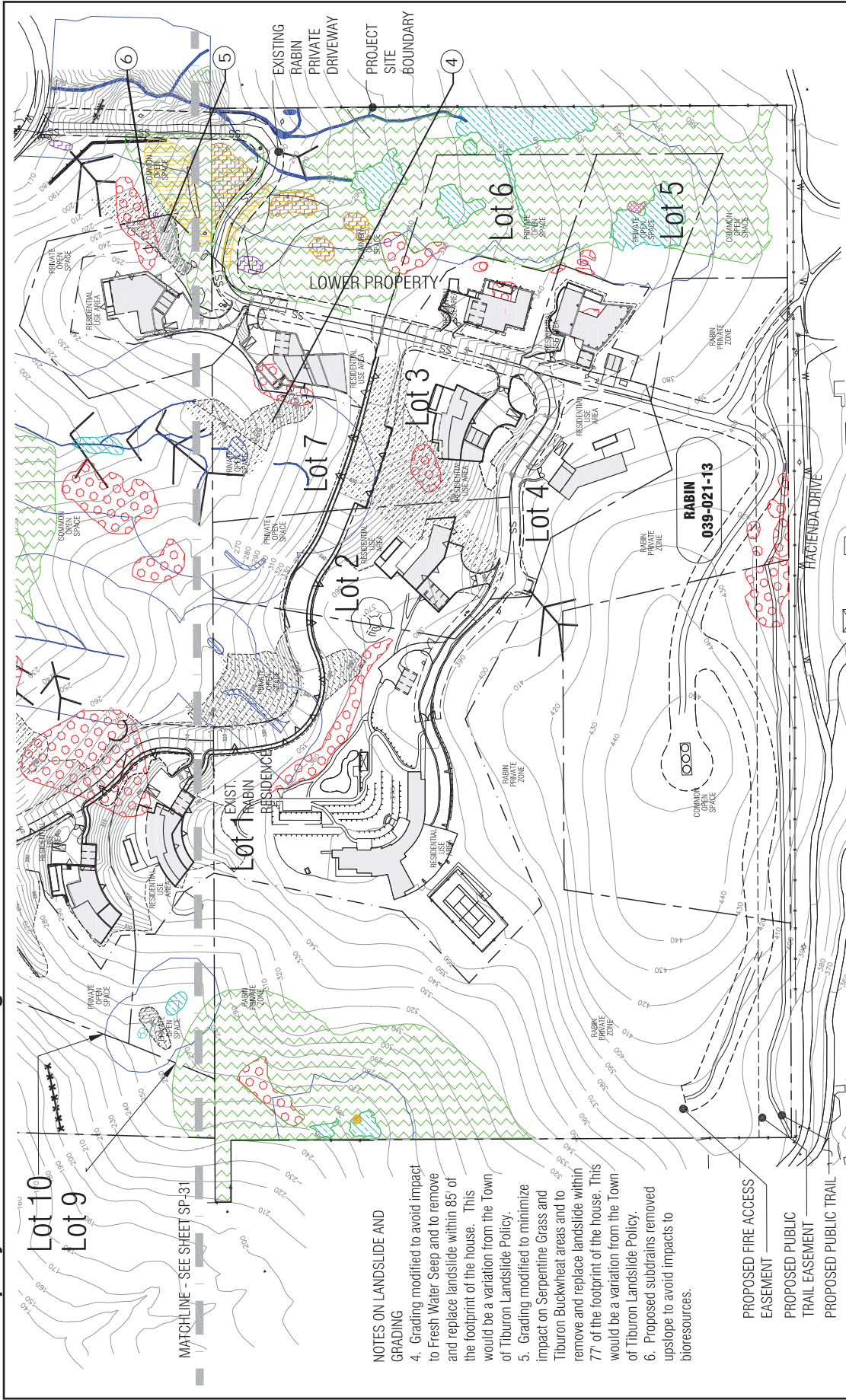
1. Grading around Marin Dwarf Flax modified to maintain a minimum 25' setback from edge of species. Grading within landslide area maintained within 100' of Lot 13 house footprint
2. Grading modified to incorporate a buried wall or buried reinforced earth slope for Landslide Mitigation. This would be a variation from the Town of Tiburon Landslide Policy.
3. Grading modified at Lot 10 to incorporate a buried wall or buried reinforced earth slope, and remove and replacement within 90' of the house footprint. This would be a variation from the Town of Tiburon Landslide Policy.
4. Grading modified to avoid impact to Fresh Water Seep and to remove and replace landslide within 85' of the footprint of the house. This would be a variation from the Town of Tiburon Landslide Policy.
5. Grading modified to minimize impact on Serpentine Grass and Tiburon Buckwheat areas and to remove and replace landslide within 77' of the footprint of the house. This would be a variation from the Town of Tiburon Landslide Policy.
6. Proposed subdrains removed upslope to avoid impacts to bioresources.

	LANDSLIDE SUBDRAINS		WETLAND SETBACK		TIBURON BUCKWHEAT		MARIN WESTERN FLAX
	LANDSLIDE DEBRIS FENCE		COASTAL SCRUB		IRIS LEAF RUSH MEADOW		WESTERN FLAX / T. BUCKWHEAT
	LANDSLIDE-RETAINING WALL		SEDGE MEADOW		FRESHWATER SEEP		NORTH COAST SEMOPHORE GRASS
	SERPENTINE BUNCH GRASS		UNVEGETATED WATERS		SEASONAL WETLAND		CARLOTTA HALL'S LACE FERN



Not To Scale

**Exhibit 6.0-7
Rabin Property Landslide and Grading**



NOTES ON LANDSLIDE AND GRADING

4. Grading modified to avoid impact to Fresh Water Seep and to remove and replace landslide within 85' of the footprint of the house. This would be a variation from the Town of Tiburon Landslide Policy.
5. Grading modified to minimize impact on Serpentine Grass and Tiburon Buckwheat areas and to remove and replace landslide within 77' of the footprint of the house. This would be a variation from the Town of Tiburon Landslide Policy.
6. Proposed subdrains removed upslope to avoid impacts to bioresources.

- PROPOSED FIRE ACCESS EASEMENT
- PROPOSED PUBLIC TRAIL EASEMENT
- PROPOSED PUBLIC TRAIL

	LANDSLIDE SUBDRAINS		WETLAND SETBACK		TIBURON BUCKWHEAT		MARIN WESTERN FLAX
	LANDSLIDE DEBRIS FENCE		COASTAL SCRUB		IRIS LEAF RUSH MEADOW		WESTERN FLAX / T. BUCKWHEAT
	LANDSLIDE-RETAINING WALL		SEDGE MEADOW		FRESHWATER SEEP		NORTH COAST SEMOPHORE GRASS
	SERPENTINE BUNCH GRASS		UNVEGETATED WATERS		SEASONAL WETLAND		CARLOTTA HALL'S LACE FERN



Not To Scale

Source: KAO design group, 2009

Analysis of Revised Site Plan Alternative (Alternative 3)

LAND USE AND PLANNING

Town of Tiburon 2020 General Plan (Tiburon General Plan)

Alternative 3 consists of site plan revisions that would be consistent with the goals and policies of the *Tiburon General Plan* that are intended to preserve environmental resources such as special status species and sensitive habitats. Many of these revisions are consistent with proposed mitigation measures contained in **Section 5.5 Biological Resources**. These revisions include a reduction of building footprints in order to avoid occurrences of serpentine bunchgrass and the Marin western flax and removal of fencing and gates to preserve wildlife migration corridors. *Alternative 3*, like the proposed project, would also benefit the community by implementing the General Plan Land Use designation for these properties as discussed in **Chapter 4.0 Land Use and Planning**.

Chapter 16 of the Tiburon Town Code (Zoning Ordinance)

Alternative 3 would maintain consistency with the *Tiburon Town Code*. The proposed revisions included with *Alternative 3* would not interfere with zoning code requirements for residential densities, structure heights, floor area ratio guidelines, or other measures to protect and preserve open space.

Town of Tiburon Design Guidelines for Hillside Dwellings

Alternative 3 includes revisions that enhance the project's consistency with the *Town of Tiburon Design Guidelines for Hillside Dwellings*. Revisions include reductions in structural bulk for some of the more prominent of the proposed lots. Also, proposed building footprints have been repositioned to reduce the visual prominence of the proposed residences. Building footprints would also be more compact, which would reduce the impact that sprawling footprints can have on a hillside lot.

Marin County Community Development Agency Paradise Drive Visioning Plan

Alternative 3 would be consistent with the *Paradise Drive Visioning Plan*. *Alternative 3*, like the proposed project, would appear consistent with surrounding development. With *Alternative 3*, open space buffers between proposed residences and the Paradise Drive right-of-way would reduce the visual impact of the new development and preserve the rural visual appearance along this corridor.

Marin Local Agency Formation Commission (LAFCo) Policy Guidelines

No aspect of *Alternative 3* would change consistency with the LAFCo Policy Guidelines than what is already discussed in **Chapter 4.0 Land Use and Planning**. *Alternative 3* would be consistent with the LAFCo Policy Guidelines.

TRANSPORTATION

With *Alternative 3*, the same number of single family residences would be constructed as with the proposed project (13 residences). Trip generation rates are based on the particular land use that is

proposed. Therefore, since the proposed land use and number of residences would not change, the trip generation for *Alternative 3* would be the same as the proposed project.

Impact 5.1-1 Existing-plus-Project Impact on Signalized Intersections

The signalized intersection located at Trestle Glen Boulevard / Tiburon Boulevard would operate at an acceptable LOS with existing traffic volumes and the additional trips generated by *Alternative 3*. Therefore, as with the proposed project, *Alternative 3* would have a less-than-significant impact on signalized study intersections under existing-plus-project conditions.

Impact 5.1-2 Cumulative-plus-Project Impact on Signalized Intersection

Cumulative-plus-project (*Alternative 3*) conditions would increase peak hour traffic volumes at the signalized Tiburon Boulevard / Trestle Glen Boulevard intersection. This intersection would operate at an unacceptable LOS during the AM peak hour under cumulative conditions, with or without the implementation of *Alternative 3*. *Alternative 3* would make an incremental contribution to the cumulative impact. However, as with the proposed project, *Alternative 3's* contribution to the cumulative impact would be less than cumulatively considerable.

Impact 5.1-3 Existing-plus-Project and Cumulative Impacts on Unsignalized Intersections

Traffic resulting from *Alternative 3* and cumulative-plus-project conditions would increase traffic at the unsignalized Paradise Drive / Trestle Glen Boulevard and Paradise Drive / Project Entrance Road intersections. However, as with the proposed project, with implementation of *Alternative 3*, each of these unsignalized intersections would continue to operate at acceptable levels of service and this would be a less-than-significant impact.

Impact 5.1-4 Safety Impact Due to Inadequate Sight Distance Approaching the Unsignalized Intersection of Paradise Drive with the Project Entrance

Alternative 3 features the same proposed access as the proposed project. Development of *Alternative 3* would result in inadequate site distance for drivers approaching the intersection of the proposed entrance road (the Main Road) and Paradise Drive from the east. This would be a significant impact. Implementation of proposed measures in Mitigation Measure 5.1-4 would provide a minimum of 220 feet of sight distance for motorist traveling west on Paradise Drive, and reduce this impact to a less-than-significant level.

Impact 5.1-5 Impact on Regional Roadways

As with the proposed project, *Alternative 3* would generate vehicle trips that would travel on Tiburon Boulevard and U.S. 101. The *Tiburon General Plan 2020 EIR* identifies a significant unavoidable impact to U.S. 101 resulting from regional growth, including growth within Tiburon. While *Alternative 3* would add very little traffic to U.S. 101 (approximately 0.1 percent of overall traffic on U.S. 101), it would be an increment of cumulative traffic which has been previously identified as a significant unavoidable impact. Therefore, as with the proposed project, *Alternative 3* would result in a significant unavoidable impact.

Impact 5.1-6 Project Impact on Transit

Alternative 3 would not adversely impact transit operations and, as with the proposed project, this would be a less-than-significant impact.

Impact 5.1-7 Project Impact on Bicycle Facilities and / or Safety

Alternative 3 would result in the same number of project site residents as the proposed project. These residents would contribute slightly to the number of bicyclists using Paradise Drive. Therefore the development of *Alternative 3* would result in the same significant cumulative impact to bicycle facilities and / or safety. As with the proposed project, *Alternative 3* would include measures (Mitigation Measure 5.1-7) to enhance bicycle safety along Paradise Drive adjacent to the project's frontage and mitigate the project's contribution to this cumulative impact.

Impact 5.1-8 Project Impact on Pedestrian Circulation

Implementation of *Alternative 3* would not result in disruptions to existing pedestrian facilities, would not cause traffic to increase to the point of causing a safety hazard for pedestrians, or interfere with planned pedestrian facilities, which is the same result as the proposed project.

Impact 5.1-9 Project Impacts Related to Site Access

With *Alternative 3* the proposed access would be the same as with the proposed project. No aspect of this alternative would create additional impacts that have not been analyzed in **Section 5.1 Transportation**. The safety impact due to inadequate site distance (*Impact 5.1-4*) would be mitigated with Mitigation Measure 5.1-4. With *Alternative 3* the proposed circulation would be consistent with the Marin County Development Code.

Impact 5.1-10 Project Impacts Related to Emergency Access and Internal Circulation

Alternative 3 would not obstruct emergency access and internal circulation. Similar to the proposed project, *Alternative 3* would comply with the roadway grade, driveway width and curve radius requirements of the Tiburon Fire Protection District.

Impact 5.1-11 Parking Impacts

Like the proposed project, *Alternative 3* would comply with on- and off-site parking requirements of the *Tiburon Zoning Code*, and would result in less-than-significant impacts to parking.

Impact 5.1-12 Construction Traffic Impacts

The proposed construction management plan would be utilized with *Alternative 3*. Traffic control measures contained in the construction management plan would minimize travel during AM and PM peak travel periods, resulting in a less-than-significant impact.

AIR QUALITY

Impact 5.2-1 Construction-Period Air Pollutant Emissions

With *Alternative 3*, air pollutants emitted during construction could expose nearby neighbors to unhealthy levels of particulate matter and possibly Toxic Air Contaminants (TACs). *Alternative 3* includes a reduction in grading activities when compared with the proposed project. However, as with the proposed project, potential emission of particulate matter (PM₁₀) and Diesel Particulate Matter (DPM) during construction activities would remain a significant impact. However implementation of mitigation measures would reduce this impact to a less-than-significant level.

Impact 5.2-2 Generation of Airborne Asbestos

Similar to the proposed project, implementation of *Alternative 3* would include grading that may disturb soils containing serpentine, possibly releasing asbestos fibers into the air. With conformance to BAAQMD regulations this would be a less-than-significant impact.

Impact 5.2-3 Greenhouse Gas Emissions

Alternative 3 would result in additional greenhouse gas (GHG) emissions primarily through consumption of energy for transportation and energy usage. This would be a less-than-significant impact, the same as for the proposed project.

NOISE

Impact 5.3-1 Construction Noise

With *Alternative 3*, construction activities would be the same as with the proposed project, and it is likely that construction activities would occur over the course of at least two years. The proximity of noise generating construction activities to noise sensitive residential uses would be the same as with the proposed project and would result in significant impacts. Mitigation Measure 5.3-1 would implement measures that reduce construction noise; however construction noise would substantially exceed ambient noise levels in the area and result in a significant unavoidable impact.

HYDROLOGY AND WATER QUALITY

Impact 5.4-1 Alteration of Existing Drainage Patterns on On- and Off-Site Flooding

Alternative 3 includes revisions to landslide repair measures that were included with the proposed project. The revised landslide repair measures are described in **Exhibits 6.0-6** and **6.0-7**. The revised plans prepared for *Alternative 3* do not indicate revisions to storm drain alignments, stormwater collection, and the discharge system relative to the proposed project. Thus, with *Alternative 3*, impacts to existing drainage patterns and on-site and off-site flooding would remain less-than-significant.

Impact 5.4-2 Alteration of Existing Drainage Patterns on Erosion and Downstream Sedimentation

Implementation of the revised project measures shown on **Exhibits 6.0-6** and **6.0-7** would not alter the proposed project's storm drain system and its delivery of stormwater runoff to downslope drainageways. Since the impervious surface area coverage and general orientation of residential structures and roadways would also remain unchanged from the proposed project, similar to the proposed project, *Alternative 3* would have a significant impact on downstream drainageway stability and downstream sedimentation. As with the proposed project, erosion control measures included in the proposed Precise Development Plan would remain sufficient to minimize erosion and soil loss due to general ground disturbance during construction and the vegetation establishment period.

Impact 5.4-3 Impacts on Groundwater Levels and Groundwater Recharge

With *Alternative 3*, none of the revisions to the proposed residences and fences, as described in **Exhibits 6.0-3, 6.0-4, and 6.0-5**, would result in any changes to the project's impact on groundwater

levels and groundwater recharge. The nine building and fence revisions would not affect the hydrologic response of the project sub-watersheds, nor would they affect any change in the degree of impervious surface coverage in the sub-watersheds. Revisions to landslide repair, as detailed in **Exhibits 6.0-6** and **6.0-7**, include some locally significant reductions in the extent of landslide grading and reconstruction in the vicinity of mapped sensitive plant communities. Where such landslide repair activities are reduced relative to the proposed project, a concomitant reduction in the impact on groundwater recharge and local groundwater levels would also accrue. With *Alternative 3* the use of subdrains for landslide repair would be reduced. In the case of Lot 7 and the adjoining southern edge of the common open space parcel (revision 4 on **Exhibit 6.0-6**), the revised grading envelope would be reduced by approximately 15 lateral feet in order to avoid direct impacts to a freshwater seep. However, downslope of the seep several subdrains would still be installed to assist in slope stabilization. At a second location, on the common open space adjacent to and southeast of Lot 8, (revision 6 on **Exhibit 6.0-6**), *Alternative 3* would eliminate one of two sets of subdrains specified for construction under the proposed project, as well as reduce the landslide repair grading footprint to protect another sensitive plant community (revision 5 on **Exhibit 6.0-6**). As stated above, *Alternative 3* would reduce the use of dewatering as a method of landslide repair which would result in a relative reduction to impacts on groundwater levels and groundwater recharge, which would be less-than-significant. It should be noted though, that while impacts to groundwater levels and groundwater recharge with the proposed project would be slightly greater, they would also be considered a less-than-significant impact.

Impact 5.4-4 Impacts on Water Quality

With *Alternative 3*, amended landslide grading, and revised building and fencing conditions would maintain the proposed project's impervious surface coverage, storm drain extent and alignments, and the Preliminary Erosion Control Plan measures for mitigating grading disturbance and promoting site revegetation. No other water quality control measures were proposed as part of *Alternative 3*. Some reductions in the grading areas for landslide remediation would achieve minor reductions in slope disturbance and associated post-construction site sediment yield. Cumulatively, the changes proposed for *Alternative 3* would have only a minor impact on the level of significance associated with project impacts on water quality, which would remain significant.

BIOLOGICAL RESOURCES

Impact 5.5-1 Special-Status Species

Alternative 3 would reduce potential impacts on special-status species. However, as with the proposed project, anticipated impacts would remain significant. As discussed in more detail below, some incursion into the populations of special-status plant species would still occur with *Alternative 3*, although adjustments to building envelopes and the limits of landslide repair would provide for greater avoidance of some occurrences on the site. Potential impacts on nesting raptors and other birds protected under the Migratory Bird Treaty Act would still apply, as would the remote possibility for occurrence of California red-legged frog and the Marin micro-blind harvestman.

With *Alternative 3*, potential impacts on special-status plant species would be reduced, but would remain significant. The proposed building envelope on Lot 13 has been pulled back approximately 30 feet more from the large population of Marin western flax in the western portion of the site (**Exhibit 6.0-4**), the limits of landslide repair would presumably be restricted a minimum of 25 feet from most of this occurrence (**Exhibit 6.0-6**), and the limits of landslide repair to the east of the occurrence would be reduced through installation of a buried wall or buried reinforced earth slope (**Exhibit 6.0-**

6). However, this approach to landslide repair is a variation from the Town's Landslide Mitigation Policy, and it would be the Town Engineer's responsibility to determine if the proposed landslide repair methods would satisfy the Town's Landslide Mitigation Policy requirements.⁷ This occurrence of Marin western flax would also remain within private open space on Lot 13 with this alternative (**Exhibit 6.0-4**), rather than incorporated into common open space, which could result in conflicts by activities of the future property owners.

With *Alternative 3* the limits of the subdrain system on Lot 8 have been adjusted to reduce direct impacts on occurrences of Marin western flax and Tiburon buckwheat (**Exhibit 6.0-6**). However, subdrains are still proposed in the vicinity of the occurrence of Marin western flax on Lot 13 and the common open space southeast of Lot 8, which supports Marin western flax, Tiburon buckwheat, and the occurrence of Carlotta Hall's lace fern. In addition to the direct impacts during installation, the subdrains are designed to effectively drain the surrounding area, which could considerably alter field conditions. This could result in changes in the existing vegetative cover, including the loss of wetland conditions necessary to support wetland vegetation and possibly the loss of all or some of the occurrences of special-status species in the vicinity.

With *Alternative 3* the proposed trail alignment which could have adversely affected the single occurrence of north coast semaphore grass along the western edge of the site has been removed, eliminating the potential for disturbance from this use. However, as with the proposed project, the area encompassing the occurrence would remain part of the private open space on Lot 1, rather than common open space (**Exhibit 6.0-7**). Because of this, there remains a possibility that the owner of Lot 1 could inadvertently damage the occurrence. Although direct impacts on north coast semaphore grass appear unlikely, there remains a possibility that the occurrence could be inadvertently damaged or extirpated, particularly considering its small size and legal protective status, and this would be a significant impact.

As with the proposed project, with *Alternative 3* the increase in human access and activity in the common open space and undeveloped areas on private lots could result in trampling or picking of individual plants, improper vegetation treatments, or spread of invasive exotic species that could replace grassland habitat. Establishment and spread of invasive species such as French broom, Kikuyu grass, and barbed goat grass also pose a threat to the occurrences of Marin western flax and other special-status plant species on the site. Restrictions on landscape plantings and proper vegetation management, as required by Mitigation Measure 5.5-1(b) and 5.5-1(c), would be required to provide effective long-term protection of the occurrences of special-status plant species and the associated sensitive natural community types on the site.

The deficiencies in the *Mitigation Recommendations* by the applicant's consulting biologist would still apply under this alternative, including the need for long-term vegetation management on the site to control French broom and other invasive species that pose a threat to all of the special-status plant species occurrences on the site. Specific controls associated with increased human access on the site, including possible trampling from recreational use of the common open space and undeveloped land on private lots must still be defined. In addition to the required authorization from the USFWS for any take of this federally-threatened species acknowledged in the *Mitigation Recommendations*, an

⁷ The Town's Landslide Mitigation Policy is described in *Section 5.6 Geology and Soils*. As described in the policy, the Town Engineer has the sole discretion to determine (1) the risk level of any landslide or potential landslide; (2) whether a proposed project avoids on-site landslides and (3) *whether proposed mitigation is adequate under this policy (emphasis added)*.

incidental take permit would be required from the CDFG as Marin western flax is also a State-listed threatened species.

Mitigation Measures 5.5-1(a) through 5.5-1(e) would still be applicable under this alternative, although some aspects of these measures now appear to be met. Adjustments have been made to the proposed location of the building envelope on Lot 13 to avoid the occurrence of Marin dwarf flax, as called for in Mitigation Measure 5.5-1(b). Permits would still be required as indicated under Mitigation Measure 5.5-1(a), and the informal consultation called for under this measure would still be applicable under this alternative prior to approval of the Tentative Map to determine likely permit requirements and the extent of modifications to the plans necessary to secure authorization. The Mitigation Program called for in Mitigation Measure 5.5-1(c) would still be required, defining revegetation methods, long-term vegetation management goals and methods to achieve them, and developing effective interpretive measures to prevent inadvertent take of special-status species, among other provisions. Mitigation Measures 5.5-1(d) and 5.5-1(e) would still be applicable to ensure avoidance of California red-legged frog and nesting birds, respectively.

Impact 5.5-2 Sensitive Natural Communities

As with the proposed project, grading and improvements associated with *Alternative 3* could still affect stands of serpentine bunchgrass and areas of freshwater marsh on the site, which would remain a significant impact. The location of one of the subdrains east of the proposed residence on Lot 8 has been adjusted to avoid most of the serpentine grassland and occurrences of Tiburon buckwheat (**Exhibit 6.0-6**). With *Alternative 3* landslide repair grading on Lots 7 and 13 has been reduced to avoid wetland seeps and occurrences of Marin western flax. However, the subdrain in the common open space southeast of the proposed residence on Lot 8 and upslope of the existing driveway access onto the site remains under this alternative, and would still affect native grassland and seep habitat in this vicinity (**Exhibit 6.0-7**).

With *Alternative 3* the proposed building envelopes on Lots 5 and 6 have been pulled back approximately 30 feet from the mapped limits of the serpentine bunchgrass (revision C and D on **Exhibit 6.0-5**). However, there are no identified controls on landscaping or other improvements that would still require routine clearing that could affect the nearby sensitive grasslands, and could result in future conflicts which compromise the edge of this stand of native grassland.

As discussed with *Impact 5.5-1 (Special-Status Species)*, the *Mitigation Recommendations* do not provide for any long-term vegetation maintenance or management, and contain no controls for possible inadvertent damage associated with increased human access to the common open space and undeveloped areas located on private lots. This remains the case with *Alternative 3*. Uncontrolled access could lead to trampling of grassland habitat from routine recreational use and creation of informal trails. The *Mitigation Recommendations* also do not address the important need for on-going control of the highly invasive non-native species that are spreading across the site and could eventually replace or greatly reduce the remaining native grassland habitat.

With *Alternative 3* Mitigation Measure 5.5-2 would still be applicable. Some aspects of Mitigation Measure 5.5-2 have been incorporated into *Alternative 3*. For example, adjustments have been made to the proposed footprint of the residences on Lots 5 and 6 to provide for greater setbacks from the nearby sensitive grasslands. However, similar to the proposed project, *Alternative 3* does not define additional controls on landscape plantings and vegetation maintenance that would help preserve and enhance these grassland habitats and prevent conversion to landscaped residential yard areas. Further adjustments to proposed subdrains systems, particularly the drain proposed in the common open space at the eastern edge of the site, would be required, as would refinement of the *Mitigation Program*.

Impact 5.5-3 Wetlands and Drainages

Alternative 3 would reduce potential impacts on wetlands and drainages; however, this would remain a significant impact. Adjustments to the proposed grading would avoid some of the scattered areas of freshwater seeps on Lot 7 under this alternative. However, with *Alternative 3* some direct impacts to areas of freshwater marsh, seeps, and sedge meadow, seasonal wetlands, and unvegetated other waters associated with ephemeral drainages would still occur. As discussed in **Section 5.5 Biological Resources**, the assumptions in the *Mitigation Recommendations* appear to underestimate the extent of direct disturbance to drainages and wetlands required to install the proposed subdrain systems, and do not address the indirect impacts of dewatering the drainages and wetlands. Depending on the effectiveness of these subdrain systems, additional areas of freshwater seeps and marsh could eventually be eliminated over time where subsurface water is effectively intercepted and then bypasses the wetland area as a result of the new drainage systems. The wetland vegetation can only survive if sufficient surface water is present during the growing season. As with the proposed project, it is difficult to predict the possible changes to wetland vegetation in the vicinity of drainage improvements, but it is likely that some additional loss of wetland habitat would occur as a result of their installation. Of greatest concern is the proposed subdrain system that would extend into the lower elevations of the largest complex of freshwater marsh and serpentine bunchgrass along the southeastern edge of the site, in the proposed common open space, which is located upslope of the sharp turn to the existing driveway near its intersection with Paradise Drive and remains under this alternative.

With *Alternative 3*, as with the proposed project, there remains a potential for erosion and degradation of wetland habitat as a result of alterations to site drainage patterns and concentration of storm water discharges, and diminished water quality as a result of new impervious surfaces under this alternative. Proposed modifications to jurisdictional wetlands and other waters would still require authorization from regulatory agencies, including the CDFG, Corps, USFWS, and RWQCB. Mitigation Measures 5.5-3(a) through 5.5-3(c) would still be applicable under this alternative, to ensure for the protection, replacement and enhancement of the jurisdictional wetland and other waters on the site, and reduce this impact to a less-than-significant level.

Impact 5.5-4 Wildlife Habitat and Connectivity

As with the proposed project, new residences and other improvements associated with *Alternative 3* would generally be sited in areas of non-native grassland and coastal scrub, attempting to avoid more sensitive wetlands, serpentine bunchgrass grasslands, and oak woodlands. However, as discussed under *Impact 5.5-1 (Special-Status Species)*, *Impact 5.5-2 (Loss of Sensitive Natural Communities)*, and *Impact 5.5-3 (Wetlands and Drainages)*, *Alternative 3* would still have adverse impacts on the sensitive resources on the site and their associated wildlife habitat values. Areas of oak woodland and mature trees would be affected by proposed grading for slope stabilization, new roads and residences, and to provide adequate space for fire protection around new residences. New landscaping could contribute to additional habitat conversion through planting of non-native species in the remaining natural areas and other factors, such as landscape irrigation, that could lead to loss of mature native trees. Increased human activity, nighttime lighting, and uncontrolled pets could all contribute to the reduction of existing wildlife habitat values with *Alternative 3*.

Alternative 3 includes revisions to reduce the disruption the proposed six-foot high “deer fence” around each of the new residences would have on wildlife movement opportunities under the proposed project. This includes providing an unfenced linkage along the driveway area between the residences on Lots 7 and 8 and between Lots 11 and 12, as well as pulling the proposed fence in the front yard of the residence on Lot 12 further away from the Main Road to improve wildlife movement opportunities

between Lots 12 and 13 (**Exhibit 6.0-3**). The text prepared by the applicant in **Exhibit 6.0-3** states that the fence on Lot 4 was “pulled back to provide a 100-foot wildlife corridor” and the fences between Lots 10 and 11 across the Main Road were “revised to provide a 100-foot wildlife corridor”, but comparison to the original fence alignments under the proposed project shows no changes in these locations. Although with *Alternative 3* adjustments made to the alignment of deer fencing is improved, additional restrictions on fencing would still be required to maintain functional crossings between Lots 10 and 11 and Lots 1 and 2, at a minimum. Mitigation Measure 5.5-4 would still be required to mitigate impacts on wildlife habitat and wildlife connectivity, and to contain night-time lighting, control pets, and address other factors that may degrade wildlife habitat conditions.

Impact 5.5-5 Conflicts with Tiburon Tree Ordinance and Wetland Polices

With *Alternative 3*, 247 trees would be removed, rather than 261 trees with the proposed project. This reduction is due to the adjustment in the proposed landslide repair in the common open space west of the Main Road and lower slopes of Lot 10. The 14 trees that would be retained with *Alternative 3* are native live oaks with trunk circumferences of 28 to 50 inches. These oaks qualify as protected trees under the Tiburon Tree Ordinance. The additional tree avoidance under this alternative is desirable, but an estimated 93 protected trees would still be removed, which would be a significant impact. As with the proposed project, trees not directly removed by grading or other improvements associated with this alternative may be damaged or adversely affected during construction or as a result of long-term changes to drainage patterns, irrigation, exposure and other factors. Therefore with *Alternative 3*, implementation of Mitigation Measure 5.5-5(b) would be required to provide compliance with the Tiburon Tree Ordinance, provide for further refinement of grading and improvements to avoid additional protected trees, and provide for adequate replacement where avoidance is infeasible.

Alternative 3 would continue to be inconsistent with the development setback distances from wetlands and streams specified in the *Tiburon General Plan*. These call for a buffer of at least 100 feet on each side of the top of bank for perennial, intermittent, and ephemeral streams, and a buffer of at least 100 feet from wetland areas. **Exhibit 6.0-6 and 6.0-7** shows the buffer area around each of the features, and an indication of the degree to which proposed improvements extend within the buffer zone. Incursion into the buffer would occur along the Main Road and rear of Lots 2 and 3, along the Main Road and Lot 1, and along the Main Road and Lot 13. Landslide repair and subdrain installation would also occur within the buffer zone on Lots 7, 8, 11, and 13. The *Mitigation Recommendations* include a recommendation for a Mitigation and Monitoring Plan to minimize construction related disturbance within the buffer zone and to restore wetlands habitat to their pre-construction state to the maximum extent feasible. However, this pertains largely to installation of the subdrain systems for landslide stabilization, and the feasibility of restoring wetlands in these locations is highly unlikely given the dewatering that would occur as part of the drainage system. The wetland replacement and enhancement provisions proposed as part of the project and recommended in *Mitigation Measure 5.5-3* would address the loss of wetlands within the buffer zone. However, further avoidance of the buffer zone would require considerable redesign of the proposed project and alternative given the widespread distribution of ephemeral drainages and wetland features on the site. From a biological standpoint, the potential impacts on jurisdictional waters can be successfully mitigated to a less-than-significant level, even without full compliance with the setback standards specified in the relevant policies of the *Tiburon General Plan*. Mitigation Measure 5.5-5(a) still applies to this alternative, to ensure appropriate refinement to improvement plans, mitigation for potential impacts on sensitive resources, and conformance with the applicable local goals, objectives, and policies.

GEOLOGY AND SOILS

As discussed above, *Alternative 3* includes revisions to the project's proposed landslide repair methods. The revised landslide repair methods are primarily intended to reduce impacts grading and subdrain installation would have on biological resources. The Town of Tiburon Landslide Mitigation Policy requires Risk Level A landslides⁸ shall be repaired or avoided. This means any landslide within 100 feet of a proposed building envelope should be repaired. Four of the six revisions to landslide repair methods would be a variation from the Town of Tiburon Landslide Mitigation Policy because they do not repair all portions of Risk Level A landslides located within 100 feet of proposed building footprints. It would be the Town Engineer's responsibility to determine if the proposed mitigation would satisfy the Town's Landslide Mitigation Policy requirements.⁹

Impact 5.6-1 Seismic Ground Shaking

Alternative 3 would not change the impacts associated with seismic ground shaking. This would remain a significant impact. As with the proposed project, implementation of Mitigation Measure 5.6-1 would reduce this impact to a less-than-significant level.

Impact 5.6-2 Seismic-Related Ground Failure

With *Alternative 3*, impacts associated with seismic-related ground failure would be significant, which is the same as with the proposed project. A detailed geotechnical analysis of design plans for the revised landslide repair methods would be required in order to determine the effectiveness of the revised landslide repairs.

Mitigation Measure 5.6-2 requires a seismic slope stability analysis for all Risk Level A landslides located on the project site, and if needed, additional recommendations from a qualified geologist consultant for repairing or improving unstable slopes and landslides to have a calculated factor of safety greater than 1.0 for seismic conditions. Therefore, as with the proposed project, implementation of Mitigation Measure 5.6-2 would reduce this impact to a less-than-significant level. It should be noted, however, that if the revised landslide repair methods are infeasible, or do not meet the Town's landslide mitigation requirements, additional repair methods would be similar to those originally proposed with the proposed project.

Impact 5.6-3 Landsliding

Alternative 3 contains site plan revisions that would change specific landsliding impacts, which are discussed below. The effectiveness of each revision would not be known until a more detailed geotechnical analysis is performed. Even with the revisions contained in *Alternative 3*, landsliding would remain a significant impact and mitigation would remain the same as what is proposed in Mitigation Measure 5.6-3, except that some landslide repair methods of *Alternative 3* may require

⁸ Risk Level A landslides include all active, dormant, or potential landslide areas having a high risk of causing damage to structures and improvements, and: (1) are within 100 feet of any designated building envelope; (2) have debris flow source areas where the flow path crosses any building envelope or residential use area; and (3) are active landslides that could affect adjacent public or private property.

⁹ The Town's Landslide Mitigation Policy is described in *Section 5.6 Geology and Soils*. As described in the policy, the Town Engineer has the sole discretion to determine (1) the risk level of any landslide or potential landslide; (2) whether a proposed project avoids on-site landslides and (3) *whether proposed mitigation is adequate under this policy (emphasis added)*.

exceptions to the Town of Tiburon Landslide Mitigation Policy. It should be noted that, as discussed below, the revisions contained in *Alternative 3* may reduce the stability of landslide repairs proposed for the project. The following discussion describes the revisions to landslide repair that are proposed with *Alternative 3*.

Revision 1 is located in Lot 13 within Landslide N. The proposed revision, shown in **Exhibit 6.0-6**, would reduce the extent of proposed grading to maintain a 25-foot setback from the location of Marin western flax, a special-status plant species that is mapped in the area. This grading revision would only repair a small portion of Landslide N, leaving a significant portion of the landslide that would not be repaired or eliminated as required by the Town's Landslide Mitigation Policy. A detailed geotechnical analysis would be required to determine if this proposed revision would stabilize this section of Landslide N to a level that would satisfy the Town's Landslide Mitigation Policy.

Revision 2, shown in **Exhibit 6.0-6**, would eliminate the use of a compacted fill buttress for repair of the upper portions of Landslides N and O on Lot 13 and the adjacent common open space. The revision proposes to use a buried wall or buried reinforced earth slope that would only stabilize the land supporting the proposed road. With this revision, portions of Landslides N and O below the proposed wall or reinforced earth slope would not be repaired or eliminated as required by the Town's Landslide Mitigation Policy.

Revision 3, shown in **Exhibit 6.0-6**, would utilize a buried wall or buried reinforced earth slope to repair Landslide O on Lot 10, where the original landslide repair methods would remove a significant portion of Landslide O and replace it with a compacted fill buttress. This revised repair would be similar to having a compacted fill buttress repair, except the extent of grading would be slightly reduced. With the proposed landslide repair method of Revision 3, the portion of Landslide O located below the proposed location of the buried wall or buried reinforced earth slope would not be repaired or eliminated as required by the Town's Landslide Mitigation Policy.

Revision 4, shown on **Exhibit 6.0-7**, would reduce the extent of grading for repair of Landslide E in order to preserve a fresh water seep mapped within the lower vicinity of this landslide. Although this would reduce the direct impact of grading to the mapped seep location, the upper section of the landslide would still be removed and replaced as a compacted fill buttress. It is possible that the source of this fresh water seep is due to the presence of Landslide E. Therefore, alteration of the upslope portion of Landslide E may likely impact this fresh water seep. Additionally, the subdrains proposed for the project just below Landslide E may also impact surface or subsurface water in the vicinity of the seep.

Revision 5, shown on **Exhibits 6.0-6** and **6.0-7**, would reduce the extent of grading for the repair of Landslides B and D. This revision would reduce the size of the proposed compacted fill buttress; therefore, this would likely change the effectiveness of the compacted fill buttress repair. Revision 5 would be a variation from the Town's Landslide Mitigation Policy. A detailed geotechnical analysis would be required to determine the extent Revision 5 would stabilize Landslides B and D.

Revision 6 would eliminate the subdrain systems proposed in the project for Landslides B and C. The elimination of these subdrain systems would likely reduce the effectiveness of the landslide repair. Additional geotechnical analysis would be required to determine how the methods proposed with Revision 6 would effect the stabilization of Landslides B and C.

Impact 5.6-4 Slope Stability

As discussed above with *Impact 5.6-3*, *Alternative 3* includes site plan revisions to the proposed project that would alter some of the proposed landslide repair methods. A detailed geotechnical analysis of the revisions to landslide repair would be required to determine their effectiveness at landslide stabilization. However it is anticipated that even with these revisions *Alternative 3*, like the proposed project, would result in significant impacts to slope stability. To reduce this impact to a less-than-significant level would require implementing the measures discussed in Mitigation Measure 5.6-4.

Impact 5.6-5 Grading

With *Alternative 3*, revisions to landslide remediation would reduce the extent of grading on the project site. *Alternative 3* would result in the following revisions to project grading:

- Revision 1 would reduce the extent of grading on Lot 13 for repair of Landslide N.
- Revision 2 would significantly reduce the amount of grading on Lot 13 and the adjacent common open space, since a compacted fill buttress would no longer be used for landslide stabilization of Landslides N and O.
- Revision 3 would reduce the extent of grading below the building envelope on Lot 10 for repair stabilization of Landslide O.
- Revision 4 would reduce the extent of grading on Lot 7 and adjacent common open space required for the compacted fill buttress in the upper portion of Landslide E.
- Revision 5 would reduce the extent of grading for repair of the upper portions of Landslides B and D.
- Revision 6 would reduce the amount of excavation disturbance required for subdrain installation.

However, even with these revisions proposed with *Alternative 3*, grading could result in soil erosion, slope instability, or the loss of topsoil, which would result in a significant impact. As with the proposed project, implementation of Mitigation Measure 5.6-5 would reduce grading impacts to a less-than-significant level.

Impact 5.6-6 Secondary Effects of Grading

With *Alternative 3*, the secondary effects of grading would be reduced, particularly on biological resources. Revisions to landslide repair methods that would help reduce impacts to biological resource include:

- Revisions 1, 2 and 3 would create a buffer zone around Marin western flax mapped on Lot 13.
- Revision 4 would eliminate grading of a fresh water seep on Lot 7. However, as discussed in *Impact 5.6-3* above, subdrain construction adjacent to this seep and compacted fill buttress construction upslope of the seep would likely alter the surface and subsurface water conditions that are the source of this seep.

- Revision 5 would reduce the extent of grading impacts to serpentine bunchgrass and Tiburon buckwheat growing within the limits of Landslides B and D.
- Revision 6 would eliminate the impact of subdrain installation on the biotic resources within the limits of Landslide C, adjacent to the existing Rabin private driveway.

With *Alternative 3*, grading impacts on Groundwater, Drainageways and Wetland Habitats would remain a significant impact. Even with the revisions, naturally occurring surface and subsurface water paths would be altered during improvement / repair grading for the project. As with the proposed project, impacts from the secondary effects of grading to biological resources would be significant. Implementing the measures discussed in Mitigation Measure 5.6-6, and mitigation measures contained in *Section 5.5 Biological Resources*, would reduce the impact secondary effects of grading would have on biological resources to a less-than-significant level.

Impact 5.6-7 Expansive Soils

With *Alternative 3*, impacts associated with expansive soils would remain a significant impact. As with the proposed project, implementation of Mitigation Measure 5.6-7 would reduce this impact to a less-than-significant level.

PUBLIC SERVICES

Impact 5.7-1 Fire Service Impact

Alternative 3 would have a similar increase to service demands on the Tiburon Fire Protection District (TFPD) as the proposed project. As with the proposed project, *Alternative 3* would have a significant impact on fire services. The impact is the result of concern for the use of vegetated roofs and the use of multiple dry standpipes to enable fire apparatus access to 150 feet of all portions of the ground floors for the new structures. This is unacceptable to the TFPD. As with the proposed project, implementation of mitigation measures to provide adequate fire apparatus access by providing multiple access points to the proposed structures would reduce this impact to a less-than-significant level.

Impact 5.7-2 Wildland-Building Fire Exposure

As with the proposed project, development of *Alternative 3* would expose houses and structures to wildland fire risks. With incorporation of Fire Safe Marin guidelines and TFPD requirements, this would be a less-than-significant impact.

Impact 5.7-3 Cumulative Fire Service Impact

Development of *Alternative 3* together with cumulative development in the Tiburon Planning Area could generate additional demand for fire services from the TFPD. This would be a significant cumulative impact and, similar to the proposed project, *Alternative 3* would make a cumulatively considerable contribution.

Impact 5.7-4 Increased Demand for Police Protection Services

Alternative 3 would be served by the Town of Tiburon Police Department. This alternative would not generate a substantial increase in calls for police services and would not require additional officers or

improvements to the Police Department facility. *Alternative 3* would have a less-than-significant impact on police protection services.

Impact 5.7-5 Cumulative Increased Demand for Police Protection Services

Development of *Alternative 3* together with cumulative development in the Tiburon Planning Area would have a less-than-significant cumulative impact on police protection services. Buildout of the Tiburon Planning Area would require the addition of four sworn personnel. The Tiburon Police Department has the capacity to accommodate four additional officers, therefore impacts would be negligible.

Impact 5.7-6 Increased Water Demand

Development of *Alternative 3* would result with the same increase on water demand as the proposed project. Marin Municipal Water District (MMWD) has sufficient capacity to serve the project site whether it is developed with *Alternative 3* or the proposed project.

Impact 5.7-7 Water Service Impacts

Alternative 3 does not include any revisions to the proposed design of the on-site water supply system. Therefore development of *Alternative 3* would result in the same significant impacts to water service as the proposed project. This impact is attributed to Lot 14, which would be constructed at an elevation too low to be served by the proposed water system. Mitigation Measure 5.7-7 requires the proposed water supply system be redesigned so that Lot 14 would be served by MMWD's existing water line in Paradise Drive. Implementation of Mitigation Measure 5.7-7 would reduce water service impacts to a less-than-significant level.

Impact 5.7-8 Cumulative Water Service Impacts

Cumulative development would result in increased water service demands. MMWD has stated that it has sufficient water supplies to meet the projected demand within the MMWD service area and plans to provide additional water to meet project water shortages through the year 2025. *Alternative 3* would have the same estimated water demand as the proposed project.

Impact 5.7-9 Increased Project Wastewater Treatment Demand

Development of *Alternative 3* would result in a less-than-significant impact on wastewater treatment demand. *Alternative 3* would generate the same amount of wastewater as the proposed project, and wastewater from the development alternative would be treated at the Paradise Cove Treatment Plant. The additional flow would not require the construction of additional treatment facilities or exceed wastewater treatment requirements of the Regional Water Quality Control Board or violate water quality standards.

Impact 5.7-10 Increased Cumulative Wastewater Treatment Demand

Cumulative development would increase sewage treatment demands on Sanitary District No. 5. Existing and planned facilities, including the expanded Paradise Cove Treatment Plant would have sufficient capacity to serve the cumulative buildout of the area. *Alternative 3* would not generate more wastewater than the proposed project.

Impact 5.7-11 Reed Union School District

Alternative 3 would generate the same number of students who would attend Reed Union School District (seven students). All three district schools have adequate capacity to accommodate the number of students generated by *Alternative 3* and this would be a less-than-significant impact.

Impact 5.7-12 Tamalpais Union High School District

Implementation of *Alternative 3* would generate about three to five students who would attend Redwood High School. This would result in a less-than-significant impact on the capacity of the Tamalpais Union High School District.

Impact 5.7-13 Cumulative Public School Impacts

Both the Reed Union School District and the Tamalpais Union High School District would have adequate capacity to accommodate future students from cumulative development in the area. This would be a less-than-significant impact with the development of *Alternative 3*.

Impact 5.7-14 Project and Cumulative Increased Demand for Solid Waste Services

Implementation of *Alternative 3* would result in an increased demand for disposal of solid waste. This would be a less-than-significant impact. *Alternative 3* would result in the construction of 13 new residences that would house approximately 30 people, who would generate an estimated 81 pounds of solid waste per day. Marin County's Integrated Waste Management Plan indicates the Redwood Landfill will have adequate capacity beyond 15 years and into the foreseeable future. Therefore, the Redwood Landfill would be able to accommodate waste resulting from cumulative development in the area, resulting in a less-than-significant cumulative impact. The amount of solid waste generated with *Alternative 3* would be the same as the proposed project.

VISUAL RESOURCES

Alternative 3 includes revisions to four of the proposed residences (Lots 4, 5, 6, and 13). These revisions are intended to reduce the overall mass of the residences, and limit its prominence from viewpoints in the vicinity of the project site. Commonalities among the revised building plans include the following:

- Revised building locations - Used as a means to screen structure mass behind slopes, reduce the elevation of a residence, and / or create more distance between the residence and the viewpoint locations.
- Consolidated building footprints - Detached structures are incorporated within the primary footprint of the residence, or eliminated altogether. Swimming pools and decks are pulled closer to the living space in order to reduce the structural sprawl on the hillside.
- Floorplan reductions - Very closely related to the reduction of building footprint, floorplans feature fewer and smaller rooms and a more efficient use of space.
- Reduced roofs - Reduced floorplans lead to a reduction of roof area, which helps reduce the visual prominence of the proposed residences.

- Reduced structure height - As a result of consolidating floorplans and increasing underground living space, some upper story elements are reduced, which results with a reduction of structure height.
- Reduced exterior windows (reflectivity) - Reduction in the exposed exterior surfaces leads to a reduction of windows. Large windows can be a distraction because of their reflective glass surface.

Impact 5.8-1 View Looking North from Middle Ridge Open Space (Viewpoint No. 1)

As detailed in the discussion of *Impact 5.8-1* in *Section 5.8 Visual Quality*, elements of the proposed project that would be visible in Viewpoint No. 1 would draw the viewer's attention away from the primary focus, which is the San Francisco Bay, and result in a significant visual impact from this location. With *Alternative 3*, revisions to the proposed residences for Lots 4, 5, and 6 would reduce the visual mass of the structures and their prominence within this view. Design measures that would be most effective at reducing the structural mass of these proposed residences include:

Lot 4 features a redesigned floor plan that would utilize more underground living space and would reduce the multiple story appearance so the most visible façade from Viewpoint No. 1 would be dominated by a single story element. Structure heights would be reduced and the garage would be incorporated within the primary building footprint rather than detached, as it is designed for the proposed project.

Lot 5 would include a significant reduction in the floor area of the second story floorplan, which would be the most prominent element of the residence that can be viewed from Viewpoint No. 1. Also with *Alternative 3* the existing garage at the northern elevation would be demolished and not rebuilt as is proposed with the proposed project.

With *Alternative 3*, the proposed residence for Lot 6 would be setback an additional 28 feet from the southern property line, which would increase the distance from the location of Viewpoint No. 1. Additionally, the detached pavilion structure, included with the proposed project, would not be constructed.

While the revisions to the proposed residences discussed above would be effective at reducing the structures' prominence within Viewpoint No. 1, the project elements would remain in contrast to the natural form, line, and texture of the existing setting. Additionally, other project elements with *Alternative 3* would remain *co-dominant* in appearance and substantially alter the characteristics of this view, resulting in a significant unavoidable visual impact from this location.

Impact 5.8-2 View Looking West from Paradise Drive (Viewpoint No. 2)

With *Alternative 3*, project elements would remain in the background of this viewpoint. Revisions to the proposed residence on Lot 4 would reduce the structure height of the residents, and effectively reduce Lot 4's prominence within this viewpoint. However, similar to the proposed project, from this viewpoint, implementation of the *Alternative 3* would not substantially affect a scenic vista, would not substantially damage any scenic resources, and would not substantially degrade the visual character or quality of the site or its surroundings. This would be a less-than-significant impact.

Impact 5.8-3 View Looking East from Acacia Drive (Viewpoint No. 3)

With *Alternative 3*, the visibility of project elements from Viewpoint No. 3 would not substantially differ from that of the proposed project. Implementation of *Alternative 3* would not substantially affect a scenic vista, would not substantially damage any scenic resources, and would not substantially degrade the visual character or quality of the site or its surroundings. This would be a less-than-significant impact.

Impact 5.8-4 Light Pollution

Like the proposed project, implementation of *Alternative 3* would result in new lighting sources on the project site which could lead to increased light pollution. This would be a significant impact. As with the proposed project, implementation of Mitigation Measure 5.8-4 would reduce light pollution impacts to a less-than-significant level.

CULTURAL RESOURCES

Impact 5.9-1 Potential Subsurface Cultural Deposits

Impact 5.9-1 states that no discernible impacts to subsurface cultural resources including human remains are anticipated. However the possibility cannot be precluded that prehistoric cultural deposits and features are present below the ground surface and could be damaged during land alteration activities. This would be a significant impact that would hold true for *Alternative 3* as well as the proposed project.

6.4 ALTERNATIVE SITE ANALYSIS

EIRs analyze off-site alternatives to determine if any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. The analyses of the proposed project plus *Alternative 3* in this chapter have demonstrated that most of the project's significant physical effects can be mitigated successfully on-site. However, that fact alone does not eliminate the need to evaluate the physical effects the proposed development would have at alternative sites. It is necessary to begin by determining whether a feasible alternative location exists.

A feasible alternative is defined as one where, taking into account economic, legal, social, and technological factors, development could occur in a reasonable period of time. Factors considered in determining the feasibility of alternative sites include site suitability for development, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and an applicant's ability to acquire the site. No single factor makes a site infeasible. Because CEQA requires analysis of a range of reasonable alternatives that would feasibly attain most project objectives, only infeasible alternative sites which would not meet a majority of project objectives would be dismissed.

Possible alternative sites were assessed to determine whether they could accommodate the proposed *Alta Robles Residential Development*. An alternative site should meet the following criteria:

- The alternative site(s) should be vacant, privately-owned land. Developed sites or sites already committed to another development which proposes land uses different from those of the proposed project would not be considered potential sites. However, developed sites that have adequate space to accommodate the proposed project, such as golf courses, would be considered potential

sites. Permanent park, open space, or other lands designated for non-developed uses were not considered as potential alternative sites;

- Consistent with the *Town of Tiburon General Plan*, the alternative site(s) should be designated for Single-Family Residential land uses at a density range that would allow for this type of development;
- The alternative site(s) should be capable of allowing development according to the proposed project. This means the alternative site(s) should be comparable in size to the proposed project site (52.21 acres), and able to accommodate the development of 13 new single family residences;
- The alternative site(s) should be in one land holding and free of encumbrances that would prevent or substantially restrict development;

The preferred area for locating an alternative site is the Tiburon Peninsula. The *Town of Tiburon General Plan* contains an inventory of residential parcels that have similar characteristics to the project site.¹⁰ These parcels are located within the jurisdiction of either the Town of Tiburon or Marin County, and are all located within the Tiburon Peninsula. However several of the properties listed in the General Plan are significantly smaller than the proposed project site and would not represent a comparable development alternative. The following is a list of parcels that, primarily because of their size, would not make feasible alternatives to the proposed project site and are excluded from further analysis:¹¹

Tiburon Court This 13.4 acre property is located along Trestle Glen Boulevard. A vesting subdivision map for three residential units was approved for this property in October 2002. This property is too small to accommodate the objectives of the proposed development.

Trestle Glen Lower This 14.5 acre property has a maximum density of 0.3 dwelling unit per acre and would allow for approximately four units, which would not accommodate the objectives of the proposed project.

Tiburon Glen This property is 26 acres and has a maximum density of 0.3 dwelling unit per acre, which would allow approximately eight units. The size of the property and other development constraints, such as steep slopes and sensitive habitats make it an infeasible development alternative.

Amerippon This property is 10.3 acres and has a maximum allowable density of 0.5 dwelling unit per acre, which would allow for five units. The size of the property and maximum allowable density would not accommodate the objectives of the proposed project.

Pourian This approximately 5.6 acre site is too small to accommodate the development objectives of the proposed project.

¹⁰ *Land Use Element - Tiburon General Plan*, Town of Tiburon, adopted September 7, 2005 and revised through March 31, 2006, pages 2-5 thru 2-10.

¹¹ Table 2.2-2 describes the residential parcels and Figure 2.2-1 shows the location of the parcels. *Tiburon General Plan*, Town of Tiburon, adopted September 7, 2005 and revised through March 31, 2006.

Ring Mountain Parcel This property is approximately 4.8 acres in size and has a maximum allowable density of 0.2 dwelling unit per acre, which would allow for one unit. This property is not a feasible off-site alternative.

Sorokko This property is approximately 16.4 acres and has a maximum allowable density of 0.5 dwelling unit per acre. In 2008 Marin County approved a Master Plan and Land Division for the Sorokko property located at 3820 Paradise Drive. The approval divided the property into four lots and a remainder parcel. Based on this development approval, this property would not be a feasible off-site alternative.

Slater This property is approximately 26.1 acres in size and has a General Plan density of 0.4 dwelling unit per acre, which would allow a maximum of ten units. This property is too small to be considered a feasible development alternative.

Traeger This property is approximately 16-acres and has a maximum density of 0.5 dwelling unit per acre, which would allow up to eight units. The property is heavily wooded, contains steep slopes, and is too small to accommodate the objectives of the proposed project.

BRC This property is approximately 50.2 acres, features extremely steep slopes and is heavily wooded. Because of these development constraints the property has a maximum density of 0.1 dwelling unit per acre, which would allow a maximum of five units. This property is not a feasible off-site alternative to the proposed project site.

Keil This property is approximately 30.8 acres and has an allowable density of 0.13 dwelling unit per acre, which would allow four residences. The property is subject to a conservation easement held by the Garden Conservancy. Since the project would only accommodate four residences and is not free of encumbrances to development, it would not make a feasible off-site alternative.

Swahn This property is approximately 15 acres and has a maximum density of 0.3 dwelling unit per acre, which would allow five units. The owner has filed an application with Marin County to construct a two-story residence with an attached garage, a two-story guest house and a single-story second unit on the site. This property is too small for consideration as an off-site alternative.

Pan-Pacific Ocean This 17-acre parcel has a maximum allowable density of 0.2 dwelling unit per acre, which would allow three units. Currently the General Plan recommends that approximately one acre of the property be designated with an Affordable Housing Overlay (AHO). This property is too small and subject to development encumbrances, and therefore is not considered a feasible off-site alternative.

Oloumi This property is approximately 6.1 acres and has a maximum density of 0.4 dwelling unit per acre, which would allow two units. The General Plan also recommends approximately 0.75 acres of this site be designated with an Affordable Housing Overlay (AHO). Due to the property's size and development encumbrances this property would not make a feasible off-site development alternative.

O'Connor This property is approximately 11.7 acres and has a maximum density of 0.4 dwelling unit per acre, which would allow four residences on the site. The property has an existing single family residence and, due to its size, would not make a feasible development alternative.

Robbins / Adams This property is approximately 9.1 acres and has a maximum density of 0.5 dwelling unit per acre, which would allow four units. The property is currently developed with two

single family homes. The property is too small to accommodate the objectives of the proposed project.

Drever This property is approximately 8.3 acres and has a maximum density of 0.5 dwelling unit per acre, which would allow four units. The property is too small for consideration as an off-site alternative.

Ling This property is approximately 5.6 acres and has a maximum density of 1.0 dwelling unit per acre, which would allow five units. This property is too small to serve as a feasible off-site development alternative.

In summary, the *Tiburon General Plan* inventories 21 undeveloped residential parcels that are designated with the Planned Development Residential land use classification. Applications for smaller residential developments are under review, or have been approved, for several of these properties (e.g. Tiburon Court, Tiburon Glen, Amerippon, Sorokko, Ring Mountain, Pan-Pacific Ocean, and Ling). Regardless of their current development status, these properties, as well as the others listed above, are generally too small and contain development constraints which make them infeasible as an off-site development alternative. Three of the 21 properties inventoried in the *Tiburon General Plan* are not listed above. Two of these properties (SODA and Rabin) are the proposed project site. Another property which is not included in the above list is the 110-acre Martha property.

The Martha property is located along Paradise Drive, southwest of the proposed project site. This property is larger than the proposed project site and contains similar physical characteristics. The property owner (the Martha Company) has filed an application with Marin County for the development of a 43-lot residential subdivision (Easton Point). The project includes an application for a Master Plan, Precise Development Plan and Tentative Subdivision. The application does not include a request for annexation to the Town of Tiburon. With the pending application on file with Marin County it is speculative to assume the Martha property would be available for use as an off-site alternative for the *Alta Robles Residential Development* project. Furthermore, the Martha property contains similar development constraints, such as landslide and sensitive biological habitat, which makes it reasonable to assume development of the proposed project on the Martha Property would result in similar environmental impacts.

Based on the above analysis, it is concluded that none of the undeveloped properties located in the Tiburon Peninsula would be available and suitable to accommodate the objectives of the proposed development. Therefore no further analysis of potential off-site alternatives is necessary.

6.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

On the basis of the discussion of the proposed project and the on-site alternatives, the EIR finds that *Alternative 1* (No Project / No Build) would be the environmentally superior alternative as it would avoid the environmental impacts associated with construction and operation of the proposed project. By assuming no additional development on the Rabin site, *Alternative 2* (No Project / Reasonably Foreseeable Development) would result in the construction of eight new residences, where the proposed project and *Alternative 3* (Revised Site Plan Alternative) propose to build 13 new residences. While *Alternative 2* would result with similar significant impacts to the proposed development and *Alternative 3*, with *Alternative 2* minimal construction would occur on the Rabin property, and less roads, utilities, walls and fences would be constructed, which would result in a relative reduction to the disruption of the project sites natural characteristics. *Alternative 2*, therefore, would be environmentally superior to the proposed project and *Alternative 3*. The same as *Alternative 1*,

however, *Alternative 2* is a no project alternative. In addition, *Alternative 2* would not meet the applicant's objectives for the project site, including the construction of 13 new residences and the creation of common open space on the project site.

The *CEQA Guidelines* (section 15126.6[e]) states that if the environmentally superior alternative is the no project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Of the remaining alternatives, *Alternative 3* would be the environmentally superior alternative. Although the significant impacts associated with *Alternative 3* would be similar to the proposed project, the inclusion of the proposed revisions would reduce the degree of certain impacts; however, such impacts would remain significant and in need of mitigation measures.

Exhibit 6.0-8 summarizes the impacts for the *Alta Robles Residential Development* project and each of the three on-site alternatives. In the following exhibit, "LTS" denotes impacts determined to be less-than-significant. "S" denotes significant impacts that would be reduced to less-than-significant with implementation of mitigation measures. "SU" denotes significant unavoidable impacts (i.e., impacts that would not be reduced to less-than-significant with implementation of mitigation measures).

Exhibit 6.0-8
Impact Comparison

Impact	Proposed Project	Alternative 1 (No Project / No Build)	Alternative 2 (No Project / Reasonably Foreseeable Development)	Alternative 3 (Revised Site Plan)
Transportation				
5.1-1 Existing-plus-Project Impact on Signalized Intersections	LTS	LTS	LTS	LTS
5.1-2 Cumulative-plus-Project Impact on Signalized Intersections	LTS	LTS	LTS	LTS
5.1-3 Existing-plus-Project and Cumulative Impacts on Unsignalized Intersections	LTS	LTS	LTS	LTS
5.1-4 Safety Impact Due to Inadequate Sight Distance Approaching the Unsignalized Intersection of Paradise Drive with the Project Entrance	S	LTS	S	S
5.1-5 Impact on Regional Roadways	SU	LTS	SU	SU
5.1-6 Project Impact on Transit	LTS	LTS	LTS	LTS
5.1-7 Project Impact on Bicycle Facilities and / or Safety	S	LTS	S	S
5.1-8 Project Impact on Pedestrian Circulation	LTS	LTS	LTS	LTS
5.1-9 Project Impacts Related to Site Access	LTS	LTS	LTS	LTS
5.1-10 Project Impacts Related to Emergency Access and Internal Circulation	LTS	LTS	LTS	LTS
5.1-11 Parking Impacts	LTS	LTS	LTS	LTS
5.1-12 Construction Traffic Impacts	LTS	LTS	LTS	LTS
Air Quality				
5.2-1 Construction-Period Air Pollutant Emissions	S	LTS	S	S
5.2-2 Generation of Airborne Asbestos	LTS	LTS	LTS	LTS

Impact	Proposed Project	Alternative 1 (No Project / No Build)	Alternative 2 (No Project / Reasonably Foreseeable Development)	Alternative 3 (Revised Site Plan)
5.2-3 Greenhouse Gas Emissions	LTS	LTS	LTS	LTS
Noise				
5.3-1 Construction Noise	SU	LTS	SU	SU
Hydrology and Water Quality				
5.4-1 Alteration of Existing Drainage Patterns and On- and Off-Site Flooding	LTS	LTS	LTS	LTS
5.4-2 Alteration of Existing Drainage Patterns on Erosion and Downstream Sedimentation	S	LTS	S	S
5.4-3 Impacts on Groundwater Levels and Groundwater Recharge	LTS	LTS	LTS	LTS
5.4-4 Impacts on Water Quality	S	LTS	S	S
Biological Resources				
5.5-1 Special-Status Species	S	LTS	S	S
5.5-2 Sensitive Natural Communities	S	LTS	S	S
5.5-3 Wetlands and Drainages	S	LTS	S	S
5.5-4 Wildlife Habitat and Connectivity	S	LTS	S	S
5.5-5 Conflicts with Tiburon Tree Ordinance and Wetland Policies	S	LTS	S	S
Geology and Soils				
5.6-1 Seismic Ground Shaking	S	LTS	S	S
5.6-2 Seismic-Related Ground Failure	S	LTS	S	S
5.6-3 Landsliding	S	LTS	S	S
5.6-4 Slope Stability	S	LTS	S	S
5.6-5 Grading	S	LTS	S	S
5.6-6 Secondary Effects of Grading	S	LTS	S	S
5.6-7 Expansive Soils	S	LTS	S	S

Impact	Proposed Project	Alternative 1 (No Project / No Build)	Alternative 2 (No Project / Reasonably Foreseeable Development)	Alternative 3 (Revised Site Plan)
Public Services				
5.7-1 Fire Service Impact	S	LTS	S	S
5.7-2 Wildland-Building Fire Exposure	LTS	LTS	LTS	LTS
5.7-3 Cumulative Fire Service Impact	S	LTS	S	S
5.7-4 Increased Demand for Police Protection Services	LTS	LTS	LTS	LTS
5.7-5 Cumulative Increased Demand for Police Protection Services	LTS	LTS	LTS	LTS
5.7-6 Increased Water Demand	LTS	LTS	LTS	LTS
5.7-7 Water Service Impacts	S	LTS	S	S
5.7-8 Cumulative Water Service Impacts	LTS	LTS	LTS	LTS
5.7-9 Increased Project Wastewater Treatment Demand	LTS	LTS	LTS	LTS
5.7-10 Increased Cumulative Wastewater Treatment Demand	LTS	LTS	LTS	LTS
5.7-11 Reed Union School District	LTS	LTS	LTS	LTS
5.7-12 Tamalpais Union High School District	LTS	LTS	LTS	LTS
5.7-13 Cumulative Public School Impacts	LTS	LTS	LTS	LTS
5.7-14 Project and Cumulative Increased Demand for Solid Waste Services	LTS	LTS	LTS	LTS
Visual Quality				
5.8-1 View Looking North from Middle Ridge Open Space (Viewpoint No. 1)	SU	LTS	LTS	SU
5.8-2 View Looking West from Paradise Drive (Viewpoint No. 2)	LTS	LTS	LTS	LTS
5.8-3 View Looking East from Acacia Dr. (Viewpoint No. 3)	LTS	LTS	LTS	LTS

<i>Impact</i>	<i>Proposed Project</i>	<i>Alternative 1 (No Project / No Build)</i>	<i>Alternative 2 (No Project / Reasonably Foreseeable Development)</i>	<i>Alternative 3 (Revised Site Plan)</i>
5.8-4 <i>Light Pollution</i>	S	LTS	S	S
<i>Cultural Resources</i>				
5.9-1 <i>Potential Subsurface Cultural Deposits</i>	S	LTS	S	S

- a LTS = Less-Than-Significant
- S = Significant (impact would be less-than-significant with implementation of mitigation measures)
- SU = Significant Unavoidable (impact would remain significant even with implementation of mitigation measures)
- NA = Not Applicable (in some cases due to inadequate information about the alternative to make a determination)

Source: Nichols • Berman

LAND USE AND PLANNING

Alternative 1 would forego the opportunity to implement the goals and policies in the *Tiburon General Plan* that are applicable to the project site. Whereas the proposed project demonstrates consistency with the *Tiburon Town Code*, *Town of Tiburon Design Guidelines for Hillside Dwellings*, *Paradise Drive Visioning Plan*, and *LAFCo Policy Guidelines*, the benefits of having a project demonstrate consistency with these policies and guidelines would be lost.

With *Alternative 2* the SODA property would be developed and remain under the jurisdiction of Marin County. *Alternative 2* would be consistent with residential density requirements of the *Marin Countywide Plan* and the *County Development Code*. With *Alternative 2* the number of housing units and their location may not be in compliance with the Ridge and Uplands Greenbelt policies and programs.

With regards to Land Use and Planning, *Alternative 3* is similar in consistency issues with the proposed project.

TRANSPORTATION

Alternative 1 would not result in any project generated traffic as no development would occur. *Alternatives 2* and *3* would have the same transportation impacts as the proposed project. As with the proposed project, with *Alternatives 2* and *3* significant impacts to safety due to inadequate sight distance for vehicles approaching the proposed project entrance from the east (*Impact 5.1-4*) and significant impacts on bicycle safety (*Impact 5.1-7*) would be reduced to less-than-significant levels with implementation of mitigation measures.

As discussed with *Impact 5.1-5*, cumulative development would result in a significant unavoidable impact on regional roadways. The proposed project and *Alternatives 2* and *3* would make a small, yet significant, contribution to this cumulative impact. Only *Alternative 1* would avoid increasing vehicle trips on regional roadways. *Alternative 2* does not reduce the amount of significant impacts and is not environmentally superior to the proposed project in regards to traffic and circulation impacts.

AIR QUALITY

The proposed project, *Alternative 2*, and *Alternative 3* would result in similar Air Quality impacts. *Alternative 2 and Alternative 3*, as with the proposed project, would result in significant construction-period air pollutant emissions (*Impact 5.2-1*). With *Alternative 1* there would be no impacts to Air Quality.

NOISE

The project site is located in a quiet area that is susceptible to significant impacts resulting from increases to ambient noise levels. The proposed project would result in significant unavoidable noise impacts associated with construction noise (*Impact 5.3-1*). *Alternative 2 and Alternative 3* would also result in significant unavoidable noise impacts. Although with *Alternative 2* the majority of noise generating construction activities on the Rabin property would be eliminated, resulting in less impact than with the proposed project and *Alternative 3*. With *Alternative 1* no development would occur and therefore no noise related impacts would occur.

HYDROLOGY AND WATER QUALITY

The proposed project, *Alternative 2*, and *Alternative 3* would result in significant impacts from the alteration of existing drainage patterns on erosion and downstream sedimentation (*Impact 5.4-2*) and water quality (*Impact 5.4-4*). These impacts would be reduced to a less-than-significant level with incorporation of identified mitigation measures. In comparison, *Alternative 1* would not result in any impacts, as no changes to the site would occur.

Alternative 2 would not disturb as many drainage areas as the proposed project, and would result in less concentrated runoff, risk of erosion and sedimentation.

BIOLOGICAL RESOURCES

The proposed project, *Alternative 2*, and *Alternative 3* would result in significant impacts to special-status species, sensitive natural communities, wetlands and drainages, wildlife habitat connectivity, and conflicts with the *Tiburon Tree Preservation Ordinance* and wetland policies. With all three development scenarios, the identified significant biological resources impacts would be reduced to a less-than-significant level with implementation of the mitigation measures identified in this EIR. Compared to the proposed project, *Alternative 1* would not result in any impacts to biological resources, as no development would occur.

GEOLOGY AND SOILS

The proposed project, *Alternative 2*, and *Alternative 3* would result in significant impacts associated with seismic ground shaking, seismic related ground failure, landsliding, slope stability, grading, secondary effects of grading, and expansive soils. In comparison, *Alternative 1* would not result in any geological or soils impacts as no development would occur.

With *Alternative 3* revisions to landslide repair methods would reduce the degree of impacts to biological resources; however, such impacts would remain significant and in need of mitigation measures.

PUBLIC SERVICES

The proposed project, *Alternative 2*, and *Alternative 3* would result in significant impacts with respect to fire service, cumulative fire service, and water service impacts. These impacts would be reduced to less-than-significant levels with incorporation of proposed mitigation measures. In comparison, *Alternative 1* would not result in any impacts as no development would occur.

VISUAL QUALITY

The proposed project and *Alternative 3* would result in a significant unavoidable impact on Viewpoint No. 1 (**Exhibit 5.8-4**). *Alternative 1* would not impact this viewpoint because there would be no development. With *Alternative 2* only six residences would be visible from this viewpoint, compared to 12 residences that would be visible with the proposed development and *Alternative 3*. With *Alternative 2*, changes to Viewpoint No. 1 would be subordinate to the viewshed and would result in a less-than-significant impact on Viewpoint No. 1, whereas the proposed project and *Alternative 3* would result in co-dominant changes to the viewpoint. The revisions to proposed residences in *Alternative 3* for Lots 4, 5, and 6 would, however, reduce the visual mass of the structures and their prominence from Viewpoint No. 1.

The proposed project, *Alternative 2*, and *Alternative 3* would result in significant impacts caused by light pollution (*Impact 5.8-4*). *Alternative 1* would not increase light pollution as no new light sources would be constructed. *Alternative 2* would result with five fewer new residences and less street lighting than the proposed project and *Alternative 3*, therefore, while still a significant impact, light pollution would be less apparent. The lighting plan called for in *Mitigation Measure 5.8-4* would reduce this impact to a less-than-significant level for all three development scenarios.

CULTURAL RESOURCES

The proposed grading and construction activities associated with the proposed project, *Alternative 2*, and *Alternative 3* could result in significant impacts to subsurface cultural deposits, including human remains if present. Identified mitigation measures would reduce this impact to a less-than-significant level. Compared to the proposed project, *Alternative 2*, and *Alternative 3*, *Alternative 1* would not disturb potential cultural resources as no development would occur.

7.0 OTHER SECTIONS REQUIRED BY CEQA

7.1 GROWTH INDUCING IMPACTS

Section 15126(g) of the *State CEQA Guidelines* requires EIRs to discuss how a project could foster economic or population growth, or the construction of additional housing (either directly or indirectly) in the surrounding environment.

There are several ways in which growth-inducing effects can result from new development projects. For example, a project can have a growth-inducing impact if development of that project removes obstacles to future development. Physical growth-inducing impacts create and make available infrastructure that fosters future development. These physical improvements can include the construction of roads, water lines, sewer service, and other kinds of urban infrastructure and services into previously non-urban areas.

A second type of impact can be the setting of precedents that could allow similar development to occur in the future. Examples include a development that allows growth in an area previously closed to development such as an agricultural area or outside an urban service area. A precedent setting project can have growth-inducing impacts by increasing the expectations of adjoining property owners who expect the "highest and best use" of their lands.

Project implementation would result in residential development of the SODA and Rabin properties previously designated for future residential use by the *Tiburon General Plan*. The number of proposed residential lots, 13 new residential lots plus one existing residential lot on the Rabin property would be less than the maximum potential density provided for the project site by the Land Use Element of the *Tiburon General Plan*.¹ Based on the Land Use Element the maximum number of housing units on the project site would be 20; – 12 on the Rabin property and eight on the SODA property.

The Rabin property is already within the boundaries of the Town of Tiburon. The SODA property is not within the Town's boundaries. Prior to development it is proposed to annex the SODA property to the Town of Tiburon. The SODA property is one of several properties along Paradise Drive that is shown in the *Tiburon General Plan* to be annexed to the Town of Tiburon prior to development.²

Project implementation, therefore, generally would conform to the planned pattern and sequence of site development. This means that the *Alta Robles Residential Development* would not represent "premature" development occurring before anticipated and would not open up an area for residential development otherwise planned for another use. While implementation of the proposed project would foreclose potential preservation of the site as open space use, that would not constitute a growth inducing effect of the project.

¹ Land Use Element, *Town of Tiburon General Plan*, adopted September 7, 2005 and revised through March 31, 2006, pages 2-5 through 2-10.

² Diagram 2.5-1 Annexation Areas, *Town of Tiburon General Plan*, adopted September 7, 2005 and revised through March 31, 2006.

As discussed in **Section 5.7 Public Services and Utilities** the proposed project would be served by both the Marin Municipal Water District (MMWD) and Sanitary District No. 5. Existing water supply and wastewater facilities generally are adequate to serve the project site. Except for the replacement of a portion of the existing eight-inch water line in Hacienda Drive / Middle Ridge Top Fire Road with a 12-inch water line as proposed by the project, the existing MMWD facilities would be adequate to serve the proposed project. Neither replacement of the existing eight-inch water line nor installation of water lines on the project site would enable adjacent undeveloped properties to develop.

There is sufficient capacity at the Paradise Cove treatment plant to serve the projected wastewater flows generated by the proposed project. No new or expanded treatment facilities would be required. An existing sanitary sewer line provides service to the existing Rabin residence. New sanitary sewer lines would be constructed on the site and connect to existing sanitary sewer lines in Paradise Drive. Similar to the installation of water lines on the project site, installation of sanitary sewer lines on the project site would not enable adjacent undeveloped properties to develop.

For the reasons stated above, the proposed *Alta Robles Residential Development* is not expected to induce growth on adjacent land and, therefore, would not result in a significant growth inducing impact.

7.2 CUMULATIVE IMPACTS

This Draft EIR assesses the effects of implementing the proposed project under existing environmental conditions and under anticipated future conditions. Section 15064(h) of the *State CEQA Guidelines* states that significance determination for cumulative effects be analyzed in two steps: 1) determine if the whole cumulative effect is significant and 2) determine if the project's contribution is "cumulatively considerable". Recent Court guidance³ has been interpreted to imply that the "relevant question is not how the effect of the project compares to preexisting cumulative effect, but whether any additional amount is significant in context of the existing cumulative effect...does not mean any addition in nonattainment area is significant."⁴

When evaluating cumulative impacts, CEQA envisions the use of either a list of past, present, and probable future projects, including projects outside the control of the lead agency, or summary of projections in an adopted planning document, or some reasonable combination of the two approaches. This cumulative analysis uses the development assumptions listed in **Section 3.3 Cumulative Development Assumptions**.

TRANSPORTATION

As discussed in **Section 5.1 Transportation**, traffic impacts have been determined for peak AM and PM hours for weekday and weekend cumulative conditions.

Exhibit 5.1-18 shows cumulative conditions without and with the proposed project for the signalized Tiburon Boulevard / Trestle Glen Boulevard intersection. Level of service is shown for both the existing lane configuration and the planned lane configuration called for in the *Tiburon General Plan*,

³ Citizens for a Better Environment v. State of California Resources Agency.

⁴ 2003 Spring CEQA Workshop Series, Association of Environmental Professionals.

which will consist of adding a second through lane in the westbound direction. This intersection would operate at LOS F during the AM peak hour with the existing lane configuration. Following the installation of planned improvements, the intersection would still operate unacceptably, at LOS D, during the AM peak hour. This would be a significant cumulative impact.

With the existing lane configuration, the addition of project traffic would increase the average delay by less than five seconds (from 87.5 seconds to 89.8 seconds for a change of 2.3 seconds). Following the installation of planned improvements, the addition of project traffic would increase the average delay by less than five seconds (from 42.2 seconds to 43.4 seconds for a change of 1.2 seconds). Because the additional delay caused by the proposed project would be less than the significance criteria for signalized intersections (an increase in average vehicle control delay of five seconds or more) the project's contribution to this cumulative impact would be less than cumulatively considerable.

Exhibit 5.1-20 shows cumulative conditions without and with the proposed project for the unsignalized intersections of Paradise Drive / Trestle Glen Boulevard and Paradise Drive / Project Entrance Road. Both unsignalized intersections would operate at acceptable levels of service during the AM and PM peak traffic hours during weekdays and during the weekend peak hour. This would be a less-than-significant cumulative impact.

The *Tiburon General Plan 2020 EIR* previously identified a significant unavoidable impact to U.S. 101 resulting from regional development, including development within Tiburon (including development of the project site).⁵ The addition of trips generated by development on the project site would represent a relatively small proportion of overall growth on the U.S. 101 corridor. Project trips would constitute approximately 0.1 percent of overall traffic (U.S. 101 carries approximately 15,000 vehicles during the PM peak hour). Although the proposed project would add very little traffic to the U.S. 101 corridor it would add an increment of cumulative traffic which was previously identified as a significant unavoidable cumulative impact.

Impact 5.1-7 (Project Impact on Bicycle Facilities and / or Safety) discusses cumulative impacts on bicycle facilities and / or safety. As discussed in *Impact 5.1-7* the increased vehicular traffic from development along Paradise Drive would result in a cumulatively significant impact to bicyclists. The proposed project would make a cumulatively considerable contribution to this cumulative impact.

Mitigation Measure Mitigation Measure 5.1-2 would be required for the cumulative impact at the Tiburon Boulevard / Trestle Glen Boulevard intersection. Mitigation Measure 5.1-5 would be required for the cumulative impact to U.S. 101. Mitigation Measure 5.1-7 would be required for the cumulative impact on bicycle facilities.

Significance After Mitigation Mitigation Measure 5.1-7 would reduce the significant cumulative impacts to bicycle facilities to less-than-significant. The improvement included in Mitigation Measure 5.1-2 (installation of a second through lane in the eastbound direction at the Tiburon Boulevard / Trestle Glen Boulevard intersection [in addition to the planned lane in the westbound direction]) is not currently planned, is not included in the Town's Traffic Mitigation Fee program, and would likely require alterations to the open space and bicycle trail adjacent to the roadway. This mitigation may be infeasible and thus the impact to the Tiburon Boulevard / Trestle Glen intersection would be a significant unavoidable cumulative impact. Even with the implementation of Mitigation Measure 5.1-5 the impact to U.S. 101 would be a significant unavoidable cumulative impact.

⁵ *Tiburon General Plan 2020 Draft EIR*, Town of Tiburon and Nichols • Berman, 2005, page 6.0-12.

AIR QUALITY

With respect to air pollution, the development of the proposed project would not result in any long-term air quality impacts. Short-term impacts were identified along with appropriate measures to mitigate those impacts. Under the BAAQMD CEQA Guidelines, significant cumulative impacts to air quality do not result from projects that have less-than-significant impacts and do not conflict with regional clean air planning efforts. Since the project would not require a general plan amendment and because the residential density is less than the maximum identified in the *Tiburon General Plan* there would be no conflict with regional clean air planning efforts. Since the proposed project would not conflict with regional clean air planning efforts, the cumulative impact to air quality would be less-than-significant.

Greenhouse Gas Emissions

As shown in **Exhibit 3.0-16** the majority of the future development in the Tiburon Planning Area would be residential development, with the majority being single-family houses. It is likely that future single family homes would be similar in size to the proposed project (6,300 square feet to 7,980 square feet). It is also likely that the majority of new development would not be located within walking or typical bicycling distance of services. Transit or bus service to such new development also would likely be limited.

Exhibit 5.2-1 estimates the annual operational CO₂ emissions for the proposed project. CO₂ emissions from other future residential development in the Tiburon Planning Area would be similar to the proposed project. Cumulative residential development together with other cumulative development in the Tiburon Planning Area would result in significant increases of greenhouse gas (GHG) emissions. This would be a significant cumulative impact.

As discussed in **Section 5.2 Air Quality**, the proposed project would be subject to the Town's Green Building and Enhanced Energy Efficiency standards. Furthermore, the proposed project has numerous measures incorporated into the project design to reduce GHG emissions. As a result, the proposed project would not make a cumulatively considerable contribution to cumulative GHG impacts.

NOISE

The *Tiburon General Plan 2020 EIR* previously stated that future noise levels that would occur with implementation of the *Tiburon General Plan* as a result of increase in traffic, circulation pattern changes, and planned development would be less-than-significant impacts and would not result in cumulative noise impacts.⁶

Cumulative construction noise impacts may, however, be significant. During construction, this EIR (*Impact 5.3-1 Construction Noise*) concludes that short-term noise impacts cannot be mitigated to a less-than-significant impact. In addition, the proposed Sorokko Project⁷ is located close enough to the project site that some residences may be affected by noise from each project. The Sorokko Project would include the construction of new residences along with landslide repairs and infrastructure improvements to Paradise Drive. It is not known whether or not construction of these two projects

⁶ *Ibid.*

⁷ The Sorokko property is located at 3820 Paradise Drive, across Paradise Drive from the Alta Robles project site.

would overlap. If they did, construction noise may be higher during certain periods. If they do not, the duration that residences are exposed to construction noise could be longer. Therefore, a significant cumulative impact to noise from construction would occur. The proposed project would make a cumulatively considerable contribution to these cumulative construction impacts.

Mitigation Measure Mitigation Measure 5.3-1 would be required to mitigate construction noise impacts.

Significance After Mitigation Even with the implementation of Mitigation Measure 5.3-1 construction noise would be a significant unavoidable cumulative impact.

HYDROLOGY AND WATER QUALITY

There are three principal watersheds within the Town of Tiburon Planning Area -- the North Tiburon Watershed, the South Tiburon Watershed, and the West Tiburon Watershed.⁸ The *Alta Robles Residential Development* project site is located within the North Tiburon Watershed, which includes the steep, north-facing slopes above Paradise Drive, draining to Central San Francisco Bay.

Project impacts to site peak flow generation would be less-than-significant, due to the incorporation of detention storage in the form of underground cisterns. These cisterns would be sized to ensure that pre-development peak flow rates would be maintained for the post-project watershed conditions. Thus, the project also would have a less than cumulatively considerable contribution to cumulative peak flow rates and flooding. The proposed project would incorporate a suite of accepted Best Management Practices (BMPs) designed to minimize site erosion and sediment yield due to construction disturbance. Furthermore, implementation of Mitigation Measure 5.4-2 would ensure that concentrated storm drain discharges would not result in drainageway incision and a significant increase in erosion and downstream sedimentation. Implementation of Mitigation Measure 5.4-2 would reduce the project impact on erosion and sedimentation to a less-than-significant level and thus, the project's cumulative impact on erosion and sedimentation within the North Tiburon Watershed would be less-than-significant.

The cumulative impact from development within the North Tiburon Watershed would further degrade water quality. Greater concentrations of pollutants in site runoff would contribute to water quality problems. Central San Francisco Bay is currently considered an impaired waterbody under the Clean Water Act 303(d) list for pesticides including chlordane and dieldrin as well as for mercury and PCBs.⁹ Moreover, urban drainageways tributary to San Francisco Bay are listed as impaired for the pesticide diazanon. Although the concentration of these pesticides and chemicals in post-project runoff from individual projects would be relatively minor, the existing impairment of the Central San Francisco Bay for these contaminants means that even minor additional inputs would significantly impact water quality. Therefore, additional inputs of these chemicals to Central San Francisco Bay as the result of increases in impervious surfaces and associated increases in the volume of contaminated stormwater runoff from cumulative development would result in a significant cumulative water quality impact.

⁸ The watersheds are further described in the *Tiburon General Plan 2020 Draft EIR, op. cit.*, page 4.5-1 through 4.5-3.

⁹ "Impaired Waterbodies Section 303(d) List and TMDLs", State Water Resources Control Board Web Site (www.swrcb.ca.org), September 2001.

Existing National Pollutant Discharge Elimination System (NPDES) permitting requirements, such as a Storm Water Pollutant Prevention Plan (SWPPP), as well as requirements of the Town of Tiburon and Marin County would reduce adverse water quality impacts. Furthermore, implementation of existing permitting requirements and building codes for individual projects particularly those related to Start-at-the-Source, Low Impact Development (LID) design principles for stormwater would provide water quality contaminant source control and treatment to the maximum extent practicable (MEP). Therefore, with implementation of the recommended mitigation measures in **Section 5.4 Hydrology and Water Quality**, the *Alta Robles Residential Development* would not make a cumulatively considerable contribution to cumulative water quality impacts.

BIOLOGICAL RESOURCES

Cumulative development within the Tiburon Planning Area has the potential to result in significant cumulative biological resource impacts. For example cumulative development has the potential to result in a significant cumulative impact on special-status species. As discussed in **Section 5.5 Biological Resources**, the proposed project would have a significant impact on the occurrences of Marin western flax, which is a State and federally-threatened species. This species is known from fewer than 20 occurrences, most of which are from Marin County. Proposed remedial grading on the site would remove an entire population of this species, unless adequate adjustments are made to the proposed limits of grading and development. Further consultation with trustee agencies would be required to ensure that this and other special-status species are adequately protected on the site, and that the project does not contribute to a longer-term decline of this species. This has been recommended in Mitigation Measure 5.5-1 and would be required under State and federal law. Implementation of an effective mitigation program, including further avoidance of the known occurrences on the site, their permanent protection and management, and securing an adequate mitigation program that meets with the approval of State and federal agencies would reduce the project's impact to a less-than-significant impact. With implementation of the recommended mitigation measures in **Section 5.5 Biological Resources**, the proposed project would not make a cumulatively considerable contribution to potential cumulative impacts to special-status species.

The proposed project would generally avoid the remaining areas of sensitive natural communities on the site, particularly the stands of native grassland and well-developed freshwater marsh. With implementation of the mitigation measures in **Section 5.5 Biological Resources**, the proposed project would not make a cumulatively considerable contribution to potential cumulative impacts on sensitive natural communities.

Cumulative development also has the potential to result in significant cumulative impacts on wetlands, streams, and aquatic habitat. Development on the project site would contribute to a cumulative loss of seasonal wetlands and ephemeral streams in the area. Grading associated with construction activities generally increases erosion and sedimentation from new development and would reduce water quality. Mitigation measures recommended in **Section 5.5 Biological Resources**, along with the requirement to prepare a SWPPP, to control erosion and sedimentation after grading, would minimize the potential for water quality degradation and adverse impacts on aquatic habitat. With implementation of the recommended mitigation measures in **Sections 5.5 Biological Resources** and **5.4 Hydrology and Water Quality**, the proposed project would not make a cumulatively considerable contribution to potential cumulative impacts on wetlands, streams, and aquatic habitat.

With regard to wildlife resources, cumulative development would contribute to an incremental reduction in the amount of existing wildlife habitat, particularly for birds and larger mammals. Habitat for species intolerant of human disturbance would be lost as development encroaches into

previously undeveloped areas, disrupting or eliminating movement corridors and fragmenting the remaining suitable habitat retained within parks, private open space, or undeveloped properties. Development of the project site would contribute to a cumulative loss of ruderal grassland, scrub, and tree cover in the area. Opportunities for foraging and dispersal by large mammals, raptors, and other birds would be reduced given the size of the project site in relation to the other remaining undeveloped lands in the vicinity. Eventually, some of these species may no longer inhabit the site or currently undeveloped lands as water; food and cover become increasingly scarce or inaccessible and as their thresholds for tolerance to human disturbance are reached.

The *Tiburon General Plan 2020 EIR* previously stated that the cumulative loss of additional undeveloped habitat, fragmentation, and obstruction of movement opportunities would be a significant cumulative impact.¹⁰ Mitigation Measure 5.5-4, including such things as the restriction of the installation of deer fencing, would ensure opportunities for movement of larger terrestrial species across the project site and to adjacent open space lands. With implementation of the recommended mitigation measures in **Section 5.5 Biological Resources** the proposed project would not make a cumulatively considerable contribution to potential cumulative wildlife habitat and connectivity impacts.

Mitigation Measure Mitigation Measures similar to the recommended mitigation measures in **Section 5.5 Biological Resources** would be required for future development projects in the Tiburon Planning Area to mitigate cumulative biological resources impacts.

Significance After Mitigation Even with the implementation of mitigation measures, wildlife habitat and connectivity impacts would be a significant unavoidable cumulative impact.

GEOLOGY AND SOILS

Impacts associated with geological hazards from implementation of the *Alta Robles Residential Development* would be typical of similar sites in the San Francisco Bay Area. Implementation of the proposed project would result in impacts associated with seismic ground shaking, seismic-related ground failure, landsliding, slope stability, and soil erosion. These impacts would be confined to the project site and would be reduced to a less-than-significant level with implementation of the recommended mitigation measures and adherence to the construction standards in the Building Code.¹¹ The geologic impacts of other projects in the Town of Tiburon and adjacent areas would also be reduced with similar mitigation measures and adherence to the Building Code. Therefore, cumulative geology and soils impacts would be less-than-significant.

PUBLIC SERVICES

Fire Protection and Emergency Services

As discussed in *Impact 5.7-3 (Cumulative Fire Service Impact)* development on the project site together with cumulative development in the Tiburon Planning Area could generate additional demand for fire services from the Tiburon Fire Protection District (TFPD). Due to cumulative development

¹⁰ *Tiburon General Plan 2020 Draft EIR, op. cit.*, page 6.0-13.

¹¹ At the present time this would be the 2007 California Building Code.

the TFPD may require additional personnel and equipment to maintain current performance standards.¹² Expansion of existing facilities may be required to accommodate the additional equipment. This would be a significant cumulative impact and the proposed project would make a cumulatively considerable contribution.

Mitigation Measure Mitigation Measure 5.7-3 would be required for cumulative fire service impacts.

Significance After Mitigation Implementation of Mitigation Measure 5.7-3 would reduce cumulative fire service impacts to a less-than-significant cumulative impact.

Police Services

As discussed in *Impact 5.7-5 (Cumulative Increased Demand for Police Protection Services)* development on the project site together with cumulative development in the Tiburon Planning Area could generate additional demand for police services which would require the addition of four sworn personnel.¹³ The Tiburon Police Department facility has capacity to house four additional officers.¹⁴ This would be a less-than-significant cumulative impact.

Water Supply

As discussed in *Impact 5.7-8 (Cumulative Water Service Impacts)* Marin Municipal Water District (MMWD) has stated that it has sufficient water supplies to meet project demand within the MMWD service area and plans to provide additional water to meet projected water shortages.¹⁵ This would be a less-than-significant cumulative impact.

Wastewater Management

As discussed in *Impact 5.7-10 (Increased Cumulative Wastewater Treatment Demand)* cumulative development would increase sewage treatment demands on Sanitary District No. 5. Existing and planned facilities, including the expanded Paradise Cove Treatment Plant would have sufficient capacity to meet the needs of the buildout of the service area. This would be a less-than-significant cumulative impact.

Public Schools

As discussed in *Impact 5.7-12 (Cumulative Public School Impacts)* both the Reed Union School District and the Tamalpais Union High School District would have adequate capacity to accommodate future students due to cumulative development. This would be a less-than-significant cumulative impact.

¹² Nichols • Berman communication with Ron Barney, Fire Marshal, Tiburon Fire Protection District, March 2008.

¹³ *Tiburon General Plan 2020 Draft EIR, op. cit.*, 2005, page 4.8-12.

¹⁴ *Ibid.*

¹⁵ Nichols • Berman communication with Eric McGuire, Marin Municipal Water District, March 2008.

Solid Waste

As discussed in *Impact 5.7-14 (Project and Cumulative Increase Demand for Solid Waste Services)* Marin County's Integrated Waste Management Plan indicates that the Redwood Landfill will have adequate capacity beyond 15 years and into the foreseeable future. Based on the available capacity it has been projected that Marin County can provide at least 15 years of permitted disposal capacity for all jurisdictions within the County.¹⁶ This, therefore, would be a less-than-significant cumulative impact.

VISUAL RESOURCES

As visual impacts are typically limited to the proximity of development, cumulative growth typically does not compound or increase the severity of impacts from implementation of an individual project. In this situation, however, two recently approved residential projects are in close proximity to the Alta Robles project site and may result in cumulative visual impacts. The Sorokko project, located across Paradise Drive from the Alta Robles project site was approved by Marin County in 2008 for a total of five single family houses (located on four lots plus a remainder parcel). Individual house designs have not been prepared for the Sorokko project. In 2006 the Town of Tiburon approved the Tiburon Glen Precise Development Plan (PDP) located along Paradise Drive east of the Alta Robles project site. The approved Tiburon Glen PDP permits the development of three single family houses. Although speculative at this time, it is possible that the houses of all three projects could be viewed from a single location, such as the Middle Ridge open space. Environmental documents prepared for both the Sorokko project¹⁷ and the Tiburon Glen PDP¹⁸ determined that visual impacts would be less-than-significant, although in some instances mitigation measures would be required.

Based on cumulative development within the Planning Area, the *Tiburon General Plan 2020 EIR* previously identified significant cumulative impacts to scenic vistas and scenic resources plus significant ridgelines.¹⁹ Nighttime light and glare was also identified as a significant cumulative impact.²⁰ The proposed project would make a cumulatively considerable contribution to cumulative visual impacts plus cumulative nighttime light and glare impacts.

Mitigation Measure Implementation of the Town's design review policies and procedures together with implementation of *Tiburon General Plan* policies would be required to reduce cumulative visual impacts. It would, however, be speculative to develop appropriate mitigation measures for project-specific impacts since details of cumulative developments are unknown.

¹⁶ *Marin Countywide Plan Update Draft EIR*, Nichols • Berman and Marin Community Development Agency, January 2007, page 4.10-34.

¹⁷ *Sorokko Property Draft Environmental Impact Report*, Leonard Charles & Associates, October 2007, Section 4.8.

¹⁸ *Tiburon Glen Second Addendum to the August 2003 Final Environmental Impact Report*, Nichols • Berman, November 2005, pages 5.0-10 through 5.0-19.

¹⁹ *Tiburon General Plan 2020 Draft EIR*, *op. cit.*, page 6.0-15.

²⁰ *Ibid.*

As discussed in Mitigation Measure 5.8-4 individual projects would require the preparation of a *Lighting Plan* to mitigate light pollution impacts.

Significance After Mitigation Because visual impacts are project-specific it can not be determined if cumulative visual impacts to scenic vistas and scenic resources plus significant ridgelines would be reduced to a less-than-significant level. Therefore, this would be a significant unavoidable cumulative impact.

Implementation of Mitigation Measure 5.8-4 would, however, reduce cumulative nighttime light and glare impacts to a less-than-significant level.

CULTURAL RESOURCES

While no known cultural resources exist at the project site, subsurface archeological deposits could be discovered during project grading and construction activities. Recommended mitigation measures would reduce such impacts to a less-than-significant level. Impacts to cultural and historical resources are typically limited to the proximity of development, thus cumulative development outside of the project site would not compound or increase the severity of impacts to cultural resources from implementation of the *Alta Robles Residential Development*. Town guidelines and environmental review of cumulative development would require project sponsors to take appropriate measures to protect or preserve cultural resources affected by individual projects. Therefore, this would be a less-than-significant cumulative impact.

7.3 SIGNIFICANT UNAVOIDABLE IMPACTS

This section identifies impacts that could not be eliminated or reduced to a less-than-significant level either by mitigation measures included as part of the proposed project or other mitigation measures which could be implemented.

With the implementation of the mitigation measures described in this Draft EIR all but two of the project specific significant impacts would be reduced to a less-than-significant level. Implementation of the proposed *Alta Robles Residential Development* with the incorporation of all of the mitigation measures would result in the following significant unavoidable project specific impacts:

- **Impact 5.3-1** - Construction noise would be a significant unavoidable project impact.
- **Impact 5.8-1** - View looking north from Middle Ridge open space (viewpoint number 1) would be a significant unavoidable project impact.

Additionally, implementation of the *Alta Robles Residential Development* together with anticipated future projects would result in certain unavoidable cumulative impacts. These impacts are listed below:

- The impact to the signalized Tiburon Boulevard / Trestle Glen Boulevard intersection would be a significant unavoidable cumulative impact.
- The impact to U.S. 101 would be a significant unavoidable cumulative impact.
- Construction noise would be a significant unavoidable cumulative impact.

- Wildlife habitat and connectivity impacts would be a significant unavoidable cumulative impact.
- Visual impacts to scenic vistas and scenic resources plus significant ridgelines would be a significant unavoidable cumulative impact.

7.4 EFFECTS OF NO SIGNIFICANCE

As discussed in *Chapter 1.0 Introduction*, in accordance with the *State CEQA Guidelines*, no Initial Study was prepared since the preliminary review determined that an EIR would be required. Analyses completed as a part of this EIR, however, determined that the proposed *Alta Robles Residential Development* would have no or less-than-significant impacts for several significance criteria. These less-than-significant impacts are listed in the individual impact sections 5.1 through 5.9.

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8.0 REPORT PREPARATION

8.1 REPORT PREPARERS

This EIR was prepared by an environmental study team led by Nichols • Berman under contract to the Town of Tiburon. The analyses were coordinated primarily with Scott Anderson, Community Development Director and Diane Henderson, Contract Planner.

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APPENDIX A – NOTICE OF PREPARATION



**NOTICE OF PREPARATION (NOP)
OF A DRAFT ENVIRONMENTAL IMPACT REPORT (DRAFT
EIR)
FOR THE ALTA ROBLES RESIDENTIAL PROJECT
VICINITY OF 3825 PARADISE DRIVE
TIBURON, MARIN COUNTY, CALIFORNIA**

The Town of Tiburon is the Lead Agency for the preparation and review of an Environmental Impact Report (EIR) for the Alta Robles Residential Development project. The Town is soliciting the views of interested persons and agencies on the scope and content of the environmental information to be included in the EIR. Agencies should comment on the scope and content of the environmental information that is relevant to the agencies' statutory responsibilities, as required by Section 15082 of the California Environmental Quality Act (CEQA) *Guidelines*. Agencies will need to use the EIR prepared by our agency when considering your permit or approval for the project. The Town will also accept written comments concerning the scope and content of the EIR from interested persons and organizations concerned with the project, in accordance with *State CEQA Guidelines* Section 15083. Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than thirty (30) days after receipt of this notice. **The 30-day NOP review and comment period begins July 23, 2007 and ends at 5:00 p.m. on August 22, 2007.**

All written public and agency comments should be directed to Diane Henderson, Contract Planner, Town of Tiburon, 1505 Tiburon Boulevard, Tiburon, CA 94920. Please include the name of a contact person for your agency, if applicable. There will be additional opportunities for comment during the public review period following completion of the Draft EIR. **A public scoping session will be held on Wednesday, August 8, 2007 at 7:30 p.m. at the Tiburon Town Council Chambers, 1505 Tiburon Boulevard, Tiburon, California.**

PROJECT TITLE: Alta Robles Residential Development

PROJECT LOCATION: The subject property consists of two contiguous parcels: the 20.95 acre SODA property and the 31.25 acre Rabin property. The SODA property is located in an unincorporated portion of Marin County with the Town of Tiburon sphere of influence, and is currently vacant. The Rabin property is currently developed with one single-family residence and is located within the Town of Tiburon, with a street address of 3825 Paradise Drive.

ASSESSOR PARCEL NUMBERS: 039-021-13 and 039-301-01





PROJECT DESCRIPTION: The 52-acre Alta Robles project site is within the Town of Tiburon's Sphere of Influence, but approximately 21 acres are currently located within unincorporated Marin County; the remaining 31 acres are already within the Town of Tiburon corporate limits. The proposed project involves the eventual subdivision of the 52 acres into 14 single family parcels (one existing residence to remain and 13 new residences to be constructed) and three open space parcels totaling 18.3 acres. The applicants have currently submitted applications for Annexation, Rezoning, and Precise Development Plan; the EIR will be prepared for these applications and all future approvals as well, barring changes to the project subsequent to these approvals.

PROJECT PROPONENT: Irving and Varda Rabin
SODA, LLC
P.O. Box 926
Tiburon, CA 94920

Potential environmental impact areas to be addressed in the Draft EIR include: aesthetics, biological resources, hazards and hazardous materials, mineral resources, public services, utilities/service systems, agricultural resources, cultural resources, geology/soils, hydrology/water quality, noise, recreation, air quality, population/housing, land use/planning, transportation/traffic, and cumulative impacts. Analysis of impacts is anticipated to focus on aesthetics, biology, geology and soils, land use and planning, traffic and circulation, and cumulative impacts. No initial study is being prepared for this project. The project is proceeding directly to an EIR pursuant to Section 15060(d) of the CEQA Guidelines.

Signature: _____

Dan Watrous

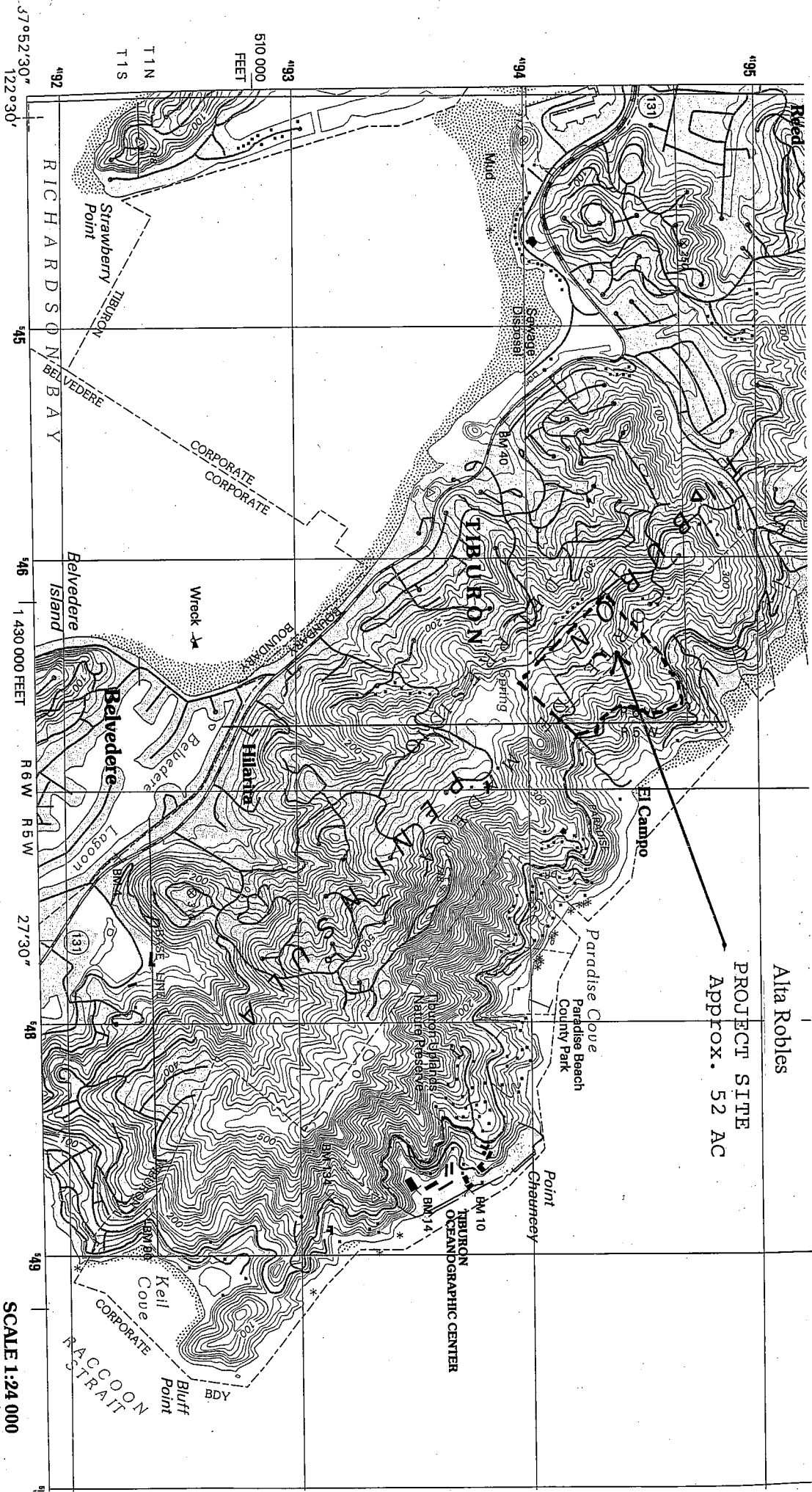
Dan Watrous, Planning Manager

Date: July 18, 2007

TOWN OF TIBURON
1505 Tiburon Blvd.
Tiburon, CA 94920
(415) 435-7393

S:\Planning\Regulations\CEQA\Alta Robles NOP July 2007.doc

Alta Robles
 PROJECT SITE
 Approx. 52 AC



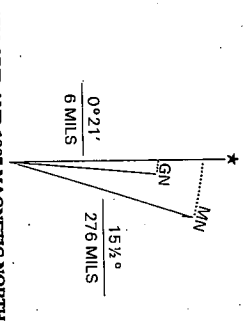
Produced by the United States Geological Survey

Compiled from imagery dated 1958. Revised from imagery dated 1993. PLS and survey control current as of 1999. Contours and elevations current as of 1958. Map edited 1996.

North American Datum of 1927 (NAD 27). Projection and 10000-meter grid: Universal Transverse Mercator, zone 10.

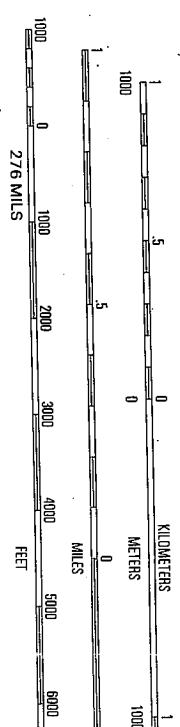
North American Datum of 1983 (NAD 83) is shown by dashed corner ticks. The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software.

There may be private inholdings within the boundaries of the National or State reservations shown on this map.



UTM GRID AND 1997 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SAN QUENTIN, CA



SCALE 1:24 000

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 SUPPLEMENTARY CONTOUR INTERVAL 5
 NATIONAL GEODETIC DATUM O

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Alta Robles
PROJECT OVERVIEW

Rezoning

The project proposes rezoning the SODA property to RPD (Residential Planned Development) consistent with the adjacent Rabin property zoning. Following PDP approval and annexation of the SODA property by the Town the Tiburon Zoning Map (Section 16-2.16 of the Municipal Code) would be amended. With the SODA property rezoning and future annexation both Rabin and SODA property would be zoned the same. The project sponsor has assembled the two properties for comprehensive precise development planning purposes.

The RPD zoning (Section 2.07.00, TMC) proposed for the SODA property is intended to protect and preserve open space land as a limited and valuable resource without depriving owners of a reasonable use of their property for residential purposes. The proposed single family residential use is a Permitted Use (Section 2.07.02 TMC). Maximum density for the land shall be established by a Precise Development Plan approval pursuant to Section 4.08.00 of the TMC. Building height is limited to 30 feet for main buildings and 15 feet for accessory buildings. All other land and structure regulations are subject to Precise Development Plan approval (Section 2.07.03 TMC).

Precise Development Plan

The Precise Development Plan seeks approval for 14 residential lots, comprised of:

- 1 Lot for an existing single family home; and
- 13 Lots for thirteen new single family homes.
- * 3 Lots, A, B, C are voluntarily offered for Common Open Space

Subdivision

The subdivision configuration results in 17 subdivision lots, as shown on the Precise Plan Maps (See CSW ST 2 – Sheet C6 – Site Plan & KAO Design Group – Sheets SP-03 -03a, Alta Robles Lot Area and Building Data Summary Matrix):

- 14 Single-family lots;
- 3 Common open space lots (A,B,C)

Preservation of Scenic and Natural Resources

Extensive land area (51.46%) is voluntarily offered for dedication to permanent open space to benefit the public by preserving scenic and natural resources. (See Sheet SP-22 KAO)

- Private Common Open Space, is voluntary offered for permanent open space and resource conservation, Lots A, B, C. account for 18.29 acres or 35.03% of the total land area.
- Private Open Space, lands proposed in individual private lot ownerships on 13 new lots is voluntarily offered for permanent dedication to scenic and resource conservation easement and includes 8.58 acres or 16.43% of the total land area.
- Private Space, lands surrounding the existing residential development on Lot #1 is proposed to be maintained for private resource conservation, open space, and private recreational use and includes 10.48 acres or 20.08% of the total land area.

Nichols • Berman
Environmental Planning
110 East D Street Suite E
Benicia California
9 4 5 1 0

**ALTA ROBLES
RESIDENTIAL
DEVELOPMENT**

*Precise Development Plan
Rezoning
Annexation*

***Final
Environmental Impact Report***

***Response to Comments to the
Draft Environmental Impact
Report***

TOWN OF TIBURON

State Clearinghouse No. 2007072104

DECEMBER 2010

ALTA ROBLES RESIDENTIAL DEVELOPMENT FINAL ENVIRONMENTAL IMPACT REPORT 9.0 RESPONSE TO COMMENTS DOCUMENT

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Appendix

- A. Mitigation Monitoring Program

9.0 COMMENTS AND RESPONSES

9.0 COMMENTS AND RESPONSES

9.1 INTRODUCTION TO THE COMMENTS AND RESPONSES

This Final Environmental Impact Report (Final EIR) contains the public and agency comments received during the public review period on the *Alta Robles Residential Development Draft EIR* (Draft EIR). This document has been prepared by the Town of Tiburon Community Development Department in accordance with the California Environmental Quality Act (CEQA).

This Environmental Impact Report (EIR) is an informational document intended to disclose to the Town of Tiburon Planning Commission and City Council, other decision makers, and the public the environmental consequences of approving and implementing the *Alta Robles Residential Development* project.

The Town of Tiburon prepared and on August 19, 2009 circulated the Draft EIR on the proposed *Alta Robles Residential Development* project. During the public review period from August 19, 2009 to October 5, 2009 comments on the Draft EIR were solicited from governmental agencies and the public. The Town of Tiburon Planning Commission conducted a public hearing on September 23, 2009 regarding the adequacy of the Draft EIR.

All oral comments made at the public hearing on the Draft EIR held by the Tiburon Planning Commission on September 23, 2009 and all written comments received during the 45-day public review period are addressed in this Final EIR.

This Final EIR consists of two volumes: the *Response to Comments to the Draft Environmental Impact Report* (this volume), and the *Draft Environmental Impact Report* of August 2009.

The governmental agencies, organizations, and individuals who commented on the Draft EIR are listed in Section 9.2, Persons Commenting.

Section 9.3 provides master responses that have been prepared for selected comment topics to provide a comprehensive analysis of major environmental issues raised in multiple comments. These master responses are often referred to in the response to individual comments in section 9.4.

Section 9.4 (Responses to Comments) presents and responds to all comments on the Draft EIR and the project's environmental effects. The original letters are reproduced, and comments are numbered for referencing with responses. Responses to individual comments raising significant environmental points are presented immediately after each comment letter. Section 9.4 also includes comments made orally at the public hearing with responses presented immediately following the minutes of the meeting.

The Draft Mitigation Monitoring Program for the *Alta Robles Residential Development* project is included in the Appendix.

Comments received on the Draft EIR can generally be classified into one of three categories. These categories are as follows:

1. **Project Merits / Process Comments** -- These comments do not pertain to physical environmental issues but pertain to the merits of the project or to comments on the Town's review process. These comments are included in this document although responses to these comments are not necessary. Inclusion of these comments will make the commentor's views available to public officials who will make decisions about the project itself.
2. **Commentor Opinion** -- These are comments from commentors which either support or disagree with the conclusions of specific information included in the Draft EIR. Although a commentor may hold a different opinion than the information provided in the Draft EIR, these comments do not, however, focus on the adequacy of the Draft EIR. Section 15151 of the *State CEQA Guidelines* states that an EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Furthermore, disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts.

In light of section 15151 commentor's opinions are included in this document although responses to these comments are not necessary. Inclusion of these comments will make the commentor's views available to public officials who will make decisions about the project itself. Where appropriate, some additional explanatory information to help clarify information provided in the Draft EIR is provided.

3. **Questions Regarding Adequacy of Draft EIR** -- These are comments from commentors who question the adequacy of specific information in the Draft EIR. Responses to individual comments requiring clarification of environmental issues regarding the Draft EIR are provided in this document.

In some instances, text changes resulting from the comments and responses are recommended. In these instances information that is to be deleted is ~~crossed-out~~, and information that is added is underlined. The text changes resulting from comments and responses have been incorporated in the original Draft EIR text, as indicated in the responses.

9.2 PERSONS COMMENTING

Written comments on the *Alta Robles Draft EIR* were received from the following agencies, organizations, and individuals.

Local Agencies

- A. Robert L. Lynch, District Manger, Sanitary District No. 5 (August 28, 2009)
- B. Michel Jeremias, PE, Associate Civil Engineer, Marin County Department of Public Works (October 2, 2009)

State Agencies

- C. Scott Morgan, Acting Director, State of California, Governor's Office of Planning and Research, State Clearinghouse and Planning Unit (October 6, 2009)

Organizations and Individuals

- D. Scott L. Hochstrasser, IPA, Inc. (October 1, 2009) (Applicant's Representative)
- E. Randy Greenberg (September 29, 2009)
- F. Judith Thompson and Cindy Brooks (October 1, 2009)
- G. Sandra Swanson (October 2, 2009)
- H. Sandra Swanson (October 7, 2009)
- I. Eva Buxton, Conservation Chair, California Native Plant Society (October 2, 2009)
- J. Eva Buxton (October 2, 2009)
- K. Jan Gullett (October 5, 2009)
- L. Nona Dennis, Marin Conservation League (October 5, 2009)

9.3 MASTER RESPONSES

Introduction to Master Responses

Numerous comments raised during the public review period pertained to the same topic and/or issues. As a result, a Master Response was prepared that appropriately responds to these groups of comments. There are three Master Responses included in this Response to Comments document related to:

- Visual Impact
- New Development Alternative
- Biological Resources

Master Response 1 – Visual Impacts

Both written and public hearing comments on the Draft EIR raised issues regarding the impact of the proposed Alta Robles residential development on views from San Francisco Bay. Views from San Francisco Bay may be affected through tree removal, landslide repair, and the construction of the roads and proposed houses. In response to these comments a visual simulation accurately illustrating the proposed Alta Robles project from the San Francisco Bay has been prepared.

Setting Exhibit 9.0-1 shows the view looking toward the project site from San Francisco Bay as it presently appears without the proposed development. The viewpoint is aboard the Larkspur Ferry that travels between Larkspur and the San Francisco ferry building. The view is representative of the view individuals have of the project site from aboard boats in San Francisco Bay. The view in this direction is of the Tiburon Peninsula hillsides. The project site occupies the upper portion of the hillside in the center of the view. The Middle Ridge Open Space is seen to the left. Existing development is seen near the shoreline directly below the project site and on the hillside to the right of the project. The site appears wooded with some open, grass-covered areas. The only development seen on the site is very faint evidence of the existing residence near the top of the open area that is central to the view. The site has the visual character of mostly natural, open space.

View Sensitivity and Dominance Views of the project site from San Francisco Bay occur from boats including the Larkspur Ferry. Private boats passing near the Tiburon Peninsula would also provide views of the site. The duration of the view is likely to be short, occurring only when boats are in the vicinity. These factors make the sensitivity of this view *moderate*. To avoid causing a significant change in visual quality in this case, the visual dominance of proposed development on the project site would need to be no greater than *co-dominant* (see **Exhibits 5.8-2** and **5.8-3**).

Impacts Exhibit 9.0-2(a) presents a photosimulation of the site after implementation of the proposed project as it would appear from this viewpoint in San Francisco Bay. The exhibit includes labels that identify each of the proposed development lots that are in view. **Exhibit 9.0-2(b)** presents the same simulation without the labels for the proposed development lots. From this viewpoint, new homes would be seen on 12 of the 13 proposed lots. They include Lots 2 through 13. The new home

proposed for Lot 14 would be located at a lower elevation than the other proposed homes and would be unseen from this viewpoint. The extent of the structure that would be visually exposed varies by lot as shown in the photosimulation. The homes on Lots 7, 11, and 12 would be almost entirely screened by vegetation. The homes on Lots 2, 3, 4, 5, 6, 9, and 10 would be almost entirely exposed while those on Lots 8 and 13 would be partly exposed. The distance of the project site from the viewpoint is about one mile. Other than the homes themselves, site features that would be in view include retaining walls and landscaping.

The exterior colors of the homes proposed by the project and shown in the photosimulation appear sympathetic to the surrounding setting and create little contrast. Window glass would create a higher degree of visual contrast and also have the potential to reflect glare. The elevation of this viewpoint is below the project site. Looking up at the project, the proposed buildings would be seen against the near backdrop of the hillside which helps to minimize their visual prominence. It should be noted that the light colors of some existing residences in the vicinity of the project contrast strongly with the setting and attract the attention of viewers.

The development in the proposed project would meet the visual dominance characteristic definition of *co-dominant* as presented in **Exhibit 5.8-2**. While the color contrast of the new homes would be relatively low, some buildings would be sufficiently exposed to attract some attention from the viewpoint. This would be due to contrasts in form and line with those naturally established in the surrounding setting. Because the proposed project would appear *co-dominant* from this viewpoint, based on **Exhibit 5.8-3**, the project would result in a less-than-significant visual impact from this location. No mitigation would be required.

Exhibit 9.0-1

Existing Conditions at Viewpoint No.4 - Looking South from San Francisco Bay



Exhibit 9.0-2 (a)
Post-Development Conditions at Viewpoint No. 4 - Looking South from San Francisco Bay



Exhibit 9.0-2 (b)
Post-Development Conditions at Viewpoint No. 4 - Looking South from San Francisco Bay



Master Response 2 – New Development Alternative

During the public review period of the Draft EIR several members of the public and the Tiburon Planning Commission expressed the concern for the need to evaluate an additional alternative. Specifically it was requested that the EIR discuss an additional project alternative that would reduce project grading, reduce the need for retaining walls, and reduce environmental impacts in the areas of biological resources, geology and soils, hydrology, and visual quality.

In response to the Draft EIR findings as well as the comments received on the Draft EIR, the applicant's development team developed a Revised Proposed Project (*Alternative 4*).¹ The Revised Proposed Project builds on the revised site plan (see **Section 6.3 Alternative 3 – Revised Site Plan**) evaluated in the Draft EIR (see pages 367 to 390 of the Draft EIR). The previous site revisions (A through J) plus landslide stabilization and grading revisions (1 through 6) incorporated into *Alternative 3* are included in the Revised Proposed Project.

CEQA Guidelines section 15088.5 states that a lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the Draft EIR for public review but before certification. "Significant new information" includes a disclosure showing that "a feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it" (*CEQA Guidelines* section 15088.5(a)(3)).

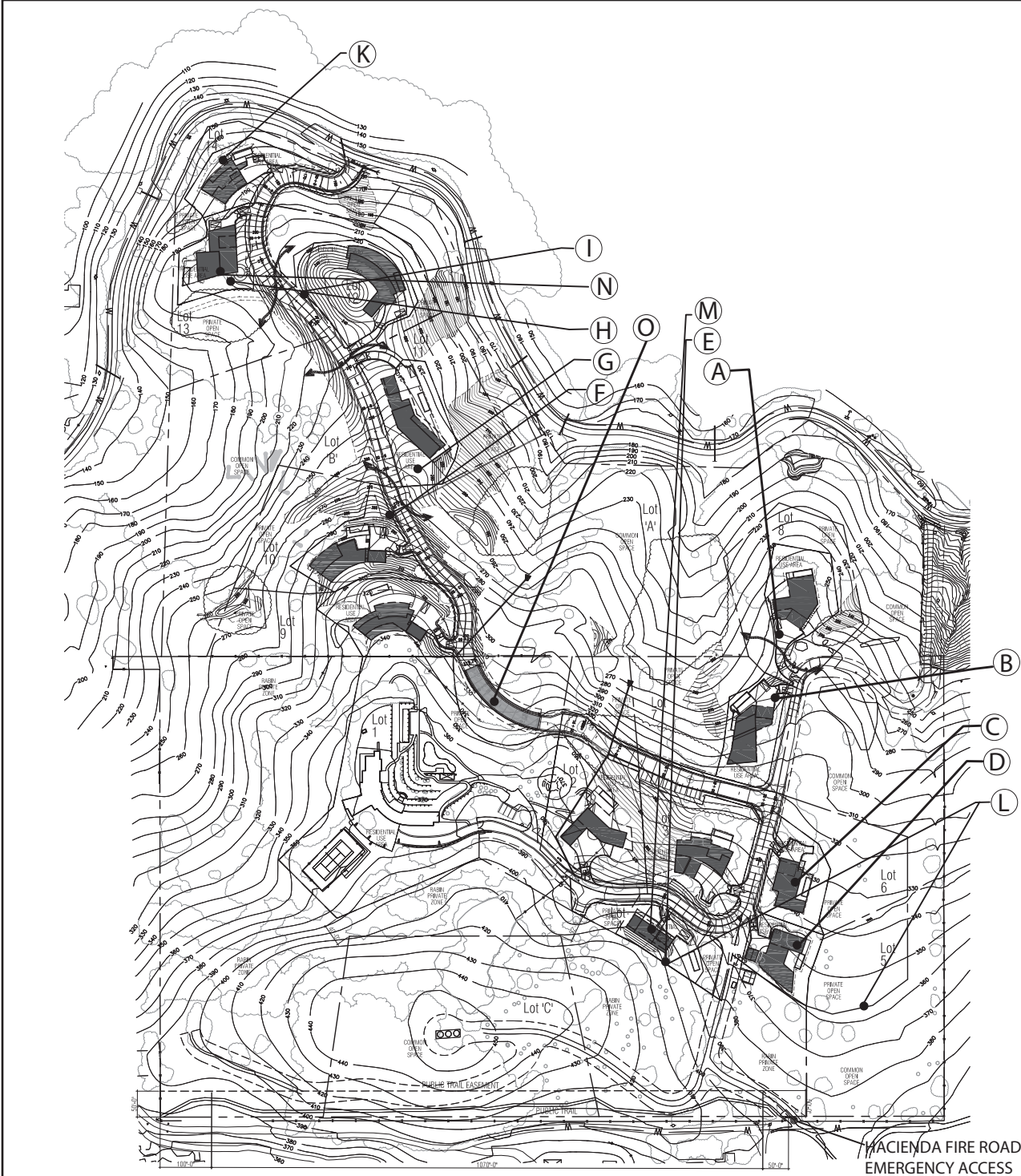
The project applicant has committed in writing to the Town of Tiburon to adopt this new alternative as the proposed project. Therefore, the inclusion of *Alternative 4* does not represent "significant new information" and does not require recirculation of the Draft EIR. In the following discussion the proposed project as discussed and evaluated in the Draft EIR is referred to as the originally proposed project.

Exhibits 9.0-3, 9.0-4 and 9.0-5 show the Revised Proposed Project site plan and the proposed lot and building revisions. **Exhibits 9.0-3, 9.0-4, and 9.0-5** show the revisions previously introduced in *Alternative 3* (revisions A through I) plus the additional site revisions:

- K. On Lot 14 housing massing and square footage reduced and pulled back from Paradise Drive.
- L. On Lot 4 lot line adjusted north outside horizontal ridgeline offset and roofline lowered 17 feet, Lot 5 lot line adjusted north-east outside vertical ridgeline offset, including corresponding adjustment to Lot 6 lot line.
- M. On Lot 4 house footprint moved two feet north, reduced building square footage.
- N. On Lot 13 house moved north, 125 feet from sensitive species.
- O. Bridge incorporated to minimize grading impact and retaining walls.

¹ *Alta Robles Precise Development Plan DEIR Review and Comments*, CSW/Stuber-Stroeh Engineering Group, Inc., February, 2010.

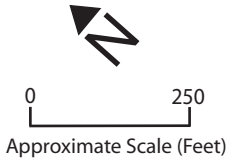
**Exhibit 9.0-3
Alternative 4 Site Plan**



See Exhibit 9.0-6 for Legend

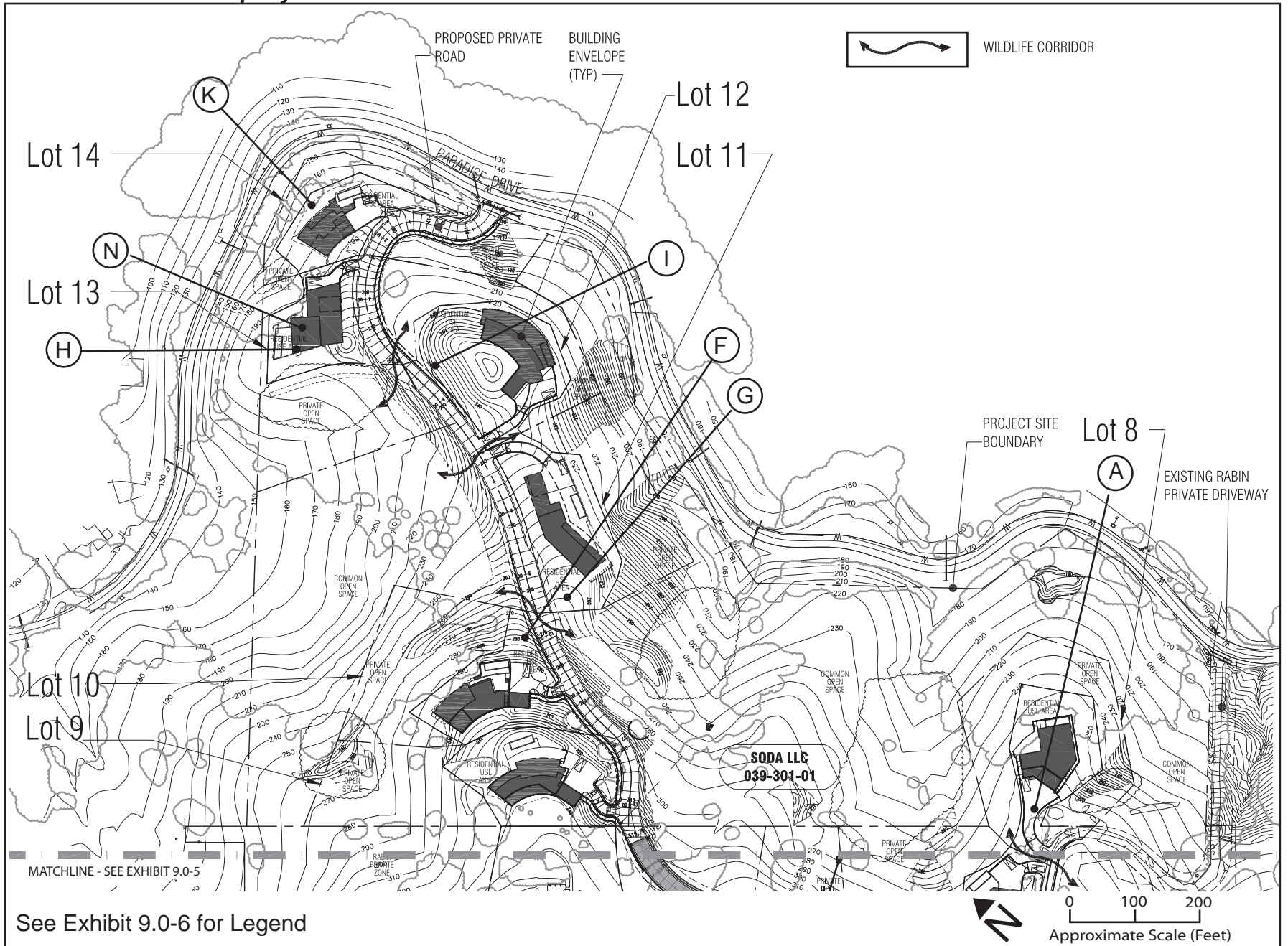


Wildlife Corridor



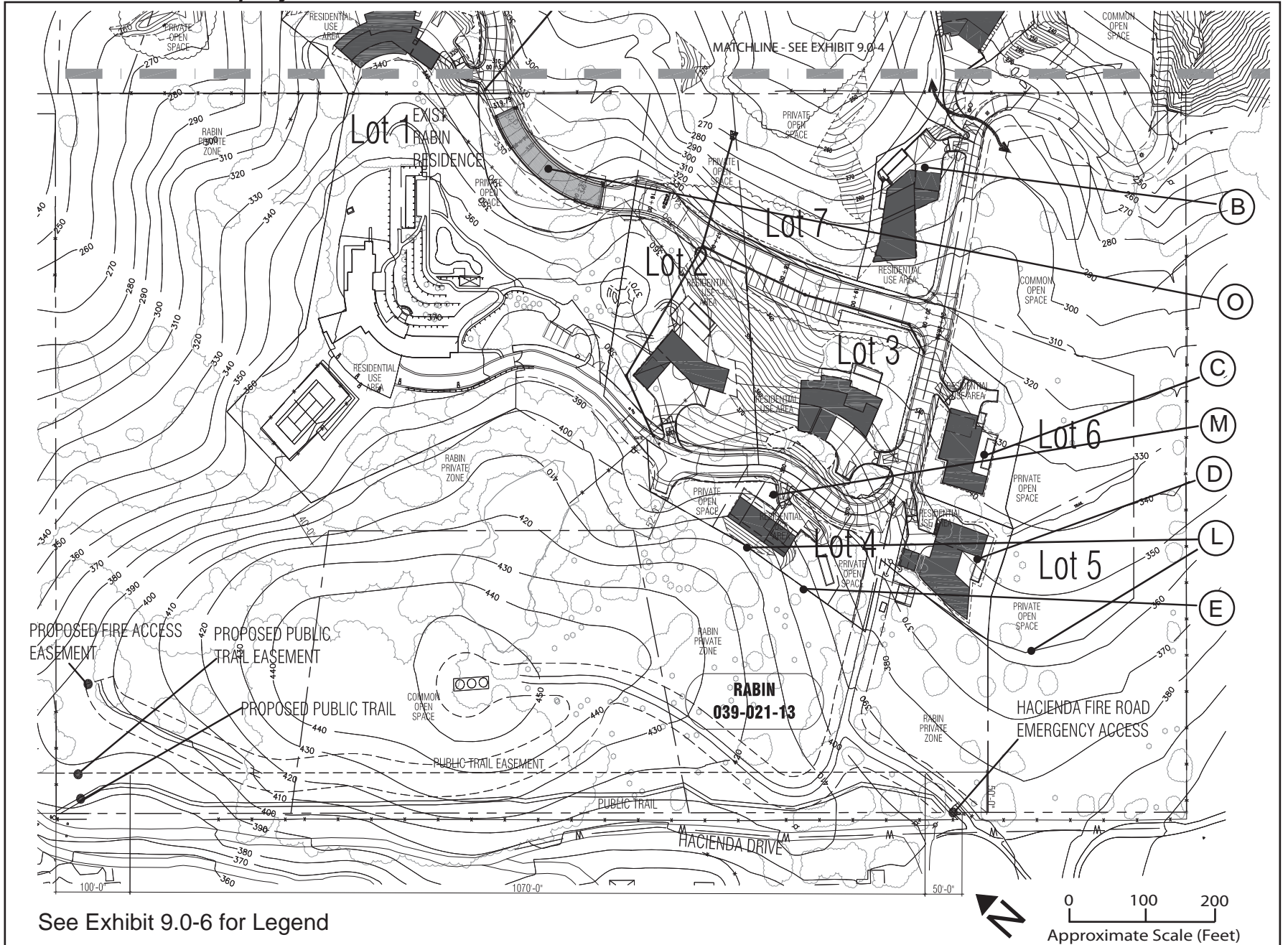
Source: KAO design group, 2010

Exhibit 9.0-4
Alternative 4 SODA Property



See Exhibit 9.0-6 for Legend

Exhibit 9.0-5
Alternative 4 Rabin Property



See Exhibit 9.0-6 for Legend

Exhibit 9.0-6
Building Lot and Fence Revisions

Alternative 3			Alternative 4		
Letter	Revision	Lot	Letter	Revision	Lots
A	Driveway gate removed, new backyard gate to allow for 100 foot wildlife corridor.	8	K	House massing and square footage reduced and pulled back from Paradise Drive.	14
B	New gate location to allow for 100 feet wide wildlife corridor.	7	L	Lot 4 lot line adjusted north outside the horizontal ridgeline offset and roofline lowered 17 feet, Lot 5 lot line adjusted north-east outside vertical ridgeline offset, including corresponding adjustment to Lot 6 lot line.	4,5
C	House pulled back 30 feet from previous building envelope boundary to provide a buffer for serpentine bunchgrass.	6	M	House footprint moved 2 feet north, reduced square footage.	4
D	House pulled back 30 feet from previous building envelope boundary to provide buffer for serpentine bunchgrass.	5	N	House moved north to a point 125 feet from occurrence of Marin western flax.	13
E	Fence pulled back to provide 100 foot wildlife corridor.	4	O	Bridge incorporated to minimize grading impact and retaining walls.	Road
F	Fence revised to provide 100 foot wildlife corridor.	10			
G	Fence revised to provide 100 foot wildlife corridor.	11			
H	House pulled back 30 feet from the previous building envelope boundary to provide a buffer between the limits of landslide N and the occurrence of Marin western flax.	13			
I	Fence revised to provide for 100 foot wildlife corridor.	12			

Exhibits 9.0-7 and 9.0-8 illustrate the proposed revisions to the landslide repair and grading. **Exhibits 9.0-7 and 9.0-8** show the proposed landslide repair and grading revisions previously introduced in *Alternative 3* (1 through 6) plus the following additional landslide stabilization and grading revisions:

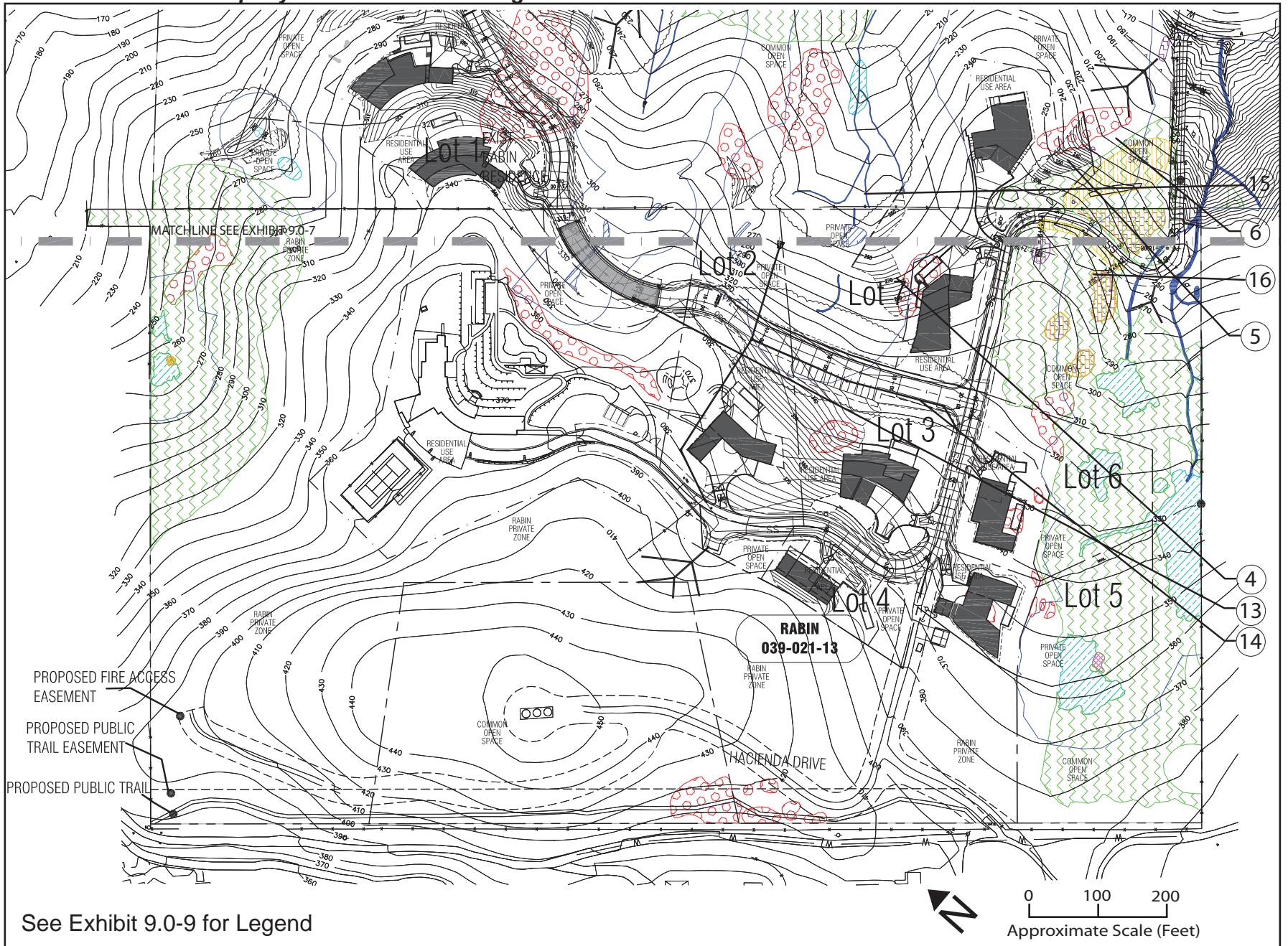
7. Revised wall to stay within property boundary.
8. Moved landslide mitigation retaining wall north, approximately 70 feet away from Marin western flax in private open space.
9. Removed subdrains to avoid impact to Marin western flax.
10. Revised subdrains to avoid impacts to biological resources.
11. Buttress to be developed with wetland to avoid tree impacts, removed debris fence at elevation 220 feet.
12. Revised subdrain to avoid proposed wetland.
13. Eliminated portion of main road and replaced with a bridge. Reduced retaining walls and grading impacts.
14. Eliminated upper retaining walls along main road.
15. Removed subdrains to avoid impacts to water course and biological resources.
16. Grading was modified on the east side to avoid impacts to serpentine bunch grass.

Revised house plans were prepared for Lot 4, Lot 5, Lot 6, Lot 8, Lot 13, and Lot 14.²

The Revised Proposed Project continues to include 14 residential lots consisting of one single-family home and accessory structures on each lot (see **Exhibit 9.0-3**). The area of the 14 residential lots and the three parcels (Parcels A, B, and C) offered for dedication as Open Space is slightly revised from the Proposed Project described in the Draft EIR.

² The revised house site plans are available for review at the Town of Tiburon Planning Division, 1505 Tiburon Boulevard, Tiburon.

Exhibit 9.0-8
Alternative 4 Rabin Property Landslide and Grading



See Exhibit 9.0-9 for Legend

**Exhibit 9.0-9
Landslide and Grading Revisions**

Alternative 3			Alternative 4		
No.	Revision	Lot	No.	Revision	Lot
1	Grading around Marin western flax modified to maintain a minimum 25 foot setback from edge of species. Grading within landslide area maintained within 100 feet of Lot 13 house footprint.	13	7	Revised wall to stay within property boundary.	OS
2	For landslides N and O grading modified to incorporate a buried wall or buried reinforced earth slope for landslide mitigation. This would be a variation from the Town of Tiburon Landslide Policy	OS	8	Moved landslide mitigation retaining wall north, approximately 70 feet away from Marin dwarf flax in private open space	13
3	Grading modified at Lot 10 to incorporate a buried wall or buried reinforced earth slope and removal and replacement within 90 feet of the house footprint. This would be a variation from the Town of Tiburon Landslide Policy.	10	9	Removed subdrains to avoid impact to Marin western flax.	OS
4	Grading modified at Lot 7 to avoid impact to fresh water seep and to remove and replace landslide within 85 feet of the footprint of the house. This would be a variation from the Town of Tiburon Landslide Policy	7	10	Revised subdrains to avoid impact to biological resources.	OS
5	Grading modified at Lot 8 to minimize impact on Serpentine bunch grass and Tiburon buckwheat areas and to remove and replace landslide within 77 feet of the footprint of the house. This would be a variation from the Town of Tiburon Landslide Policy	8	11	Buttress to be developed with wetland to avoid tree impacts, removed debris fence at elevation 220 feet	10
6	Near Lot 8, proposed subdrains removed upslope to avoid impacts to biological resources.	OS	12	Revised subdrain to avoid proposed wetland.	OS
			13	Eliminated portion of main road and replaced with a bridge. Reduced retaining walls and grading impacts.	Road

Alternative 4 (continued)		
No.	Revision	Lot
14	Eliminated upper retaining wall along Main Road.	Road
15	Removed subdrains to avoid impact to water course and bioresources.	OS
16	Grading was modified on the east side to avoid impacts to serpentine bunch grass.	OS

Exhibit 9.0-10 provides a summary of the on-site land uses and shows changes from the proposed project.

Exhibit 9.0-10
Summary of Land Uses

<i>Lot</i>	<i>Area (Acres)</i>	<i>Percent of Total</i>
1	15.22 ^a	29.15
2	1.67	3.19
3	1.44	2.77
4	0.75	1.43
5	1.15	2.20
6	1.34	2.57
7	1.50	2.87
8	1.51	2.89
9	1.50	2.87
10	1.51	2.89
11	1.51	2.89
12	1.51	2.89
13	1.50	2.87
14	1.20	2.30
<i>Subtotal</i>	33.31	63.80
A	11.70	
B	3.18	
C	3.81	
<i>Subtotal</i>	18.69	35.80
Total	52.00	99.60

a. **Bold** indicates a change from the Proposed Project.

Source: *Alta Robles Precise Development Plan DEIR Review and Comments*, CSW/Stuber-Stroeh Engineering Group, Inc., February, 2010.

Exhibit 9.0-11 shows the characteristics of the 14 residential lots.

Exhibit 9.0-11
Residential Lot Characteristics

<i>Lot</i>	<i>Lot Area (Acres)</i>	<i>Residential Use Area (Acres)</i>	<i>Rabin Private (Acres)</i>	<i>Private Open Space (Acres)</i>
1	15.22 ^a	3.75	10.71	0.76
2	1.67	1.26	--	0.41
3	1.44	1.44	--	0.00
4	0.75	0.40	--	0.35
5	1.15	0.45	--	0.70
6	1.34	0.55	--	0.79
7	1.50	0.56	--	0.94
8	1.51	0.60	--	0.90
9	1.50	0.84	--	0.66
10	1.51	0.68	--	0.83
11	1.51	0.84	--	0.67
12	1.51	0.88	--	0.62
13	1.50	0.53	--	0.97
14	1.20	0.63	--	0.57
Total	33.31	13.41	10.71	9.17

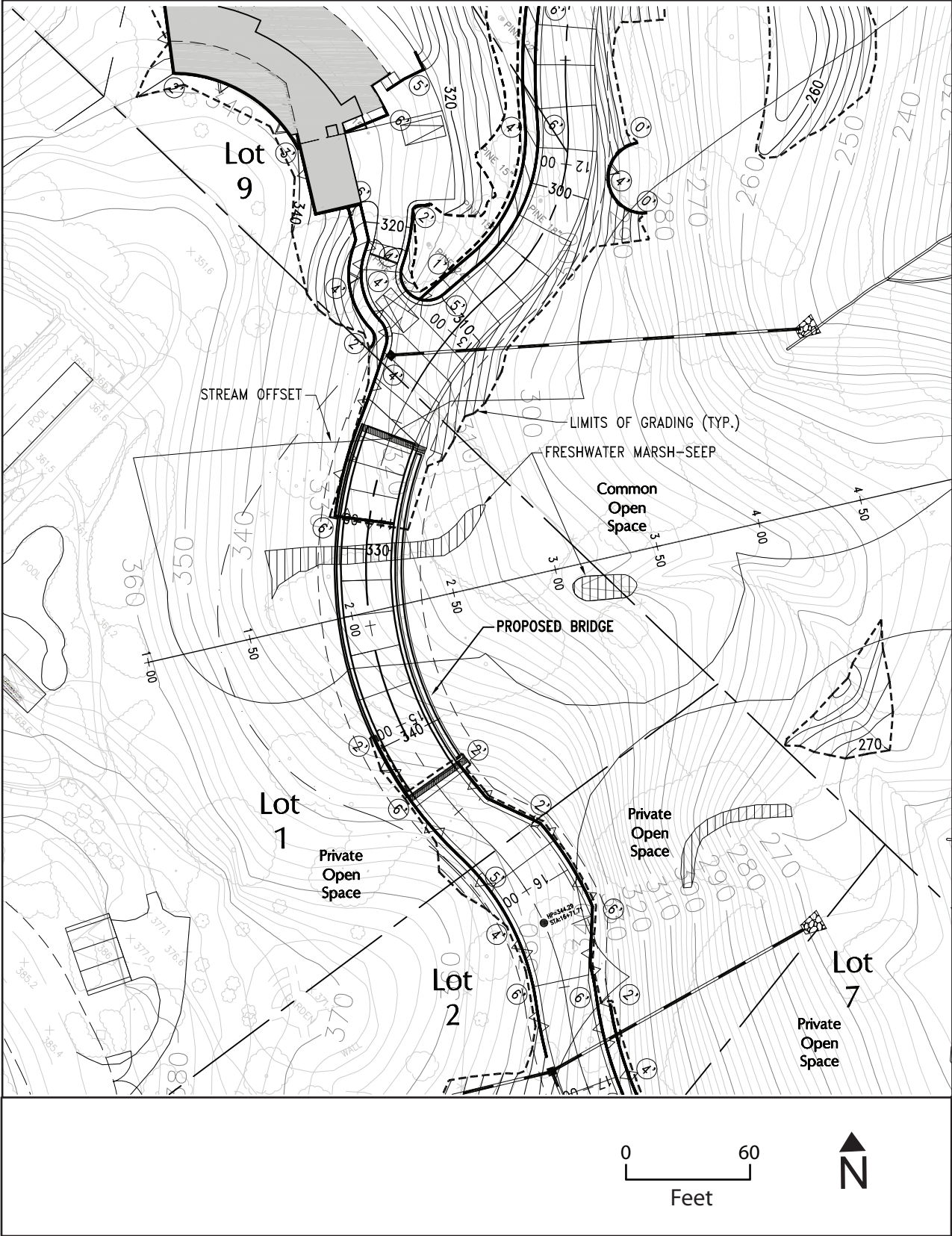
a. **Bold** indicates a change from the Proposed Project.

Source: *Alta Robles Precise Development Plan DEIR Review and Comments*, CSW/Stuber-Stroeh Engineering Group, Inc., February, 2010.

One aspect of the Revised Proposed Project is to redesign a portion of the Main Road. As a part of the Revised Proposed Project a portion of the Main Road would be designed as a bridge.³ The intent of the bridge design would be to reduce grading, reduce the need for retaining walls, and reduce visual impacts, tree impacts, and disruption of wetlands. The location of the proposed bridge is shown on Exhibit 9.0-12 and Exhibit 9.0-13 shows a typical section of the proposed bridge.

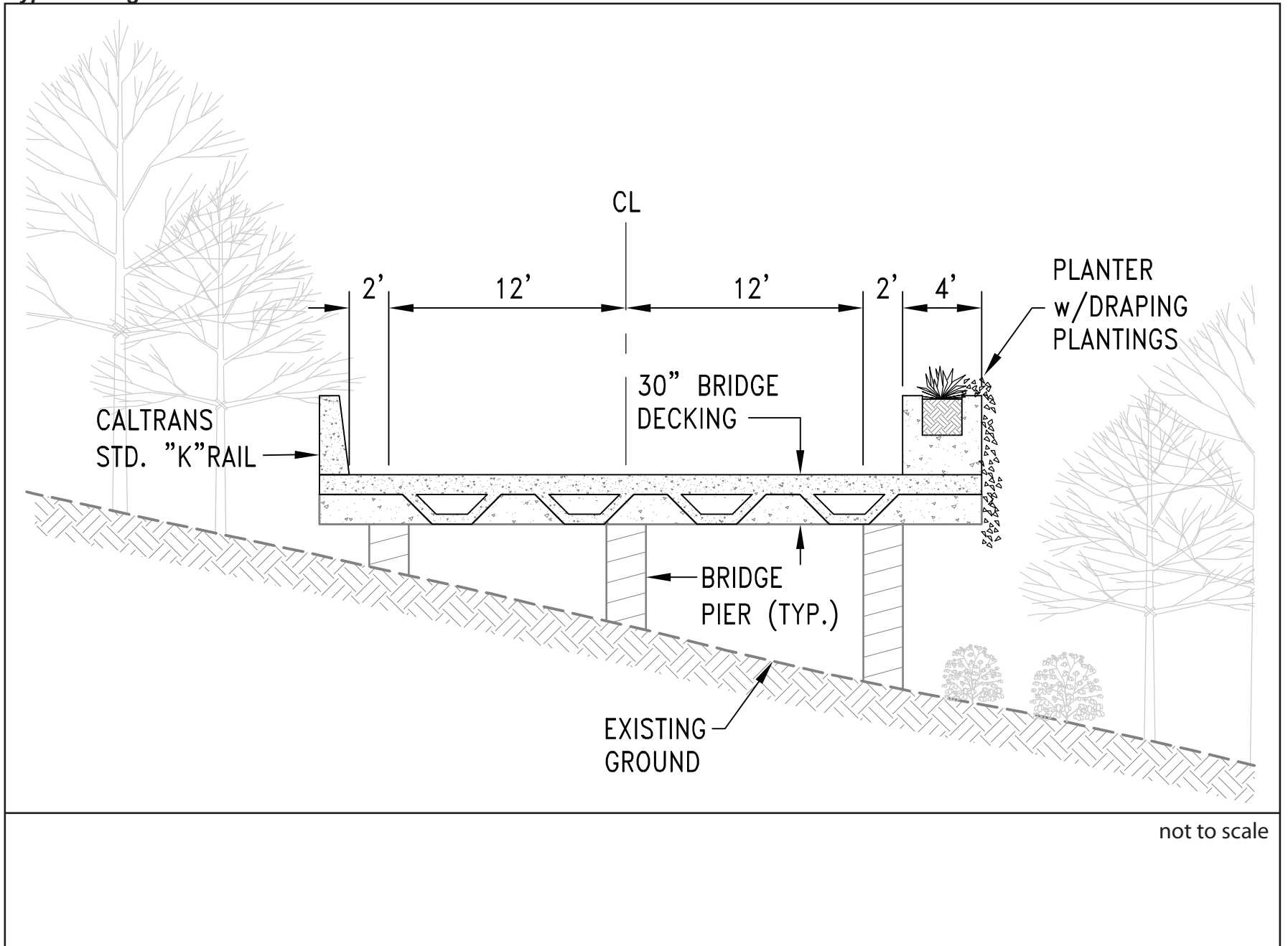
³ While the term “bridge” may connote an imposing and highly visible structure, technically it means that a structure “spans” an open area beneath it and does not rely on the ground surface or earthen fill for support over its entire length.

**Exhibit 9.0-12
Proposed Bridge**



Source: CSW/ST2, 2/5/2010

Exhibit 9.0-13
Typical Bridge Section



As discussed in *Chapter 3.0 Description of the Proposed Project* the project site is mapped as being underlain by 18 landslides (Landslide A through Landslide R). **Exhibit 3.0-10** shows the location of the landslides on the project site. The Town of Tiburon Landslide Mitigation Policy requires repair, improvement, or mitigation of these landslide and potential landslide areas.⁴ As discussed above, the Revised Proposed Project includes revisions to the proposed on-site landslide stabilization. **Exhibit 9.0-14** describes the landslide type, risk level, conceptual stabilization plan and comments for each of the 18 landslides.

Exhibit 9.0-14
Conceptual Landslide Stabilization Plan

Landslide	Landslide Type	Risk Level	Conceptual Stabilization Plan
A	Qlsa	B	Off-site Landslide <i>Improve</i> – Construct debris fence across the potential flow path for protection of Paradise Drive.
B	Qlsa	A	<i>Repair</i> – Combination of compacted fill buttress in upper portion of landslide area (within 80 feet of building envelope) and retaining structures in lower portion of landslide adjacent existing driveway. Extent of grading reduced to avoid serpentine bunch grass and Tiburon Buckwheat. Possible landslide movement would be away from building envelope.
C	Qc	B	<i>Improve</i> – Subsurface drainage in upper portion. Placement of subdrains to avoid sensitive biological resources.
D	Qc	B	<i>Improve</i> - Subsurface drainage and compacted fill buttress in upper portion with retaining structures in lower portion of landslide.
E	Qlsa	B	<i>Repair</i> – Compacted fill buttress within 100 feet of building envelope. Avoid central portion to protect water course and biological resources. Construct debris fence in lower portion across the potential flow path for protection of Paradise Drive.
F	Qc	B	<i>Improve</i> – Compacted fill buttress or subdrains within 100 feet of building envelope.
G	Qlsa	B	<i>Avoid</i> – Support roadway above with retaining structure or compacted fill keyed into bedrock / stable soil. Construct debris fence in lower portion across the potential flow path for protection of Paradise Drive.
H	Qlsd	B	<i>Improve</i> – Compacted fill buttress and retaining structures within 100 feet of building envelope. Subdrains in lower portion placed to avoid water course.
I	Qlsa	A	<i>Repair</i> – Compacted fill buttress.
J	Qlsd	B	<i>Improve</i> - Compacted fill buttress.

⁴ *Town of Landslide Mitigation Policy*, adopted by the Tiburon Town Council, October 6, 2004 (Resolution No. 52-2004).

Landslide	Landslide Type	Risk Level	Conceptual Stabilization Plan
K	Qlsa	A	<i>Repair</i> - Compacted fill buttress.
L	Qlsa	A	<i>Repair</i> - Compacted fill buttress.
M	Qlsd	B	<i>Improve</i> – Subsurface drainage in upper portion and retaining structures in lower portion of landslide.
N	Qlsa	A	<i>Repair</i> – Buried retaining structure on north side of landslide located roughly 50 feet from building envelope to avoid Marin western flax. Subdrains in southern portion of landslide area placed to avoid water course and biological resources. Support roadway above with retaining structure or compacted fill keyed into bedrock / stable soil.
O	Qc	B	<i>Improve</i> – Compacted fill buttress and retaining structures within 100 feet of building envelope. Subdrains in lower portion.
P	Qlsa	B	<i>Avoid</i> – Greater than 100 feet from existing or proposed structures.
Q	Qlsa	B	<i>Improve</i> – Compacted fill buttress in lower portion of drainage ravine. Shape and design of buttress to act as detention basin.
R	Qc	B	<i>Improve</i> – Utilize retaining walls (one to five feet high) or bridge structure to reduce extent of roadway grading and avoid most of freshwater seep area. Design of foundation to resist creep forces.

Source: Letter to Scott Anderson and Nicholas Nguyen re: Conceptual Landslide Repair Plan (Alternative 4) Alta Robles Development Tiburon, California, from Scott A. Stephens and Stephen Korbay, Miller Pacific Engineering Group, February 8, 2010.

Analysis of Revised Proposed Project (Alternative 4)

LAND USE AND PLANNING

The Revised Proposed Project (*Alternative 4*) consists of the originally proposed project, revisions included in *Alternative 3* (see **Exhibit 6.0-3**), and additional revisions that generally are designed to:

- Reduce the encroachment of development into ridgeline offsets
- Reduce grading and the need for retaining walls
- Reduce impacts to special status plant species such as the Marin western flax and serpentine bunchgrass
- Reduce impacts to watercourses and related biological resources

This section discusses how the revisions contained in *Alternative 4* affect the project’s consistency with planning policies and guidelines.

Town of Tiburon 2020 General Plan (Tiburon General Plan)

Alternative 4 includes revisions that increase the project's consistency with policies intended to preserve biological resources (e.g. *Policy LU-3, Policy LU-7, Policy OSC-17, Policy OSC-25, and Policy OSC-26, and Policy OSC-34*). *Alternative 4* would accomplish this with the revisions that preserve wildlife movement corridors by revising fence and gate locations, revising building footprint locations and landslide repair to reduce disturbance within areas of the project site where Marin western flax and serpentine bunchgrass occur, and revising landslide repair to reduce the impacts subdrains would have on the site's natural water features and vegetation, and incorporating wetland with the use of buttress to repair landslides.

The *Tiburon General Plan* contains policies intended to minimize grading, preserve natural topographic features and minimize the visual appearance of retaining walls (e.g. *Policy OSC-35, Policy OSC-36, Policy OSC-37, Policy OSC-38, Policy OSC-40*). The revisions in *Alternative 4* that reduce grading and the use of retaining walls demonstrate more consistency with these policies than the originally proposed project. *Alternative 4* includes revisions to landslide repair that reduce grading, reduce the use of retaining walls, and reduce the amount of excavation grading that would be needed for installation of subdrains. Additionally, with *Alternative 4* the main road has been redesigned to include a bridge, which would reduce grading and retaining wall usage for the main road.

The *Tiburon General Plan* contains policies intended to preserve significant ridgelines. Particularly *Policy OSC-10* which requires a 150 horizontal feet set back from the Tiburon Ridge, and *Policy OSC-11* which requires a setback of 50 vertical feet from the Tiburon Ridge. Revisions included with *Alternative 4* would reduce the amount of development within these setbacks, however the project would still be inconsistent with these policies.

Chapter 16 of the Tiburon Town Code (Zoning Ordinance)

The Town of Tiburon adopted a new zoning ordinance in April 2010. The project site is located in the Residential Planned Development (RPD) district. This zone is intended to preserve open space without depriving owners of the reasonable use of their property for residential purposes, conserve natural resources and retain land in its natural state while otherwise allowing the implementation of the *Tiburon General Plan*. *Alternative 4* is generally consistent with the Residential Planned Development district.

Town of Tiburon Design Guidelines for Hillside Dwellings

The revisions to the project contained in *Alternative 4* include modifications to the proposed project that may increase the project's overall consistency with the *Town of Tiburon Design Guidelines for Hillside Dwellings*. Landslide and Grading Revision 13 reduces retaining walls and grading impacts by replacing a portion of the proposed main road with a bridge. Landslide and Grading Revision 14 eliminated upper retaining walls proposed to be located along the main road. However the project would still utilize a substantial amount of retaining walls.

Marin County Community Development Agency Paradise Drive Visioning Plan

As originally proposed the *Alta Robles Residential Development* would be mostly consistent with the visioning goals and actions of the *Paradise Drive Visioning Plan*. There are a few areas where the originally proposed project would be inconsistent with the *Visioning Plan*. These include Goal II-2, which calls for reducing the visual impact of new development by locating it away from ridges and visually prominent subridge areas, and Goal IV-5 which encourages adequate and unobtrusive

provision of utilities for all residents by undergrounding existing overhead utilities. The originally proposed project would not underground existing overhead electrical lines along Hacienda Drive. Areas where implementation of mitigation measures would increase the project's consistency with visioning plan goals and actions include improvements to safety along Paradise Drive (Mitigation Measure 5.1-7 - Goal I-2: *Explore opportunities for providing local pathways near the road as a safe convenient alternative to walking on the side of Paradise Drive*), and preservation of trees and other vegetation to help preserve the rural appearance of hillsides along Paradise Drive (Mitigation Measures 5.5-1 through 5.5-5 - Goal I-3: *Preserve trees, vegetation, and other natural features that contribute to the area's rural visual appearance*).

Alternative 4 includes revisions to the project design that reduces building size and the appearance of structure mass, decrease the amount of development that would occur within the Tiburon Ridge offset, decrease the amount of grading and use of retaining walls, and reduce impacts to on-site habitat and special status plant species. None of these revisions appear to reduce the project's consistency with the *Paradise Drive Visioning Plan*. Some of the revisions would increase the project consistency with the goals and actions of the *Visioning Plan*.

Building lot and fence revision K would reduce the house massing and square footage of the residence proposed for lot 14. The residence would also be pulled back from Paradise Drive, which reduces the project visual obtrusiveness on the rural setting along Paradise Drive (Goal II-1 *To preserve the rural character along Paradise Drive*).

Building lot and fence revision L adjusts the proposed lot line of Lot 5 so that it is outside of the horizontal ridgeline offset, and reduces the roofline elevation of the proposed residence on Lot 4 by 17 feet. These revisions would reduce the amount of development that would occur within ridgeline areas, which is more consistent with Goal II-2 (*To reduce the visual impact of new development - Locate new development away from ridges and visually prominent subridge areas*), however development would still occur within ridgeline areas. Therefore the project would still be inconsistent with this policy.

Building lot and fence revision N reduces the project's potential to impact the occurrence of the Marin western flax by moving the proposed residence on Lot 13 further away from the occurrence of Marin western flax located in the north-western portion of the project site. Revisions to Landslide and Grading plans including revision 10, which moves stabilization walls further away from the same occurrence of Marin western flax. And Landslide and Grading Revision 11, which reduces tree impacts increase the project's consistency with Goal I-3 (*To use a variety of techniques to maintain the rural character of the Paradise Drive area...preserve trees, vegetation, and other natural features that contribute to the area's rural visual appearance*).

Marin Local Agency Formation Commission (LAFCo) Policy Guidelines

Alternative 4 would be consistent with the LAFCo Policy Guidelines. Like the proposed project, development of *Alternative 4* would require annexation of the SODA property to the Town of Tiburon and Sanitary District No. 5. Therefore like the proposed project, *Alternative 4* would be consistent with Marin LAFCo's Dual Annexation Policy. *Alternative 4* would be consistent with the Agricultural Lands Policies because annexation of the SODA property would not lead to the development of existing agricultural or open-space lands for nonagricultural or non open-space uses outside the Town's jurisdiction or outside of the Town's sphere of influence. *Alternative 4* would also be consistent with Marin LAFCo's Rezoning Policy.

TRANSPORTATION

With *Alternative 4*, proposed land uses and the number of new residences (13 residences) would be the same as the originally proposed project. Trip generation rates used to forecast vehicle trips are based on the particular land use that is proposed. Therefore since *Alternative 4* proposes the same land use and number of residences as the originally proposed project the forecasted trip generation is the same. **Exhibit 9.0-15** shows the applicable trip generation rate and **Exhibit 9.0-16** shows the forecasted trip generation for *Alternative 4*.

**Exhibit 9.0-15
 Trip Generation Rate**

Land Use	ITE Land Use Code	Units	Daily	AM Peak Hour			PM Peak Hour			Weekend Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Residential	210	Dwelling Units (DU)	9.57	0.22	0.56	0.78	0.70	0.44	1.14	0.51	0.43	0.94

Source: Fehr & Peers, 2008.

**Exhibit 9.0-16
 Project Trip Generation Forecast**

Land Use	ITE Land Use Code	Size	Units	Daily	AM Peak Hour			PM Peak Hour			Weekend Peak Hour		
					In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Residential	210	13	DU	124	3	7	10	9	6	15	7	6	13

Source: Fehr & Peers, 2008.

Impact 5.1-1 Existing-plus-Project Impact on Signalized Intersections

Alternative 4 would increase peak hour traffic volumes at the signalized Tiburon Boulevard / Trestle Glen Boulevard, which is located along the anticipated primary access route to and from the proposed project. However the intersection would maintain acceptable LOS under existing-plus-project conditions. Furthermore, the LOS would not change at the Tiburon Boulevard / Trestle Glen Boulevard intersection with the addition of project generated trips. Therefore *Alternative 4* would have a less-than-significant impact on signalized intersections under existing-plus-project conditions. This impact is the same as with the proposed project. No mitigation would be required.

Impact 5.1-2 Cumulative-plus-Project Impact on Signalized Intersection

Cumulative traffic volumes are based on forecasted growth in traffic that would be generated by the buildout of the Tiburon General Plan. For the signalized intersection of Tiburon Boulevard / Trestle Glen Boulevard forecasted cumulative growth is applied to both the existing lane configuration, and to the planned configuration called for in the Tiburon General Plan, which will consist of adding a second through lane in the westbound direction. Under cumulative conditions (buildout of the Tiburon General Plan) the signalized intersection of Tiburon Boulevard / Trestle Glen Boulevard

would operate at an unacceptable LOS during the AM peak hour time frame. The intersection would operate at LOS F during the AM peak hour with the existing lane configuration, and operate at LOS D during AM peak hour with the planned lane configuration. Both LOS D and F are unacceptable. This would be a significant cumulative impact, and would occur with or without additional trips from *Alternative 4*.

Project traffic from *Alternative 4* would add to traffic delays anticipated traffic volume anticipated cumulative conditions. The increased delays would be 2.3 seconds with the existing lane configurations, and 1.2 seconds upon installation of the planned lane improvements mentioned above. Because these additional delays would be less than the significance criteria for signalized intersections (an increase in average vehicle delay or five seconds or more at signalized intersection already operating at an unacceptable level of service), *Alternative 4's* contribution to this cumulative impact would be less than cumulatively considerable, which is the same as with the originally proposed project.

Impact 5.1-3 Existing-plus-Project and Cumulative Impacts on Unsignalized Intersections

This analysis focuses on two traffic scenarios and their impacts on the unsignalized intersections of Paradise Drive / Trestle Glen Boulevard and Paradise Drive / Project Entrance Road (yet to be named). Traffic increases from *Alternative 4* would be less than one second and would not trigger Caltrans signal warrants for peak hour conditions, both intersections would operate at acceptable levels of service. Traffic increases from cumulative buildout conditions plus *Alternative 4* would also increase delays by less than one second, and Caltrans signal warrants would not be triggered. Therefore impacts to delays at both unsignalized intersections would be less-than-significant under both *Alternative 4* and cumulative conditions plus *Alternative 4*. No mitigation would be required and these impacts are the same as with the originally proposed project.

Impact 5.1-4 Safety Impact Due to Inadequate Sight Distance Approaching the Unsignalized Intersection of Paradise Drive with the Project Entrance

Alternative 4 does not include revisions to the proposed project entrances. As noted in response to comment D-21 the Draft EIR incorrectly identifies a safety impact due to inadequate sight distance for vehicles approaching the intersection of Paradise Drive and the project entrance from the east. More recent speed surveys recorded speeds three to seven percent slower than the previous speed survey. The proposed project access road would be first visible at 190 feet when approaching from the east and 220 feet when approaching from the west on Paradise Drive. Thus there would be adequate stopping sight distance based on the American Association of State Highway and Transportation Officials (AASHTO) design standards⁵ for vehicle traveling 29 to 31 mph, which is the measured critical speed⁶ for this section of Paradise Drive.⁷

⁵ *A Policy on Geometric Design of Highways and Streets, Chapter III, Stopping Sight Distance*, American Association of State Highway and Transportation Officials, 2004.

⁶ Critical speed is the speed below which 85 percent of the vehicles are traveling

⁷ *Spot Speed Surveys*, Robert I. Harrison, September 19, 2009.

Impact 5.1-5 Impact on Regional Roadways

Alternative 4 would generate vehicle trips that would travel on Tiburon Boulevard and U.S. 101, which are designed as routes of regional significance as part of the County Congestion Management Program (CMP).

Alternative 4 would generate ten AM and 15 PM peak hour trips on Tiburon Boulevard, where an LOS of D or better is acceptable according to the CMP.⁸ The Marin County CMP identifies the weekday PM peak hour as the period of analysis. As discussed under *Impact 5.1-2 Cumulative Impacts on Signalized Intersections* the Tiburon Boulevard / Trestle Glen Boulevard intersection would operate at LOS C during the PM peak hour conditions, with or without the project, following the completion of the planned lane improvements at this location (installation of a second through lane in the westbound direction). Upon cumulative buildout and the addition of vehicle trips from *Alternative 4* the LOS would not degrade. Furthermore the project would pay traffic mitigation fees to the Town of Tiburon to provide its fair share of funds towards planned roadway improvements along Tiburon Boulevard. Therefore *Alternative 4's* impacts to Tiburon Boulevard, in regards to its designation as a CMP facility, would be less-than-significant. No mitigation would be required and this impact is the same as with the originally proposed project.

The *Tiburon General Plan 2020 EIR* identifies a significant unavoidable impact to U.S. 101 resulting from regional growth, including growth within Tiburon. While *Alternative 4* would add very little traffic to U.S. 101 (approximately 0.1 percent of overall traffic on U.S. 101), it would be an increment of cumulative traffic which has been previously identified as a significant unavoidable impact. Therefore, as with the proposed project, *Alternative 4* would result in a significant unavoidable impact

Impact 5.1-6 Project Impact on Transit

Alternative 4 would not generate significant demand for transit ridership, and the bus and ferry lines serving the Tiburon Peninsula have sufficient capacity to accommodate any transit trips generated by *Alternative 4*. *Alternative 4* would not conflict with planned transit facilities or adopted transit plans. Therefore, *Alternative 4* would result in less-than-significant impacts to transit services and facilities. This impact would be the same with the proposed project.

Impact 5.1-7 Project Impact on Bicycle Facilities and / or Safety

Alternative 4 would generate the same amount of bicycle and vehicle traffic that would travel on Paradise Drive and Trestle Glen Boulevard as the originally proposed project. Although both roadways are used by a significant volume of bicyclists, there are currently no bikeways on each of these roadways. Both roadways have been designated as Class III bicycle facilities by the *Town of Tiburon Bicycle and Pedestrian Master Plan*⁹ and *Marin County Unincorporated Area Bicycle and Pedestrian Master Plan*,¹⁰ and both master plans indicate Paradise Drive should be widened to safely accommodate bicycles.

⁸ *Marin County Congestion Management Program: 2007 Report Update*, Transportation Authority of Marin, October 2007, page 6.

⁹ *Town of Tiburon Bicycle and Pedestrian Master Plan 2008 Update*, Alta Planning + Design, 2008

¹⁰ *Unincorporated Area Bicycle and Pedestrian Master Plan*, Marin County, adopted March 25, 2008.

EIR traffic studies for other projects¹¹ in the vicinity have found that Paradise Drive is “unsafe for use by bicyclists and pedestrians” due to the lack of “consistent width shoulders” resulting in narrow roadways where bicyclist and pedestrians compete for travel space with vehicle traffic. These unsafe conditions result in a cumulatively significant impact due to unsafe conditions. Although the number of vehicle trips generated by *Alternative 4* (15 trips during the PM peak hour and 13 trips during the weekend peak hour) is not significant alone, any contribution of new vehicle trips to these unsafe conditions would make a cumulatively considerable contribution to this cumulative impact. This impact would be the same with the originally proposed project.

Implementation of revised Mitigation Measure 5.1-7 may require grading into the hillside along the south side of Paradise Drive along the project frontage.¹² This improvement would accommodate a consistent-width shoulder (a four-foot wide paved shoulder and two-foot wide dirt shoulder) to improve safety for bicyclist and pedestrians along Paradise Drive, and reduce *Alternative 4*'s contribution to cumulative impacts to bicyclists to a less-than-significant level.

Impact 5.1-8 Project Impact on Pedestrian Circulation

Implementation of *Alternative 4* would not result in disruptions to existing pedestrian facilities or interfere with planned pedestrian facilities. Implementation of Mitigation Measure 5.1-7 to improve bicyclist and pedestrian safety on Paradise Drive would reduce *Alternative 4*'s contribution to this significant cumulative impact to a less-than-significant level. Therefore, impacts to pedestrian circulation resulting from implementation of *Alternative 4* would be less-than-significant. This impact would be the same with the originally proposed project.

Impact 5.1-9 Project Impacts Related to Site Access

With *Alternative 4* the proposed access would be the same as with the originally proposed project. *Alternative 4* would be consistent with Marin County Development Code requirements for vertical transitions. While the County Code encourages single access to Paradise Drive *Alternative 4* would utilize two access roads that meet standards. Therefore *Alternative 4* results in a less-than-significant impact related to site access. This impact would be the same with the originally proposed project.

Impact 5.1-10 Project Impacts Related to Emergency Access and Internal Circulation

With *Alternative 4*, as with the originally proposed project, design of the site roads would be subject to standards established by the Tiburon Fire Protection District (TFPD), which include maximum road and driveway grades, widths, turning radii, and turnout and turnaround requirements. The emergency vehicle access and circulation standards of the TFPD meet or exceed applicable Marin County Development Code standards. *Alternative 4* would comply with these requirements. Therefore, *Alternative 4* would result in a less-than-significant impact to internal circulation and emergency access. This impact would be the same as with the originally proposed project.

Impact 5.1-11 Parking Impacts

Alternative 4 does not include revisions that reduce the amount of parking proposed for the project. As with the originally proposed project, *Alternative 4* would comply with the Town of Tiburon

¹¹ *Sorokko Property Draft Environmental Impact Report, op. cit.*, page 4.5-15 and *Tiburon Glen Revised Draft Environmental Impact Report*, Nichols • Berman, May 2003, pages 5.5-17 and 5.5-18

¹² See response to Comment B-11 for revisions to Mitigation Measure 5.1-7.

requirement to provide 1.5 parking spaces per single family residence. Each residence would provide at least two parking spaces within garages, and additional parking would be available on driveways. Therefore *Alternative 4* would result in less-than-significant impacts to parking. No mitigation would be required and this impact would be the same as with the originally proposed project.

Impact 5.1-12 Construction Traffic Impacts

With *Alternative 4*, traffic from construction workers and other equipment have the potential to disrupt the flow of peak hour traffic. It is likely that construction activities would extend over at least two years. Additionally, construction traffic could expedite deterioration of pavement on Paradise Drive. The proposed Construction Management Plan includes traffic control measures to minimize travel during AM and PM peak hour periods, and coordinate routes with the Town of Tiburon. The Construction Management Plan also specifies that any damage to Paradise Drive would be repaired, based on a before and after evaluation by Marin County Public Works Department. With implementation of the proposed Construction Management Plan *Alternative 4* would result in less-than-significant construction traffic impacts. This impact would be the same with the originally proposed project, and not further mitigation would be required.

The proposed construction management plan would be utilized with *Alternative 4*. Traffic control measures contained in the construction management plan would minimize travel during AM and PM peak travel periods, resulting in a less-than-significant impact

AIR QUALITY

Impact 5.2-1 Construction-Period Air Pollutant Emissions

With *Alternative 4* the emissions of air pollutants during construction activities would be a significant impact. *Alternative 4* includes revisions to the originally proposed project that reduce grading and the building sizes and massing of selected single family residences. However the general scope of work for site preparation and construction would remain the same. Therefore this impact would be the same as what would occur with the originally proposed project. Implementation of Mitigation Measure 5.2-1 would reduce impacts resulting from construction-period air pollutant emissions to a less-than-significant level.

Impact 5.2-2 Generation of Airborne Asbestos

As discussed in *Section 5.2 Air Quality* of the Draft EIR, grading activities could physically encounter serpentine rock which contains asbestos fibers and could possibly generate airborne asbestos. If this occurs construction workers and others on or near the project site, or people located along off-site roads that are part of hauling routes could be exposed to airborne asbestos fibers. As with the originally proposed project, prior to any grading work for *Alternative 4*, the project applicant would be required to prepare and obtain approval from the BAAQMD for an asbestos dust mitigation plan to satisfy the Asbestos Toxic Control Measures (ATCM) of the California State Law.¹³ The project applicant would be required to consult with the BAAQMD's Enforcement Division and adhere to ATCM requirements prior to any soil disturbance. Adherence to the BAAQMD's requirements would ensure that asbestos-related impacts would be less-than-significant. No mitigation measures would be required. This impact is the same as what would occur with the originally proposed project.

¹³ California Code of Regulations, Title 17, Section 93015.

Impact 5.2-3 Greenhouse Gas Emissions

With *Alternative 4* the development and use of new residences would be an additional source of greenhouse gas emissions (GHG's). The sources of new GHG emissions would primarily be CO₂ from vehicle emissions and energy usage. This impact would be the same as with the originally proposed project. *State CEQA Guidelines* have been amended, but there are no quantifiable thresholds. In June 2010 the BAAQMD adopted development guidelines that establish air quality guidelines for GHG emissions. The thresholds that would be applicable to the proposed project are as follows:

- Compliance with a qualified climate action plan or qualified general plan; or
- Annual emissions of less than 1,100 metric tons of CO₂e; or
- Annual emissions less than 4.6 metric tons of CO₂e per capita (residences and employees).

Furthermore, the BAAQMD CEQA Air Quality Guidelines identify a screening threshold of 56 single-family housing units for identifying significant greenhouse gas emission impacts.

As with the originally proposed project, *Alternative 4* contains measures that would help reduce the generation of new GHG emissions through increased residential building insulation, energy producing solar panels, and a water capture system and landscape plan that would lower the projects indirect GHG emissions. These specific measures include:

- Approximately 38.6 acres of the 52-acre site would be undeveloped, conserved as open space (public, private or common spaces).
- Energy efficiency would be incorporated into the site design through use of earth berms and thermal massing, window glazing, and the use of natural lighting and shading.
- Solar photovoltaic panels would be used to produce energy.
- Homes would be equipped with energy star rated appliances and baffled interior lighting, and low energy exterior lighting.
- Efficient plumbing fixtures and water using appliances would be included.
- Landscape areas would be limited and include efficient irrigation systems.
- Drought-resistant native landscape would be used to replant disturbed areas.
- Each lot would contain holding tanks for storm water run-off that could be used for landscaping to reduce water consumption.
- The project would score at least 200 points out of a possible 365 points on the New Home Green Building Residential Design Guidelines developed by the Marin County Community Development Agency. Under the agency guidelines, the proposed new homes would be rated as "Platinum".

It is anticipated that operational emissions of CO₂ for *Alternative 4* would be close to the 279 tons per year estimated for the originally proposed project (see **Exhibit 5.2-1** in the Draft EIR). The emissions

of methane and nitrous oxide, which are more potent GHGs, would be very small compared to CO₂. Therefore these emissions would not be calculated. The 279 tons shown in **Exhibit 5.2-1** would be equivalent to 253 metric tons. Therefore, the Proposed Project, as well as *Alternative 4*, would have emissions well below 1,100 metric tons and the number of housing units would be below the BAAQMD's screening threshold of 56 single-family housing units. *Alternative 4*, therefore, would have a less-than-significant impact on greenhouse gas emissions.

NOISE

Impact 5.3-1 Construction Noise

Construction of *Alternative 4* would temporarily increase ambient noise levels in the vicinity of the project site, which is generally a quiet area. This includes the potential for a substantial increase in noise at the location of adjacent residences which include Seafirth Estates to the north, Acacia Court to the west, Hacienda Drive to the south, and the existing house on Lot 1. As discussed in **Section 5.3 Noise** of the Draft EIR, heavy construction activities (which includes the use of graders, scrapers, bulldozers, and dump trucks) typically generate noise levels of about 81 dBA to 88 dBA when the noise is measured 50 feet from the construction site. Building framing, finishing, and landscaping activities generate noise levels that are typically five to ten dBA less than heavy construction activities. Noise levels decrease with distance and shielding from terrain or structures. However noise-sensitive receptors located within approximately 1,200 feet of busy construction activities could potentially experience noise levels of 60 dBA or higher at times. As a comparison, ambient noise levels measured at Lot 1 in August 2007 were a daytime L_{eq} of 47 dBA and a background noise level of 44 dBA.

Because the existing ambient noise levels of the project area are relatively quiet, and the construction of *Alternative 4* would likely extend over a period of 2 years, construction noise would result in a significant environmental impact. Mitigation Measure 5.3-1 would reduce construction noise by implementing the proposed construction management plan's noise reduction measure with modifications to reduce construction hours, restrict idling of construction equipment and trucks, reduce audible noise from radios, manage the location of stationary noise generating equipment, and notify neighbors of the construction schedule. However because the project site is situated among a quiet residential area and construction would likely extent over two years, the construction noise generated with mitigation measures would exceed CEQA's significance criteria and remain a significant unavoidable impact. This impact would be the same with the originally proposed project.

HYDROLOGY AND WATER QUALITY

Impact 5.4-1 Alteration of Existing Drainage Patterns on On- and Off-Site Flooding

Alternative 4 includes revisions to landslide repair measures that were included with the proposed project. The revised landslide repair measures are illustrated in **Exhibits 9.0-7 and 9.0-8**. The revised plans prepared for *Alternative 4* do not indicate revisions to the numbers of developed residential lots, storm drain alignments, stormwater collection, and the discharge system relative to the proposed project. Thus, with *Alternative 4*, impacts to existing drainage patterns and on-site and off-site flooding would remain less-than-significant.

Impact 5.4-2 Alteration of Existing Drainage Patterns on Erosion and Downstream Sedimentation

Implementation of *Alternative 4*'s revised landslide repair and grading measures shown on **Exhibits 9.0-7** and **9.0-8** would not alter the proposed project's storm drain system and its delivery of stormwater runoff to downslope drainageways. Since the impervious surface area coverage and general orientation of residential structures and roadways would also remain unchanged from the proposed project, similar to the proposed project, *Alternative 4* would have a significant impact on downstream drainageway stability and downstream sedimentation. The conversion of shallow groundwater to surface water via the installation of sub-drains for slope stabilization would decrease somewhat under *Alternative 4*, particularly in the vicinity of Lots 7 and 13, where proposed subdrains have been removed from the landslide repair and grading plan in order to reduce impacts to biological resources and watercourses (see **Exhibits 9.0-7** and **9.0-8**). However, this reduction would not affect the level of impact significance. As with the proposed project, erosion control measures included in the proposed Precise Development Plan would remain sufficient to minimize erosion and soil loss due to general ground disturbance during construction and the vegetation establishment period.

Impact 5.4-3 Impacts on Groundwater Levels and Groundwater Recharge

Reductions in the numbers and density of sub-drains associated with *Alternative 4* would somewhat reduce the impact on local groundwater levels relative to the proposed project, including groundwater levels in the vicinity of Lot 7 and Lot 13, as well as Lot 1 and Lot A (both associated with the revision of the Landslide R remediation). These localized reductions in sub-drain installation would minimize any impacts to the small ephemeral drainageways within these lots. However, aside from these revisions to the landslide stabilization program, *Alternative 4* would maintain the same level of residential lot development and storm drain system installation as the proposed project. As with the proposed project, *Alternative 4* would result in a less-than-significant impact on groundwater levels and groundwater recharge.

Impact 5.4-4 Impacts on Water Quality

Alternative 4 and its reduction in landslide grading and the slope dewatering, while beneficial, would maintain the proposed project's impervious surface coverage, and storm drain extent and alignments. The Preliminary Erosion Control Plan measures for mitigating grading disturbance and promoting site revegetation cited for the proposed project would also remain unchanged with *Alternative 4*. No other water quality control measures were proposed as part of *Alternative 4*. Some reductions in the grading areas for landslide remediation would achieve minor reductions in slope disturbance and associated post-construction site sediment yield. Cumulatively, the changes proposed for *Alternative 4* would have only a minor impact on the level of significance associated with project impacts on water quality, which would remain significant.

BIOLOGICAL RESOURCES

One of the objectives of *Alternative 4* is to reduce potential impacts on sensitive biological resources by minimizing remedial grading and adjustments to project-related improvements including building envelopes, subdrains, and fencing. **Exhibit 9.0-6** lists the modifications as they relate to grading and slope stabilization.

Impact 5.5-1 Special-Status Species

Alternative 4 would reduce the severity of impacts on special-status species from those associated with the proposed project, however anticipated impacts would remain significant. Like the originally proposed project, *Alternative 4* would result with incursion into the populations of special-status plant species, although adjustments to building envelopes and the limits of landslide repair would provide for greater avoidance of some occurrences on the project site. Potential impacts on nesting raptors and other birds protected under the Migratory Bird Treaty Act would still apply, as would the remote possibility for occurrence of California red-legged frog.

The degree of potential impacts on special-status plant species would be reduced under this alternative, but would remain significant and in need of mitigation. The proposed building envelope on Lot 13 has been pulled back approximately 30 feet more from the large population of Marin western flax in the western portion of the site and the limits of landslide repair would be restricted away from this occurrence. However, this is an annual species, and its distribution changes every year. Mapping in 2009 and 2010 shown in **Figure 6** of the *Vegetation and Special-Status Plant Management Plan and Biological Assessment*¹⁴ (*Management Plan and Biological Assessment*) indicates the occurrence extends to within about 20 feet of the buried wall that would be installed along the Main Road (see Landslide and Grading Revision 2). Therefore careful controls on construction activities would be required to ensure adequate avoidance. It should be noted that the approach to landslide repair would require a determination by the Town Engineer that the mitigation is adequate per the intent of the Town's Landslide Mitigation Policy. This occurrence of Marin western flax would also remain within Private Open Space on Lot 13 under this alternative rather than incorporated into Common Open Space, which could result in conflicts by activities of the future property owner.

Installation of subdrain systems that are intended to dewater hillside slopes and increase slope stability could continue to affect occurrences of Marin western flax and other special-status plant species under this alternative. With *Alternative 4* Landslide and Grading Revisions 9, 10, and 12 further the limitations of remedial subdrain systems beyond those initially proposed with *Alternative 3* (see Landslide and Grading Revision 6). However, subdrains are still proposed in the vicinity of the occurrence of Marin western flax on Lot 13 and the Common Open Space southeast of Lot 8, which supports Marin western flax, Tiburon buckwheat, and the occurrence of Carlotta Hall's lace fern. In addition to the direct impacts that could occur during installation, the subdrains are designed to effectively drain the surrounding area, which could considerably alter field conditions. This could result in changes in the existing vegetative cover, including the loss of wetland conditions necessary to support wetland vegetation and possibly the loss of all or some of the occurrences of special-status species in the vicinity.

The proposed trail alignment which could have adversely affected the single occurrence of north coast semaphore grass along the western edge of the site as part of the originally proposed project has been removed, eliminating the potential for disturbance from intensive trail use. However, the area encompassing the occurrence is now proposed to remain as part of the Private Open Space on Lot 1 rather than Common Open Space. There remains a possibility that residents of Lot 1 could inadvertently damage the occurrence if it remains on the site. The *Mitigation Recommendations* do

¹⁴ In response to the comments on the Draft EIR, the applicant retained a new biological consultant, LSA Associates, Inc., who then conducted updated studies on vegetation and special-status plant species on the site. Two subsequent reports prepared in response to the comments on the Draft EIR are the *Vegetation and Special-Status Plant Management Plan and Biological Assessment, Alta Robles Residential Development Tiburon, Marin County*, LSA Associates, Inc., August 26, 2010 and *Grassland Impact Analysis, Alta Robles Project, Tiburon, California*, LSA Associates, Inc., letter report to Craig Smith, Redhorse Constructors Inc., November 15, 2010.

not mention the occurrence of north coast semaphore grass, but the updated *Management Plan and Biological Assessment* does map and address this species and it is believed to still exist on the site. Although direct impacts on north coast semaphore grass appear unlikely, there remains a possibility that the occurrence could be inadvertently damaged or extirpated. Considering its small size and legal protective status, this would be a significant impact.

As with the originally proposed project, the increase in human access and activity in the Common Open Space and undeveloped areas on private lots under this alternative could result in trampling or picking of individual plants, improper vegetation treatments, or spread of invasive exotic species that could replace grassland habitat. Establishment and spread of invasive species such as French broom, Kikuyu grass, and barbed goat grass also pose a threat to the occurrences of Marin western flax and other special-status plant species on the site. Restrictions on landscape plantings and proper vegetation management, beyond the five years of maintenance called for during mitigation establishment in the *Management Plan and Biological Assessment*, would be required to provide effective long-term protection of the occurrences of special-status plant species and the associated sensitive natural community types on the site.

The deficiencies in the *Mitigation Recommendations* and the *Management Plan and Biological Assessment* by the applicant's consulting biologists would still apply under *Alternative 4*, including the need for long-term vegetation management on the site to control French broom and other invasive species over the entire site that pose a major threat to all of the special-status plant species occurrences. In addition to the required authorization from the USFWS for any take of this federally-threatened species acknowledged in the *Mitigation Recommendations*, an incidental take permit would be required from the CDFG as Marin western flax is also a State-listed threatened species.

Mitigation Measures 5.5-1(a) through 5.5-1(e) would still be applicable under this alternative, although some aspects of these measures now appear to be met. Adjustments have been made to the proposed location of the building envelope on Lot 13 to avoid the occurrence of Marin dwarf flax, as called for in Mitigation Measure 5.5-1(b). Permits would still be required as indicated under Mitigation Measure 5.5-1(a), and the informal consultation called for under this measure would still be applicable under this alternative prior to approval of the Tentative Map to determine likely permit requirements and the extent of modifications to the plans necessary to secure authorization. The *Mitigation Program* called for in Mitigation Measure 5.5-1(c) would still be required, defining revegetation methods, long-term vegetation management goals and methods to achieve them, and developing effective interpretive measures to prevent inadvertent take of special-status species, among other provisions, expanding on the preliminary recommendations contained in the *Management Plan and Biological Assessment*. Mitigation Measures 5.5-1(d) and 5.5-1(e) would still be applicable to ensure avoidance of California red-legged frog and nesting birds, respectively.

Impact 5.5-2 Sensitive Natural Communities

As with the originally proposed project, grading and improvements associated with this alternative could still affect stands of serpentine bunchgrass, other stands of high and medium quality native grasslands, and areas of freshwater marsh on the site, which would remain a significant impact. As discussed above under *Impact 5.5-1 Special-Status Species*, the location of one of the subdrains east of the proposed residence on Lot 8 has been adjusted to avoid most of the serpentine grassland and occurrence of Tiburon buckwheat. Other subdrains in the project as originally proposed have been reduced in size or eliminated on Lots 7 and 13, avoiding wetland seeps and occurrences of Marin western flax. However, the subdrain into the Common Open Space southeast of the proposed residence on Lot 8 and upslope of the existing driveway access onto the site would remain under this alternative, and would still affect native grassland and seep habitat in this vicinity.

As described in the *Management Plan and Biological Assessment* and *Grassland Impact Analysis*, an estimated 1.81 acres of the approximately 7.58 acres of high and medium quality native grasslands would be permanently impacted, 0.23 acre would be temporarily impacted during construction and restored, and 5.54 acres would be avoided by construction-related disturbance and permanently preserved, including almost all of the highest quality native grasslands. By comparison to the proposed project, 1.79 acres would be permanently impacted, 0.52 temporarily impacted and available for restoration, and 5.27 acres avoided and preserved. Adjustments to the proposed limits of grading under this alternative would slightly increase the acreage of permanently impacted high and medium quality native grasslands by 0.02 acres, but would reduce the estimated acreage of temporarily impacted grasslands by 0.29 acre and would permanently avoid an additional 0.27 acre, for a net reduction of 0.54 acre of impacts on high and medium quality native grasslands. The proposed building envelopes on Lots 5 and 6 have been pulled back approximately 30 feet from the mapped limits of the serpentine bunchgrass to provide a sufficient setback as part of routine maintenance (see Building Lot and Fence Revisions C and D). However, the wildlife fencing would still follow the original alignment on these lots, and there are no identified controls on landscaping or other improvements that would prevent clearing that could affect the nearby sensitive grasslands, and could result in future conflicts which compromise the edge of this stand of native grassland.

As discussed under *Impact 5.5-1 Special-Status Species*, the *Mitigation Recommendations* do not provide for any long-term vegetation maintenance or management, and contain no controls for possible inadvertent damage associated with increased human access to the Common Open Space and undeveloped land on private lots under this alternative. The *Management Plan and Biological Assessment* does provide information on grassland restoration techniques, and required maintenance and monitoring during establishment of replacement native grasslands. But it contains no recommendations on vegetation management beyond the five year monitoring period. The *Mitigation Recommendations* also do not address the important need for on-going control of the highly invasive non-native species that are spreading across the site and could eventually replace or greatly reduce the remaining native grassland habitat. The *Management Plan and Biological Assessment* assumes the removal of French broom would only be required within the approximately 2.5 acres encompassed by grading and vegetation maintenance, with an estimated 3.8 acres untreated. French broom is a highly invasive species that would continue to spread and degrade the remaining habitat values without active efforts to eradicate it from the site.

Mitigation Measure 5.5-2 would still be applicable under *Alternative 4*, although some aspects of this mitigation measure now appear to be met. Adjustments have been made to the proposed footprint of the residences on Lots 5 and 6 to provide for greater setbacks from the nearby high quality grasslands. However, additional controls on landscape plantings and vegetation maintenance have not been defined under this alternative, and the area could be converted to managed landscaped yard area rather than providing for grassland habitat enhancement and buffering. Further adjustments to proposed subdrains systems, particularly the drain proposed in the Common Open Space at the eastern edge of the site would be required, as would refinement of the *Mitigation Recommendations* and the *Management Plan and Biological Assessment*.

Impact 5.5-3 Wetlands and Drainages

Potential impacts to wetlands and drainages would remain significant under *Alternative 4*. Adjustments to the proposed subdrain system would avoid some of the scattered areas of freshwater seeps on Lot 7 under this alternative. These are assumed to be similar to the latest estimates from the applicant's consulting biologist for the proposed project, with an estimated 0.59 acre of jurisdictional waters avoided by retaining these areas in Common Open Space and undeveloped lands outside the residential use areas on private lots. However, some direct impacts to areas of freshwater marsh,

seeps, and sedge meadow, seasonal wetlands, and unvegetated other waters associated with ephemeral drainages would still occur under this alternative. An estimated total of approximately 0.3 acre of jurisdictional waters would be disturbed or eliminated based on the assumed limits of grading associated with development and landslide stabilization under this alternative. The *Management Plan and Biological Assessment* identifies locations within the common open space areas (Parcels A and B) where replacement wetlands are recommended to off-set anticipated impacts on jurisdictional waters, as required in Mitigation Measure 5.5-3(a).

The assumptions in the *Mitigation Recommendations* appear to underestimate the extent of direct disturbance to drainages and wetlands that would be required to install the proposed subdrain systems, and do not address the indirect impacts of dewatering the drainages and wetlands. Depending on the effectiveness of these subdrain systems, additional areas of freshwater seeps and marsh could eventually be eliminated over time where subsurface water is effectively intercepted and then bypasses the wetland area as a result of the new drainage systems. The wetland vegetation can only survive if sufficient surface water is present during the growing season. As with the proposed project, it is difficult to predict the possible changes to wetland vegetation in the vicinity of drainage improvements, but it is likely that some additional loss of wetland habitat would occur as a result of their installation. Of greatest concern is the proposed subdrain system that would extend into the lower elevations of the largest complex of freshwater marsh and serpentine bunchgrass located along the southeastern edge of the site, in the proposed Common Open Space of Lot A, which is located upslope of the sharp turn to the existing driveway near its intersection with Paradise Drive, and remains under this alternative. The revised estimates by the applicant's consulting biologist appear to be more accurate in predicting potential impacts on jurisdictional waters. Although the total acreage of jurisdictional waters affected by proposed development would be relatively low, these are regulated waters and sensitive natural community types, and their loss would be significant.

As with the originally proposed project, there remains a potential for erosion and degradation of wetland habitat as a result of alterations to site drainage patterns and concentration of storm water discharges, diminished water quality as a result of new impervious surfaces under this alternative. Proposed modifications to jurisdictional wetlands and other waters would still require authorizations from regulatory agencies, including the CDFG, Corps, USFWS, and RWQCB. Mitigation Measure 5.5-3(a) through 5.5-3(c) would still be applicable under this alternative, to ensure for the protection, replacement and enhancement of the jurisdictional wetland and other waters on the site.

Impact 5.5-4 Wildlife Habitat and Connectivity

As with the originally proposed project, new residences and other improvements associated with *Alternative 4* would generally be sited in areas of non-native grassland and coastal scrub, attempting to avoid more sensitive wetlands, serpentine bunchgrass grasslands, and oak woodlands. However, as discussed under *Impact 5.5-1 Special-Status Species*, *Impact 5.5-2 Sensitive Natural Communities*, and *Impact 5.5-3 Wetlands and Drainages*, this alternative would still have adverse impacts on the sensitive resources on the site and their associated wildlife habitat values. Areas of oak woodland and mature trees would be affected by proposed grading for slope stabilization, construction of new roads and residences, and to provide defensible space for fire protection around new residences. New landscaping could contribute to additional habitat conversion through planting of non-native species in the remaining natural areas and other factors such as landscape irrigation that could lead to loss of mature native trees. Increased human activity, nighttime lighting, and uncontrolled pets could all contribute to the reduction of existing wildlife habitat values under *Alternative 4*.

Some attempts have been made under this alternative to reduce the disruption the proposed six-foot high "deer fence" around each of the new residences would have on wildlife movement opportunities

under the proposed project. This includes providing an unfenced linkage along the driveway area between the residences on Lots 7 and 8 and between Lots 11 and 12, as well as pulling the proposed fence in the front yard of the residence on Lot 12 further away from the Main Road to improve wildlife movement opportunities between Lot 12 and 13. The text prepared by the applicant in describing the revisions shown in **Exhibit 9.0-3** states that the fence on Lot 4 was “pulled back to provide 100-foot wildlife corridor” and the fences between Lots 10 and 11 across the Main Road were “revised to provide 100-foot wildlife corridor”, but fence alignments are not shown on the latest Site Plan. Although the adjustments made to the alignment of deer fencing is improved under this alternative, additional restrictions on fencing would still be required to maintain functional crossings between Lots 10 and 11 and Lots 1 and 2, at a minimum. Mitigation Measure 5.5-4 would still be required to mitigate impacts on wildlife habitat and wildlife connectivity, and to contain night-time lighting, control pets, and address other factors that may degrade wildlife habitat conditions.

Impact 5.5-5 Conflicts with Tiburon Tree Ordinance and Wetland Polices

This alternative would serve to reduce the number of trees proposed for removal and avoid additional wetland features on the site, but would still conflict with policies in the Open Space and Conservation Element of the *Tiburon General Plan*.¹⁵ These include policies calling for buffers of at least 100 feet between wetlands and new development (OSC-20), open space buffers of at least 50 feet along streams (OSC-22), protection of sensitive wildlife habitat (OSC-25), avoidance of special-status species and sensitive natural communities (OSC-26), preservation of “protected trees” (OSC-33), preservation of natural habitat and wooded areas (OSC-34), use of native plants for landscaping (OSC-64), removal of invasive exotics as part of new development (OSC-65), and provisions for on-going removal and control of invasive exotic species (OSC-66). Mitigation required by this EIR would ensure that any adverse impacts are adequately mitigated and compliance with applicable policies is provided by the project, for both the originally proposed project and *Alternative 4*.

Tree removal under *Alternative 4* would be slightly less than that associated with the originally proposed project, with a total of an estimated 247 rather than 261 trees removed to accommodate the proposed development. Installation of the proposed bridge structure along the Main Road in this alternative (see Landslide and Grading Revision 13) could serve to avoid removal of additional trees, but these have not been quantified. The reduction in anticipated tree removal is due to the adjustment in the proposed landslide repair in the Common Open Space west of the Main Road and lower slopes of Lot 10. All of these 14 trees to be retained under this alternative are native live oaks with trunk circumferences of from 28 to 50 inches and qualify as protected trees under the Tiburon Tree Ordinance. This adjustment avoids much of the native oak woodland that was to be removed under the project as proposed. The additional tree avoidance under this alternative is desirable, but an estimated 93 protected trees would still be removed, which would be a significant impact. As with the originally proposed project, trees not directly removed by grading or other improvements associated with this alternative may be damaged or adversely affected during construction or as a result of long-term changes to drainage patterns, irrigation, exposure and other factors. Implementation of Mitigation Measure 5.5-5(b) would still be required under this alternative, to provide consistency with the Tiburon Tree Ordinance, provide for further refinement of grading and improvements to avoid additional protected trees, and provide for adequate replacement where avoidance is infeasible. The Tree Ordinance states that replacement may be required on an “up to three to one” basis, but the Town often accepts a 1:1 replacement ratio. Balancing the need to provide for adequate replacement plantings with the importance of protecting the remaining grasslands on the site and not overplanting

¹⁵ Further review of the project conformance with the applicable policies in the *Tiburon General Plan* is provided in *Section 4.0 Land Use and Planning*.

simply to meet a required replacement ratio must be considered in evaluating consistency with the Tiburon Tree Ordinance. Given the challenges of “fitting” the replacement tree plantings on the site, consideration should be given to requiring the applicant to provide at least a partial in-lieu fee in achieving adequate mitigation for anticipated tree loss.

Alternative 4 would continue to be inconsistent with the development setback distances from wetlands and streams specified in the *Tiburon General Plan*. These call for a buffer of at least 100 feet on each side of the top of bank for perennial, intermittent, and ephemeral streams, and a buffer of at least 100 feet from wetland areas. Incursion into the buffer would occur along the Main Road and rear of Lots 2 and 3, along the Main Road and Lot 1, and along the Main Road and Lot 13. Landslide repair and subdrain installation would also occur within the buffer zone on Lots 7, 8, 11, and 13. The *Mitigation Recommendations* call for preparation of a Mitigation and Monitoring Plan to minimize construction related disturbance within the buffer zone and to restore wetlands habitat to their pre-construction state to the maximum extent feasible. However, this pertains largely to installation of the subdrain systems for landslide stabilization, and the feasibility of restoring wetlands in these locations is highly unlikely given the dewatering that would occur as part of the drainage system. The *Management Plan and Biological Assessment* identifies suitable locations for installation of replacement wetlands to meet agency permit requirements. The wetland replacement and enhancement provisions proposed as part of the project and recommended in Mitigation Measure 5.5-3 would address the loss of wetlands within the buffer zone. However, further avoidance of the buffer zone would require considerable redesign of the proposed project and alternative given the widespread distribution of ephemeral drainages and wetland features on the site. From a biological standpoint, the potential impacts on jurisdictional waters can be successfully mitigated to a less-than-significant level, even without full compliance with the setback standards specified in the relevant policies of the *Tiburon General Plan*. Mitigation Measure 5.5-5(a) still applies to this alternative, to ensure appropriate refinement to improvement plans, mitigation for potential impacts on sensitive resources, and conformance with the applicable local goals, objectives, and policies.

GEOLOGY AND SOILS

The intent of the landslide repair plan *Alternative 4* is to minimize grading and other impacts on existing sensitive biological and visual resources and still be consistent with Town of Tiburon Landslide Mitigation Policy. **Exhibit 9.0-17** provides a summary of the proposed modifications to the landslide repair plan previously proposed as a part of *Alternative 3*.

Exhibit 9.0-17
Summary of Revisions to Alternative 3 Conceptual Landslide Stabilization Plan

Landslide	Landslide Type	Recommended Modifications to Alternative 3 Conceptual Stabilization Plan
A	Qlsa	No change
B	Qlsa	Adjust edge of upper compacted fill buttress to avoid Serpentine Bunchgrass and Tiburon Buckwheat.
C	Qc	No change
D	Qc	No change
E	Qlsa	Remove subdrains to avoid impact on existing wetlands and sedge meadow.

Landslide	Landslide Type	Recommended Modifications to Alternative 3 Conceptual Stabilization Plan
F	Qc	No change
G	Qlsa	No change
H	Qlsd	Combine subdrains and revised location to avoid proposed wetland and ravine flow line. Extend limits of buttress to account for proposed wetland mitigation grading.
I	Qlsa	No change
J	Qlsd	No change
K	Qlsa	No change
L	Qlsa	No change
M	Qlsd	Adjust wall layout to stay within property boundary.
N	Qlsa	Replace compacted fill buttress with buried retaining structure on north side of landslide (near Lot 13) to avoid Marin western flax. Remove subdrain to avoid Marin western flax and wetland. Reconfigure subdrain in southern portion of landslide area.
O	Qc	No change
P	Qlsa	No change
Q	Qlsa	Remove lower debris barrier and replace with compacted fill buttress further upslope. Shape and design of buttress to act as detention basin and aid in creating expanded wetland area.
R	Qc	Utilize retaining walls (one to five feet high) or bridge structure to reduce extent of roadway grading and avoid most of freshwater seep area.

Source: Letter to Scott Anderson and Nicholas Nguyen re: Geologic and Geotechnical Site Inspection & Consultation Conceptual Landslide Repair Plan (Alternative 4) Alta Robles Development Tiburon, California, from Scott A. Stephens and Stephen Korbay, Miller Pacific Engineering Group, February 8, 2010.

Impact 5.6-1 Seismic Ground Shaking

The *Alternative 4* revisions would not change the impacts associated with seismic ground shaking. This would remain a significant impact. As with the proposed project, implementation of Mitigation Measure 5.6-1 would reduce this impact to a less-than-significant level.

Impact 5.6-2 Seismic-Related Ground Failure

The *Alternative 4* revisions to the proposed project would not change the impacts associated with seismic-related ground failure. As further discussed below, the changes to the slope stabilization repairs for Risk Level A landslides may not satisfy the Town’s Landslide Mitigation Policy requirements to have a calculated factor of safety greater than 1.0 for seismic conditions. This would remain a significant impact. Mitigation would remain the same as discussed in Mitigation Measure 5.6-2.

Landslide and Grading Revisions 11, 13, and 14 are associated only with Risk Level B landslides; therefore, these revisions would not result in any changes to seismic-related ground failure impacts.

Landslide and Grading Revision 7 would slightly change the repair on Landslide M and the lower offsite portion of this landslide has a calculated pseudo-static (seismic) factor of safety equal to 0.50. The repair of the on-site portion of this landslide would satisfy the Town's Landslide Mitigation Policy; however, the lower portion would not be considered repaired and could pose a hazard to Paradise Drive below.

Landslide and Grading Revisions 8, 9, and 10 are located within Landslide N. These revisions would result in the approximate northern half of Landslide N not being repaired; and, the stability of this unrepaired landslide would not likely satisfy a factor of safety of 1.0 for seismic conditions. Based on Miller Pacific's slope stability analysis for Landslide N, no repair of Landslide N would result in a factor of safety equal to 1.0, which is at the threshold of stability.¹⁶ This unrepaired landslide is considered unstable during seismic conditions and could pose a risk to Paradise Drive below if left unrepaired.

Landslide and Grading Revision 12 modifies part of the repair for Risk Level A Landslide H. Landslide H would remain a significant impact and mitigation would remain the same as discussed in Mitigation Measure 5.6-2.

Landslide and Grading Revision 15 modifies part of the repair for Risk Level A Landslide E. This revision eliminates the proposed subdrain repair for Landslide E, which would reduce the stability of this landslide and possibly make it susceptible to seismic-induced ground failure. Landslide E would remain a significant impact and mitigation would remain the same as discussed in Mitigation Measure 5.6-2.

Landslide and Grading Revision 16 changes the repair for Risk Level A Landslides B and D. The revision would result in smaller portions of these landslides being removed and replaced as a compacted fill buttress. This would likely change the calculated factors of safety for seismic conditions. Landslides B and D would remain significant impacts and mitigation would remain the same as discussed in Mitigation Measure 5.6-2.

Impact 5.6-3 Landsliding

Alternative 4 revisions would change specific landsliding impacts, which are discussed in detail below. The effectiveness of the revisions would not be known until a more detailed site-specific analysis is performed. Even with the revisions, landsliding would remain a significant impact and mitigation would remain the same as that proposed in Mitigation Measure 5.6-3. As discussed below, the *Alternative 4* revisions may reduce the stability of landslide repairs proposed for the project.

Landslide and Grading Revision 7 is located in Lots 13 and 14 as part of the repair for Landslide M. This revision adjusts the western end of the proposed subsurface retaining wall structure to trend along the west property line instead of extending onto off-site property. This revision would stabilize a slightly smaller portion of Landslide M and leave the entire offsite portion of Landslide M as unrepaired. The unrepaired section of Landslide M is shown by the applicant's geotechnical consultant to have a factor of safety of 1.0, which is at the threshold of being unstable. This off-site unrepaired section could potentially impact Paradise Drive.

¹⁶ *Response to Geotechnical Peer Review Comments, Alta Robles Development, Tiburon, California*, Miller Pacific Engineering Group, January 28, 2008.

Landslide and Grading Revision 8 is located in Lot 13, immediately south of the residential use area. This revision would relocate a subsurface retaining wall structure that would provide stabilization for the private open space and residential use area upslope of the retaining wall. The new location of the retaining wall structure would result in a setback less than 100 feet from the building envelope for Lot 13. Although this retaining wall would provide additional setback from the Marin western flax within Landslide N, the majority of the north half of Landslide N would not be repaired or eliminated as required by the Town's Landslide Mitigation Policy for this Risk Level A landslide.

Landslide and Grading Revision 9 involves removing the proposed subdrain system from the northern half of Landslide N, within Lot B, in order to reduce the impact to Marin western flax. This would eliminate geotechnical mitigation measures for repair of the northern portion of Landslide N. Along with Revision 8, discussed above, the approximate north half of Landslide N would not be repaired or eliminated as required by the Town's Landslide Mitigation Policy for this Risk Level A landslide.

Landslide and Grading Revision 10 is located entirely within Lot B and would involve the placement of a subdrain system within the southern portion of Landslide N and the northern edge of Landslide O. This revision would change the dimensions and extent of the subdrain system proposed for improving the stability of Landslide N. This revision would improve the stability of the southern portion of Landslide N and the northern end of Landslide O. The effectiveness of this subdrain installation for repairing Landslides N and O within the framework of the Town's Landslide Mitigation Policy would not be known until a more detailed site-specific analysis was performed.

Landslide and Grading Revision 11 is located in the southern portion of Lot B, the southwest corner of Lot 10 and northwest corner of Lot 9 and would result in eliminating the use of an approximately 100-foot long debris catchment fence at the toe of Landslide Q within Lot B. A compacted fill buttress would be constructed across the central portion of the Landslide Q erosion gully and constructed in a manner that would act as a detention basin to mitigate the impact of erosion and debris flows. This revision would improve this Risk Level B landslide as required by the Town's Landslide Mitigation Policy.

Landslide and Grading Revision 12 is located in the eastern portion of Lot A within Landslide H and the northern edge of Landslide G. The proposed subdrain system would replace two smaller subdrain systems proposed in the originally proposed project. This subdrain system would improve the stability of the southeastern portion of Landslide H. The northwest portion of Landslide H would be removed and replaced with a compacted fill buttress. These two repair methods combined would likely repair Landslide H to satisfy the Town's Landslide Mitigation Policy for this Risk Level A landslide.

Landslide and Grading Revision 13 would eliminate the proposed fill buttress that would have removed and replaced the upper portion of Landslide R to provide stable ground for the Main Road. Utilizing a bridge would eliminate the need for a compacted fill buttress to stabilize the Main Road construction. This would eliminate repair of Landslide R, which is a colluvial filled swale that could potentially be a source area for a debris flow failure. The potential for this type of failure would need to be considered during design of the bridge structure. This revision would eliminate repair of Landslide R; however, the debris catchment fence proposed at the base of the ravine would provide improvement of this landslide as required by the Town's Landslide Mitigation Policy for this Risk Level B landslide.

Landslide and Grading Revision 14 would eliminate the upslope retaining wall, Wall Number W3-A on Lot 3, and reduce the length of Wall Number W2-B on Lot 2. The northern end of Risk Level B Landslide F is located in the vicinity of these changes; however, the unstable colluvium at the location of these retaining wall changes would be removed and replaced with compacted fill during project

development for Lots 2, 3, 4, and the Main Road. Therefore, this revision would not result in any changes to landslide impacts associated with Landslide F.

Landslide and Grading Revision 15 would eliminate the subdrain systems proposed for repair of Risk Level A Landslide E. Landslide E would not be repaired or eliminated as required by the Town's Landslide Mitigation Policy for this Risk Level A landslide. However, the risk of debris flow impact to Paradise Drive from failure within this landslide would be reduced by the proposed debris catchment fence at the bottom of the ravine just above Paradise Drive.

Landslide and Grading Revision 16 would result in an adjustment of the grading limits for repair of Landslides B and D and keep the repair grading within the property boundaries of Lot 8. This would result in portions of Landslides B and D not being repaired, improved, or mitigated as previously proposed and would likely reduce the effectiveness of the landslide repair at these locations. In addition, the unrepaired portions of the landslide would be within 100 feet of the building envelope for Lot 8. A site-specific geotechnical analysis would be required determine if this repair would satisfy the Town's Landslide Mitigation Policy requirements.

Impact 5.6-4 Slope Stability

The *Alternative 4* revisions to the proposed project would alter some of the proposed landslide repairs as discussed above in *Impacts 5.6-2* and *5.6-3*. Slope stability would remain a significant impact. Reducing this impact to a less-than-significant level would require implementing the measures discussed in Mitigation Measure 5.6-4.

Impact 5.6-5 Grading

The *Alternative 4* revisions to the proposed project would reduce the extent of grading to avoid biologic resources. However, even with these revisions, grading would be a significant impact. Reducing the impacts of grading to a less-than-significant level would require implementing the measures discussed in Mitigation Measure 5.6-5. The revisions proposed in *Alternative 4* would result in the following revisions to the project grading:

Revision 7 would slightly reduce the extent of retaining wall construction and buttress grading for repair of Landslide M by staying within the property boundary.

Revision 8 would eliminate grading as part of the repair at the north end of Landslide N. Instead of grading, a proposed retaining wall would be constructed approximately 70 feet north of the Marin western flax located in Lot B. Some ground disturbance would occur in the vicinity of retaining wall construction and would require excavated soil from retaining wall construction to be removed from this location.

Revision 9 would likely reduce the amount of excavation disturbance required for subdrain installation.

Revision 10 would change the location of disturbance required for subdrain installation and keep it outside a 100-foot setback for the Marin western flax in the north portion of Landslide N.

Revision 11 would result in more grading in the middle portion of Landslide Q, for creating a fill buttress and detention basin that would be larger than the original fill buttress proposed at this location. It is proposed to create an expanded wetland area on the upslope side of this buttress. This would be considered replacement mitigation for the proposed debris fence at the northern end of

Landslide Q. However, as with any debris catchment fence, any upslope erosion/debris flows would eventually fill up this detention basin and would likely require future grading maintenance for debris removal.

Revision 12 proposes revising the placement and dimensions of the subdrain stabilization for Landslide H. This would change the location of disturbance for subdrain installation.

Revision 13 proposes using a bridge on Lot 1, which would extend over the upper portion of Landslide R. This would reduce a significant amount of grading and retaining wall construction proposed for construction of the Main Road without a bridge. Excavation/construction disturbance would occur in the vicinity of the bridge construction. Excavated soil would be created for bridge foundation construction and would need to be removed.

Revision 14 would eliminate cut/fill grading for construction of the retaining walls.

Revision 15 would eliminate disturbance and excavation required for installation of the subdrains in Landslide E.

Revision 16 would slightly reduce the amount of grading on the east side of the proposed buttress fill.

Impact 5.6-6 Secondary Effects of Grading

With *Alternative 4* grading and landslide revisions would reduce some of the secondary effects of grading, as discussed below.

Revision 7 would not result in any significant changes to the secondary effects of grading.

Revision 8 would eliminate grading adjacent to the Marin western flax in the north portion of Landslide N. Therefore, the secondary effects of grading would reduce the impact adjacent to this sensitive biological resource, as described above under *Impact 5.5-1*.

Revision 9 would remove the subdrain installation within the 100-foot setback buffer of the Marin western flax in Landslide N. This would eliminate the secondary effects of subdrain installation disturbance and eliminate subsurface water removal adjacent to the Marin western flax.

Revision 10 would reconfigure the subdrain installation for repair of Landslide N to reduce the impact to the Marin western flax described in Revision 9 above.

Revision 11 would result in removal of an existing seasonal wetland and replace it with a proposed wetland by constructing a detention basin at this location.

Revision 12 would result in additional grading near the top of Landslide H, resulting in a slope that is steeper than natural conditions. Instead of two subdrain systems in Landslide H, only one subdrain system would be installed, which would likely reduce the impacts of disturbance for subdrain installation.

Revision 13 would reduce the grading impacts and would eliminate the impact to the freshwater marsh seep-sedge meadow found within Landslide R.

Revision 14 would reduce the amount of grading required for retaining wall construction; however, this revision would not result in any significant changes to secondary impacts. Careful restrictions would still be required to protect sensitive resources in the vicinity during construction.

Revision 15 would eliminate disturbance and grading for construction of the subdrain systems within Landslide E. This would eliminate the impact to the water course and biological resources found within the ravine and Landslide E.

Revision 16 would slightly reduce the areal extent of grading on the east side of the proposed buttress fill to avoid impact to adjacent serpentine bunchgrass.

Impact 5.6-7 Expansive Soils

The *Alternative 4* revisions to the proposed project would not change the impacts associated with expansive soils. This would remain a significant impact. Reducing this impact to a less-than-significant level would require implementing the measures presented in Mitigation Measure 5.6-7.

PUBLIC SERVICES

Impact 5.7-1 Fire Service Impact

Like the originally proposed project, *Alternative 4* would not meet the emergency vehicle access requirement to allow fire apparatus access to within 150 feet of all the ground floor areas of the new residences. This would be a significant fire service impact. Implementation of Mitigation Measure 5.7-1, which requires the provision of multiple access points to the proposed residences through the use of permanent landscape stairs and paths to the remote portions of homes, would reduce this impact to a less-than-significant level. This impact would be the same with the originally proposed project.

Impact 5.7-2 Wildland-Building Fire Exposure

The project site is located within a wildland-urban interface (WUI), where undisturbed wildland areas are being developed and new structures are located close to vegetative fuels. Therefore as with the originally proposed project, construction of *Alternative 4* on the project site would place new residences in areas that are susceptible to wildfires.

The project's conceptual landscape plans incorporate the defensible space requirements of the Tiburon Fire Protection District. A Hazard Matrix Index takes into account the slope, aspect, and nature of surrounding vegetation to determine the amount of defensible space that should be required around each residence. Within the required defensible space areas vegetative fuels must be managed to reduce the fire risk around structures.

Alternative 4 would be required to meet all fire safety requirements as the originally proposed project. Because of this *Alternative 4* would have a less-than-significant impact on wildland building fire exposure. This impact would be the same for the originally proposed project.

Impact 5.7-3 Cumulative Fire Service Impact

Cumulative development in the Tiburon Planning Area could generate additional demand on emergency fire services from the TFPD. This would be a significant cumulative impact and like the originally proposed project, *Alternative 4* would make a cumulatively considerable contribution.

Expansion of existing facilities to offset increased demand on fire services could result in significant environmental impacts. Mitigation Measure 5.7-3 lists a number of *Tiburon General Plan* policies and programs that would mitigate development related impacts. It is speculative to analyze potential impacts without identified sites and construction plans. However the policies and programs listed in

Mitigation Measure 5.7-3 would likely reduce construction related impacts resulting from the expansion of fire service facilities to a less-than-significant level.

Impact 5.7-4 Increased Demand for Police Protection Services

Alternative 4 is not anticipated to generate a substantial increase in demand for police services and would have a less-than-significant impact on police protection services. *Alternative 4's* impact on police protection services would be the same as with the originally proposed project.

Impact 5.7-5 Cumulative Increased Demand for Police Protection Services

Cumulative development in the Tiburon Planning Area would likely generate additional demand for police services which would require the addition of four sworn personnel.¹⁷ The Tiburon Police Department facility has capacity to house four additional officers, therefore impacts resulting from the construction would not occur. This would be a less-than-significant cumulative impact.

Impact 5.7-6 Increased Water Demand

It is anticipated that *Alternative 4* would have the same water demand as the originally proposed project. The MMWD has stated that water supply would be adequate to serve the originally proposed project.¹⁸ This would be a less-than-significant impact, and this impact would be the same with the originally proposed project.

Impact 5.7-7 Water Service Impacts

With *Alternative 4* the proposed water system would not be adequate to serve Lot 14. The proposed water system has all lots receiving water from the MMWD's Mount Tiburon tanks. However these tanks cannot provide adequate domestic service to any house built with the highest water use fixture under 200 feet elevation. With *Alternative 4* all portions of the proposed residence on Lot 14 would be located below 200 feet elevation and would not receive adequate water service from the Mount Tiburon tanks. This would be a significant impact. Implementation of Mitigation Measure 5.7-7, which requires Lot 14 to connect with the existing water line on Paradise Drive, would insure adequate water service for Lot 14 and reduce this impact to a less-than-significant level. This impact is the same as with the originally proposed project.

Impact 5.7-8 Cumulative Water Service Impacts

Cumulative Development in the Tiburon Planning Area would increase water service demands. The MMWD plans to counteract the water supply demands with water management strategies that focus on conservation efforts and seeking out additional sources of water. Ongoing conservation efforts have reduced water demand by 20 percent less than the peak demand reached in 1987,¹⁹ and the district has the potential conserve up to 12,000 acre feet per year by the year 2025 through implementation of technical programs (installation of efficient plumbing fixtures, water metering devices, appliances) and

¹⁷ *Tiburon 2020 General Plan Draft EIR*, Town of Tiburon and Nichols • Berman, May, 2005, page 4.8-12.

¹⁸ Nichols • Berman communication with Eric McGuire, Marin Municipal Water District, March 2008.

¹⁹ MMWD website: <http://www.marinwater.org/>

behavioral programs (conservation education).²⁰ This would be a less-than-significant cumulative impact.

Impact 5.7-9 Increased Project Wastewater Treatment Demand

Alternative 4 would generate the same amount of wastewater as the proposed project (estimated 1,950 gpd). Currently there is sufficient capacity at the Paradise Cove treatment plant to serve the projected wastewater generated by *Alternative 4*. The additional flow would not require the construction of additional treatment facilities or exceed wastewater treatment requirements of the Regional Water Quality Control Board, or violate water quality standards. This would be a less-than-significant impact and this impact would be the same with the originally proposed project.

Impact 5.7-10 Increased Cumulative Wastewater Treatment Demand

Cumulative development would increase sewage treatment demands on facilities managed by Sanitary District No. 5. Existing and planned facilities, including the expanded Paradise Cove Treatment Plant would have sufficient capacity to serve the cumulative buildout of the area. This would be a less-than-significant cumulative impact.

Impact 5.7-11 Reed Union School District

With *Alternative 4* the same estimated number of students would attend grade K-8 schools within the Reed Union School District as the originally proposed project. All three district schools have adequate capacity to accommodate the number of students generated by *Alternative 4* and this would be a less-than-significant impact. This impact would be the same with the originally proposed project.

Impact 5.7-12 Tamalpais Union High School District

Alternative 4 would generate an estimated three to five students who would attend High School within the Tamalpais Union High School District. The Tamalpais Union High School District has the capacity to serve these new students. This would be a less-than-significant impact, and this impact would be the same with the originally proposed project.

Impact 5.7-13 Cumulative Public School Impacts

Both the Reed Union School District and the Tamalpais Union High School District would have adequate capacity to accommodate future students from cumulative development in the area. This would be a less-than-significant cumulative impact.

Impact 5.7-14 Project and Cumulative Increased Demand for Solid Waste Services

Cumulative development in the Tiburon Planning Area along with *Alternative 4* would increase demand on solid waste disposal services. As with the originally proposed project, *Alternative 4* would result in the construction of 13 new residences that would house approximately 30 people,²¹ who

²⁰ MMWD 2007 Water Conservation Master Plan, Maddaus Water Management, June 2007, page 4

²¹ According to *ABAG's Projections 2005*, the average household size in the Tiburon Sphere of Influence is 2.25 people. *Town of Tiburon General Plan*, Town of Tiburon, adopted September 7, 2005, pages 9-13.

would generate an estimated 81 pounds of solid waste per day.²² The amount of solid waste generated with *Alternative 4* would be the same as the proposed project. The Redwood Landfill has permitted capacity to serve the proposed project and cumulative development. Marin County currently complies with AB 939, and the proposed project plus cumulative development would be required to comply with applicable solid waste regulations. Since there is adequate landfill capacity and the proposed project plus cumulative development would be required to comply with any applicable solid waste regulations, solid waste impacts would be less-than-significant.

VISUAL RESOURCES

Like the proposed project, *Alternative 4* includes development on 14 lots. The following describes the most relevant visual characteristics of *Alternative 4*. According to information provided by the applicant's representative, as many existing trees as possible between Lots 3, 5, 6 and 7 would be retained to buffer the buildings and help minimize their visual exposure. Shrubs would be planted within the Residential Use Area on the south side of Lots 5 and 6 to provide a buffer to the adjacent open space and help screen the yards and residences. The building design of the residence on Lot 8 has been changed to include a vegetated roof and vegetated walls. The exterior of all residences would consist of wood cladding with sepia color intended to minimize contrast with the surrounding setting.

The position of the proposed residence on Lot 14 has been moved back away from Paradise Drive while the area of the residence has been reduced in size. Also the grade height of the pool has been lowered to reduce the height of the associated retaining wall. The residence proposed on Lot 4 has been reduced in height by 17 feet and reduced in area from 6,300 square feet to 4,488 square feet. Reductions in retaining walls have been made. The upper retaining walls on Lots 2 and 3 have been eliminated and stepped and vegetated retaining walls along the roadway are now proposed. Portions of some retaining walls have been integrated with some of the proposed residences and thereby serve as structural walls as well as retaining walls. The integrated portion would not appear as a retaining wall but instead would be seen as part of the residence itself.

The alignment of the roadway has been modified and now includes a bridge that would feature a vegetated rail. This change in the roadway avoids the need to remove a group of mature trees. The retained trees would help screen the lower roadway.

Impact 5.8-1 View Looking North from Middle Ridge Open Space (Viewpoint No. 1)

Changes to the project reflected in *Alternative 4* would reduce the visual exposure and obtrusiveness of project features as compared to the originally proposed project. However, in the view toward the project site from Middle Ridge Open Space, *Alternative 4* would still meet the visual dominance characteristic definition of *co-dominant* as presented in **Exhibit 5.8-2**. Although the color contrast of the new homes would be relatively low, the buildings, roadways, driveways, and retaining walls that would be visible would attract attention due to their contrast in form, line, and texture with those naturally established in the surrounding setting. Because the development in *Alternative 4* would appear *co-dominant* from Viewpoint No. 1, based on **Exhibit 5.8-3**, the project would result in a significant visual impact from this location. However, the severity of the visual impact of *Alternative*

²² The California Integrated Waste Management Board estimates 2.71 pounds of waste per resident per day. *Sorokko Property Draft EIR*, Leonard Charles and Associates, October 2007, page 4.14-3.

4 from Viewpoint No. 1 would be less than that of the proposed project although in both cases the impact is considered significant.

Mitigation Measure 5.8-1 In order to mitigate the impact identified above, the applicant shall be required to meet the standards outlined below.

- Reduce the visual exposure and perceived mass of proposed homes on Lots 3, 4, 5, and 6 and the visual exposure of homes on the other lots to the extent that project elements do not attract attention when viewed from the Middle Ridge open space and therefore meet the visual dominance characteristic definition of subordinate. Means to accomplish this include the following:
 - For proposed homes on Lots 3, 4, 5, and 6
 - Limit building height to 16 feet.
 - Limit total floor area to a size considered appropriate by the Design Review Board and less than the maximum allowable FAR.
 - For all proposed homes that are in view from the open space
 - Consistent with the mitigation measures in *Section 5.5 Biological Resources* revise the Preliminary Planting Plan to plant native trees where they would screen the buildings so as to limit the exposure of each visible building façade to no more than 30 percent of the total façade area that would otherwise be seen in the view from Viewpoint No. 1.
 - Use glass that has a Visible Light Reflectance/Reflection value of less than nine percent for all exterior glass.

Significance After Mitigation Implementation of this mitigation measure would reduce the obtrusiveness of proposed homes on Lots 3, 4, 5, and 6 and would reduce the visual dominance of project features. Project elements in view from the Middle Ridge open space would, however, still appear *co-dominant*. Therefore as with the originally proposed project, implementation of *Alternative 4* would result in a significant unavoidable visual impact.

Responsibility and Monitoring Individual house designs would be required to undergo design review with the Town of Tiburon Design Review Board. At this time the Design Review Board would assess the individual house designs for conformance with the Town's Zoning Ordinance and the Hillside Design Guidelines and would require the design to demonstrate conformance with the above mitigation measures. The Design Review Board may require additional photosimulations or architectural renderings.

Impact 5.8-2 View Looking West from Paradise Drive (Viewpoint No. 2)

The visual impact of *Alternative 4* from Viewpoint No. 2 on Paradise Drive would be the same as the proposed project.

Impact 5.8-3 View Looking East from Acacia Drive (Viewpoint No. 3)

The visual impact of *Alternative 4* from Viewpoint No. 3 on Acacia Drive would be the same as the proposed project.

Impact 5.8-4 Light Pollution

Implementation of *Alternative 4* would result in new lighting sources on the project site which would lead to increased light pollution. This would be a significant impact. As with the originally proposed project, implementation of Mitigation Measure 5.8-4 would reduce light pollution impacts to a less-than-significant level.

CULTURAL RESOURCES

Impact 5.9-1 Potential Subsurface Cultural Deposits

As discussed in *Section 5.9 Cultural Resources* of the Draft EIR it is not likely that cultural resources are present at the project site. However unlikely, it is possible that subsurface cultural resources associated with prehistoric and historic period use may exist. As with the originally proposed project, ground disturbing construction activities could disturb and damage previously unidentified buried cultural deposits. This would be a significant impact. Implementation of Mitigation Measure 5.9-1 would reduce this impact to a less-than-significant level. This impact would be the same with the originally proposed project.

Based upon the above the analysis, the first paragraph on page 357 of the Draft EIR is revised as follows:

This EIR examines several alternatives to the project as presently proposed. These alternatives include two on-site No Project alternatives, ~~and two~~ on-site development alternatives and potential off-site locations.

Based upon the analysis of *Alternative 4*, **Section 6.5 Environmentally Superior Alternative** is revised as follows:

6.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

On the basis of the discussion of the proposed project and the on-site alternatives, the EIR finds that *Alternative 1* (No Project / No Build) would be the environmentally superior alternative as it would avoid the environmental impacts associated with construction and operation of the proposed project. By assuming no additional development on the Rabin site, *Alternative 2* (No Project / Reasonably Foreseeable Development) would result in the construction of eight new residences, where the proposed project, ~~and~~ *Alternative 3* (Revised Site Plan Alternative), ~~and~~ *Alternative 4* propose to build 13 new residences. While *Alternative 2* would result with similar significant impacts to the proposed development ~~and~~ *Alternatives 3 and 4*, with *Alternative 2* minimal construction would occur on the Rabin property, and less roads, utilities, walls and fences would be constructed, which would result in a relative reduction to the disruption of the project sites natural characteristics. *Alternative 2*, therefore, would be environmentally superior to the proposed project, ~~and~~ *Alternative 3*, ~~and~~ *Alternative 4*. The same as *Alternative 1*, however, *Alternative 2* is a no project alternative. In addition, *Alternative 2* would not meet the applicant's objectives for the project site, including the construction of 13 new residences and the creation of common open space on the project site.

The *CEQA Guidelines* (section 15126.6[e]) states that if the environmentally superior alternative is the no project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Of the remaining alternatives, ~~Alternative 3~~ *Alternative 4* would be the environmentally superior alternative. Although the significant impacts associated with ~~Alternative 3~~ *Alternative 4* would be similar to the proposed project, the inclusion of the proposed revisions would reduce the degree of certain impacts; however, such impacts would remain significant and in need of mitigation measures.

Exhibit 6.0-8 summarizes the impacts for the *Alta Robles Residential Development* project and each of the three on-site alternatives. In the following exhibit, "LTS" denotes impacts determined to be less-than-significant. "S" denotes significant impacts that would be reduced to less-than-significant with implementation of mitigation measures. "SU" denotes significant unavoidable impacts (i.e., impacts that would not be reduced to less-than-significant with implementation of mitigation measures).

**Exhibit 6.0-8
Impact Comparison**

Impact	Proposed Project	Alternative 1 (No Project / No Build)	Alternative 2 (No Project / Reasonably Foreseeable Development)	Alternative 3 (Revised Site Plan)	Alternative 4 (Revised Proposed Project)
Transportation					
5.1-1 Existing-plus-Project Impact on Signalized Intersections	LTS	LTS	LTS	LTS	<u>LTS</u>
5.1-2 Cumulative-plus-Project Impact on Signalized Intersections	LTS	LTS	LTS	LTS	<u>LTS</u>
5.1-3 Existing-plus-Project and Cumulative Impacts on Unsignalized Intersections	LTS	LTS	LTS	LTS	<u>LTS</u>
5.1-4 Safety Impact Due to Inadequate Sight Distance Approaching the Unsignalized Intersection of Paradise Drive with the Project Entrance	LTS	LTS	LTS	LTS	<u>LTS</u>
5.1-5 Impact on Regional Roadways	SU	LTS	SU	SU	<u>SU</u>
5.1-6 Project Impact on Transit	LTS	LTS	LTS	LTS	<u>LTS</u>
5.1-7 Project Impact on Bicycle Facilities and / or Safety	S	LTS	S	S	<u>S</u>
5.1-8 Project Impact on Pedestrian Circulation	LTS	LTS	LTS	LTS	<u>LTS</u>
5.1-9 Project Impacts Related to Site Access	LTS	LTS	LTS	LTS	<u>LTS</u>

Impact	Proposed Project	Alternative 1 (No Project / No Build)	Alternative 2 (No Project / Reasonably Foreseeable Development)	Alternative 3 (Revised Site Plan)	Alternative 4 (Revised Proposed Project)
5.1-10 <i>Project Impacts Related to Emergency Access and Internal Circulation</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.1-11 <i>Parking Impacts</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.1-12 <i>Construction Traffic Impacts</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
Air Quality					
5.2-1 <i>Construction-Period Air Pollutant Emissions</i>	S	LTS	S	S	<u>S</u>
5.2-2 <i>Generation of Airborne Asbestos</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.2-3 <i>Greenhouse Gas Emissions</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
Noise					
5.3-1 <i>Construction Noise</i>	SU	LTS	SU	SU	<u>SU</u>
Hydrology and Water Quality					
5.4-1 <i>Alteration of Existing Drainage Patterns and On- and Off-Site Flooding</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.4-2 <i>Alteration of Existing Drainage Patterns on Erosion and Downstream Sedimentation</i>	S	LTS	S	S	<u>S</u>
5.4-3 <i>Impacts on Groundwater Levels and Groundwater Recharge</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.4-4 <i>Impacts on Water Quality</i>	S	LTS	S	S	<u>S</u>

Impact	Proposed Project	Alternative 1 (No Project / No Build)	Alternative 2 (No Project / Reasonably Foreseeable Development)	Alternative 3 (Revised Site Plan)	Alternative 4 (Revised Proposed Project)
Biological Resources					
5.5-1 <i>Special-Status Species</i>	S	LTS	S	S	<u>S</u>
5.5-2 <i>Sensitive Natural Communities</i>	S	LTS	S	S	<u>S</u>
5.5-3 <i>Wetlands and Drainages</i>	S	LTS	S	S	<u>S</u>
5.5-4 <i>Wildlife Habitat and Connectivity</i>	S	LTS	S	S	<u>S</u>
5.5-5 <i>Conflicts with Tiburon Tree Ordinance and Wetland Policies</i>	S	LTS	S	S	<u>S</u>
Geology and Soils					
5.6-1 <i>Seismic Ground Shaking</i>	S	LTS	S	S	<u>S</u>
5.6-2 <i>Seismic-Related Ground Failure</i>	S	LTS	S	S	<u>S</u>
5.6-3 <i>Landsliding</i>	S	LTS	S	S	<u>S</u>
5.6-4 <i>Slope Stability</i>	S	LTS	S	S	<u>S</u>
5.6-5 <i>Grading</i>	S	LTS	S	S	<u>S</u>
5.6-6 <i>Secondary Effects of Grading</i>	S	LTS	S	S	
5.6-7 <i>Expansive Soils</i>	S	LTS	S	S	<u>S</u>
Public Services					
5.7-1 <i>Fire Service Impact</i>	S	LTS	S	S	<u>S</u>
5.7-2 <i>Wildland-Building Fire Exposure</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.7-3 <i>Cumulative Fire Service Impact</i>	S	LTS	S	S	<u>S</u>
5.7-4 <i>Increased Demand for Police Protection Services</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.7-5 <i>Cumulative Increased Demand</i>	LTS	LTS	LTS	LTS	<u>LTS</u>

Impact	Proposed Project	Alternative 1 (No Project / No Build)	Alternative 2 (No Project / Reasonably Foreseeable Development)	Alternative 3 (Revised Site Plan)	Alternative 4 (Revised Proposed Project)
<i>for Police Protection Services</i>					
5.7-6 <i>Increased Water Demand</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.7-7 <i>Water Service Impacts</i>	S	LTS	S	S	<u>S</u>
5.7-8 <i>Cumulative Water Service Impacts</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.7-9 <i>Increased Project Wastewater Treatment Demand</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.7-10 <i>Increased Cumulative Wastewater Treatment Demand</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.7-11 <i>Reed Union School District</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.7-12 <i>Tamalpais Union High School District</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.7-13 <i>Cumulative Public School Impacts</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.7-14 <i>Project and Cumulative Increased Demand for Solid Waste Services</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
Visual Quality					
5.8-1 <i>View Looking North from Middle Ridge Open Space (Viewpoint No. 1)</i>	SU	LTS	LTS	SU	<u>SU</u>
5.8-2 <i>View Looking West from Paradise Drive (Viewpoint No. 2)</i>	LTS	LTS	LTS	LTS	<u>LTS</u>
5.8-3 <i>View Looking East from Acacia Dr. (Viewpoint No. 3)</i>	LTS	LTS	LTS	LTS	<u>LTS</u>

<i>Impact</i>	<i>Proposed Project</i>	<i>Alternative 1 (No Project / No Build)</i>	<i>Alternative 2 (No Project / Reasonably Foreseeable Development)</i>	<i>Alternative 3 (Revised Site Plan)</i>	<i>Alternative 4 (Revised Proposed Project)</i>
5.8-4 <i>Light Pollution</i>	S	LTS	S	S	<u>S</u>
<i>Cultural Resources</i>					
5.9-1 <i>Potential Subsurface Cultural Deposits</i>	S	LTS	S	S	<u>S</u>

- a LTS = Less-Than-Significant
- S = Significant (impact would be less-than-significant with implementation of mitigation measures)
- SU = Significant Unavoidable (impact would remain significant even with implementation of mitigation measures)
- NA = Not Applicable (in some cases due to inadequate information about the alternative to make a determination)

Source: Nichols • Berman

LAND USE AND PLANNING

Alternative 1 would forego the opportunity to implement the goals and policies in the *Tiburon General Plan* that are applicable to the project site. Whereas the proposed project demonstrates consistency with the *Tiburon Town Code*, *Town of Tiburon Design Guidelines for Hillside Dwellings*, *Paradise Drive Visioning Plan*, and *LAFCo Policy Guidelines*, the benefits of having a project demonstrate consistency with these policies and guidelines would be lost.

With *Alternative 2* the SODA property would be developed and remain under the jurisdiction of Marin County. *Alternative 2* would be consistent with residential density requirements of the *Marin Countywide Plan* and the *County Development Code*. With *Alternative 2* the number of housing units and their location may not be in compliance with the Ridge and Uplands Greenbelt policies and programs.

With regards to Land Use and Planning, *Alternative 3* and Alternative 4 ~~is~~ are similar in consistency issues with the proposed project.

TRANSPORTATION

Alternative 1 would not result in any project generated traffic as no development would occur. *Alternatives 2*, *Alternative 3*, and *Alternative 4* would have the same transportation impacts as the proposed project. As discussed in response to comment D-21 more recent speed surveys of vehicles traveling on Paradise Drive indicate there will be adequate sight distance for vehicle approaching the project entrance from the east on Paradise Drive. As with the proposed project, with *Alternatives 2*, *Alternative 3*, and *Alternative 4* significant impacts to safety due to inadequate sight distance for vehicles approaching the proposed project entrance from the east (*Impact 5.1-4*) and significant impacts on bicycle safety (*Impact 5.1-7*) would be reduced to less-than-significant levels with implementation of mitigation measures.

As discussed with *Impact 5.1-5*, cumulative development would result in a significant unavoidable impact on regional roadways. The proposed project and *Alternatives 2*, *Alternative 3*, and *Alternative 4* would make a small, yet incrementally significant, contribution to this cumulative impact. Only *Alternative 1* would avoid increasing vehicle trips on regional roadways. *Alternative 2* would reduce vehicle trips but does not reduce the amount of significant impacts and is not environmentally superior to the proposed project in regards to traffic and circulation impacts.

AIR QUALITY

The proposed project, *Alternative 2*, ~~and *Alternative 3*~~, and *Alternative 4* would result in similar Air Quality impacts. *Alternative 2*, ~~and *Alternative 3*~~, and *Alternative 4*, as with the proposed project, would result in significant construction-period air pollutant emissions (*Impact 5.2-1*). With *Alternative 1* there would be no impacts to Air Quality.

NOISE

The project site is located in a quiet area that is susceptible to significant impacts resulting from increases to ambient noise levels. The proposed project would result in significant unavoidable noise

impacts associated with construction noise (*Impact 5.3-1*). *Alternative 2*, ~~and~~ *Alternative 3*, and *Alternative 4* would also result in significant unavoidable noise impacts. Although with *Alternative 2* the majority of noise generating construction activities on the Rabin property would be eliminated, resulting in less impact than with the proposed project, ~~and~~ *Alternative 3*, and *Alternative 4*. With *Alternative 1* no development would occur and therefore no noise related impacts would occur.

HYDROLOGY AND WATER QUALITY

The proposed project, *Alternative 2*, ~~and~~ *Alternative 3*, and *Alternative 4* would result in significant impacts from the alteration of existing drainage patterns on erosion and downstream sedimentation (*Impact 5.4-2*) and water quality (*Impact 5.4-4*). These impacts would be reduced to a less-than-significant level with incorporation of identified mitigation measures. In comparison, *Alternative 1* would not result in any impacts, as no changes to the site would occur.

Alternative 2 would not disturb as many drainage areas as the proposed project, and would result in less concentrated runoff, risk of erosion and sedimentation. As with *Alternative 3*, *Alternative 4* includes revisions that would decrease grading for landslide repairs. These revisions would likely decrease the sediment yield into downstream drainageways, therefore decreasing the amount of sediment buildup in drainage culverts, however this impacts would be less-than-significant without the revision of *Alternative 4*. Reduced sediment yield would also be beneficial to water quality, however it is the increase in impervious surfaces and irrigated landscaping that would lead to increased pollutants making their way to receiving water ways that is the cause of significant impacts on water quality (*Impact 5.4-4*). This impact would be reduced to less-than-significant levels with implementation of mitigation measures.

Revisions contained in *Alternative 4* reduce the use of subdrains for dewatering landslide areas. This would benefit *Impact 5.4-2* and *Impact 5.4-3*, however *Impact 5.4-3* is already less-than-significant and the revisions of *Alternative 4* would not reduce the level of significance of *Impact 5.4-2*.

BIOLOGICAL RESOURCES

The proposed project, *Alternative 2*, *Alternative 3*, and *Alternative 4* would result in significant impacts to special-status species, sensitive natural communities, wetlands and drainages, wildlife habitat connectivity, and conflicts with the *Tiburon Tree Preservation Ordinance* and wetland policies. With all four development scenarios, the identified significant biological resources impacts would be reduced to a less-than-significant level with implementation of the mitigation measures identified in this EIR. Compared to the proposed project, *Alternative 1* would not result in any impacts to biological resources, as no development would occur. *Alternative 3* and *Alternative 4* include provisions that would substantially reduce potential impacts on special-status species and sensitive natural communities, and would reduce anticipated tree removal from estimates made for the proposed project. However, further refinements to the site plan, proposed compensatory mitigation, and long-term management of the site are necessary to fully mitigate identified impacts.

GEOLOGY AND SOILS

The proposed project, *Alternative 2*, ~~and~~ *Alternative 3*, and *Alternative 4* would result in significant impacts associated with seismic ground shaking, seismic related ground failure, landsliding, slope stability, grading, secondary effects of grading, and expansive soils. In comparison, *Alternative 1* would not result in any geological or soils impacts as no development would occur.

With *Alternative 3* and *Alternative 4* revisions to landslide repair methods would reduce the degree of impacts to biological resources; however, such impacts would remain significant and in need of mitigation measures.

PUBLIC SERVICES

The proposed project, *Alternative 2*, ~~and *Alternative 3*~~, and *Alternative 4* would result in significant impacts with respect to fire service, cumulative fire service, and water service impacts. These impacts would be reduced to less-than-significant levels with incorporation of proposed mitigation measures. In comparison, *Alternative 1* would not result in any impacts as no development would occur.

VISUAL QUALITY

The proposed project, ~~and *Alternative 3*~~, and *Alternative 4* would result in a significant unavoidable impact on Viewpoint No. 1 (**Exhibit 5.8-4**). *Alternative 1* would not impact this viewpoint because there would be no development. With *Alternative 2* only six residences would be visible from this viewpoint, compared to 12 residences that would be visible with the proposed development, ~~and *Alternative 3*~~, and *Alternative 4*. With *Alternative 2*, changes to Viewpoint No. 1 would be subordinate to the viewshed and would result in a less-than-significant impact on Viewpoint No. 1, whereas the proposed project, ~~and *Alternative 3*~~, and *Alternative 4* would result in co-dominant changes to the viewpoint. The revisions to proposed residences in *Alternative 3* for Lots 4, 5, and 6 would, however, reduce the visual mass of the structures and their prominence from Viewpoint No. 1.

The proposed project, *Alternative 2*, ~~and *Alternative 3*~~, and *Alternative 4* would result in significant impacts caused by light pollution (*Impact 5.8-4*). *Alternative 1* would not increase light pollution as no new light sources would be constructed. *Alternative 2* would result with five fewer new residences and less street lighting than the proposed project, ~~and *Alternative 3*~~, and *Alternative 4*. Therefore, while still a significant impact, light pollution would be less apparent with *Alternative 2*. The lighting plan called for in *Mitigation Measure 5.8-4* would reduce this impact to a less-than-significant level for all ~~three~~four development scenarios.

CULTURAL RESOURCES

The proposed grading and construction activities associated with the proposed project, *Alternative 2*, ~~and *Alternative 3*~~, and *Alternative 4* could result in significant impacts to subsurface cultural deposits, including human remains if present. Identified mitigation measures would reduce this impact to a less-than-significant level. Compared to the proposed project, *Alternative 2*, ~~and *Alternative 3*~~, and *Alternative 4*, *Alternative 1* would not disturb potential cultural resources as no development would occur.

Master Response 3 – Biological Resources

Both written and public hearing comments on the Draft EIR raised concerns regarding the biological resources, primarily related to vegetation and special-status plant species, on the project site. In particular, comments on the Draft EIR questioned whether the vegetation findings were current given that the original studies conducted by the applicant's previous biological consultant, Sycamore Associates, were conducted between 2002 and 2005.²³ These studies were used as a scientific basis for developing and refining the limits of grading and development associated with the proposed project. These studies also were used as the primary information source in evaluating potential impacts to biological and wetland resources in the Draft EIR, together with field reconnaissance surveys conducted by the EIR biologist. The Biological Resources section of the Draft EIR provides descriptions on the extent of the various vegetation types, including native and non-native grasslands, and the distribution of special-status plant species populations on the site. **Exhibit 5.5-1** on page 237 of the Draft EIR shows the distribution of these resources, as mapped by the applicant's previous biological consultant.

In response to the comments on the Draft EIR, the applicant retained a new biological consultant, LSA Associates, Inc., who then conducted updated studies on vegetation and special-status plant species on the site. The resulting document, *Vegetation and Special-Status Plant Management Plan and Biological Assessment*²⁴ (*Management Plan and Biological Assessment*) provides a description of the methodology used and dates of the updated field surveys, descriptions of the vegetation and special-status plants known from the site, an assessment of the potential effects of *Alternative 4* on these resources, recommended conservation measures, details on the recommended grassland restoration effort proposed as part of the project, and a summary of the monitoring, maintenance and management program needed to protect the sensitive resources on the site. A subsequent letter report by LSA Associates, *Grassland Impact Analysis*,²⁵ provides an assessment of the proposed project on native grasslands and comparison to potential impacts associated with *Alternative 4*. The *Management Plan and Biological Assessment* and the *Grassland Impact Analysis* are incorporated by reference and copies are available for public review at the Town of Tiburon Planning Division.

The *Management Plan and Biological Assessment* provides detailed information on the results of supplemental surveys for special-status plant species, and the extent of grassland-related cover types on the site. LSA conducted supplemental surveys in May and July of 2009, and March, April, May, June, July, and November of 2010. These surveys entailed walking the site to inspect for previously undetected occurrences of special-status plant species, mapping the size and distribution of the existing occurrences of special-status plant species, and mapping the extent of native grasslands and stands of introduced, highly invasive French broom on the site. A GPS unit was used to accurately plot the perimeter of each map unit on the site. Native grasslands were characterized by dominant

²³ Previous surveys and mapping on the project site by the applicant's previous biological consultant are described under Introduction and Methods on pages 234 and 235 of the Draft EIR.

²⁴ *Vegetation and Special-Status Plant Management Plan and Biological Assessment, Alta Robles Residential Development Tiburon, Marin County*, LSA Associates, Inc., August 26, 2010.

²⁵ *Grassland Impact Analysis, Alta Robles Project, Tiburon, California*, LSA Associates, Inc., letter report to Craig Smith, Redhorse Constructors Inc., November 15, 2010.

species and an assigned cover class criteria to more accurately map their distribution and understand the potential effects of the project on grassland resources. Mapped native grassland categories consist of stands dominated by: blue wildrye and California brome; purple needlegrass with a cover class²⁶ of 10 to 25 percent; purple needlegrass with a cover class of 25 to 75 percent; locations where native grassland occurs as understory to primarily native coyote brush which is spreading on the site due to the removal of grazing and fire suppression; and stands of native grass where Italian thistle is a dominant component (see **Figure 4** in *Management Plan and Biological Assessment and Native Grassland map in Grassland Impact Analysis*).

Special-Status Plants

With regard to special-status plant species and their distribution, the supplemental survey effort conducted in 2009 and 2010 generally confirmed the information from 2002 to 2005. No new special-status species of concern were encountered on the site, such as Tiburon jewelflower, Tiburon paintbrush, and Tiburon Mariposa lily. The occurrence of North Coast semaphore grass, which has previously been detected on the project site, was not relocated but is believed to still exist on the site. The distribution of Marin western flax and Tiburon buckwheat remains fairly unchanged. One exception however is a previously undetected occurrence of Marin western flax on the edge of the native grasslands near the center of the site. A second exception would be additional stands in the large serpentine grasslands at the southeastern edge of the site (see **Figure 6** in *Management Plan and Biological Assessment*). The annual distribution and population numbers for the special-status plant species on the site varies from year to year, particularly for Marin western flax, which is an annual species. The previously unmapped stands of Marin western flax are described in the *Management Plan and Biological Assessment*. The stand in the central portion of the site occurs along what appears to be a previously graded bank of a gully, and occupies an area approximately 40 feet long and 15 feet wide. For this stand an estimated 324 plants were observed in 2009, and 35 plants were observed in 2010. The stands in the southeastern portion of the site are all associated with the serpentine grasslands, and contain between one and 200 plants. As expected, the footprints of the other stands of Marin western flax and the stands of Tiburon buckwheat have varied from year to year.

With consideration of the updated distribution information described in the *Management Plan and Biological Assessment*, the project's potential impacts on special-status plant species remains the same as described in the Draft EIR. None of the previously unmapped stands discussed above would be affected by proposed grading and development, including the previously unreported stand of Marin western flax in the central portion of the site that would be contained within the common open space on proposed Parcel A. The *Management Plan and Biological Assessment* identifies locations within the common open space areas (Parcels A and B) where replacement wetlands are recommended to offset anticipated impacts on jurisdictional waters, as required in Mitigation Measure 5.5-3(a). Construction of wetlands would involve substantial land disturbance, however these potential wetland sites would all be located far enough away from the stands of special-status plant species that no new previously undisclosed impacts are anticipated.

Implementation of Mitigation Measures 5.5-1(a) through 5.5-1(c) would adequately mitigate anticipated impacts on special-status plant species, as concluded in the Draft EIR. These measures require the applicant to secure all necessary authorizations from the regulatory agencies, provide for additional avoidance and minimization of direct and indirect impacts through adjustments to the

²⁶ Cover class is a method of describing vegetative cover based on the percentages of component species over a defined area. In this case, the component of native species have been broken into three cover class categories, specifically under 10 percent, 10 to 25 percent, and 27 to 75 percent native species.

Precise Development Plan, and prepare a detailed *Mitigation and Monitoring Program for Special-Status Species and Other Sensitive Resources (Mitigation Program)*. As discussed on Page 252 of the Draft EIR, the applicant's previous biological consultant prepared a *Mitigation Recommendation* document²⁷ to address each special-status plant species of concern discussed under *Impact 5.5-1 Special-Status Species*. The *Management Plan and Biological Assessment* contains information that serves to expand on the draft *Mitigation Recommendation*, but mitigation measures recommended in the Draft EIR are still required to mitigate potential impacts to a less than significant level.

Native Grasslands

A description of native and non-native grasslands was provided on page 236 in the Draft EIR and **Exhibit 5.5-1** shows the distribution of the most sensitive grasslands on the site, described as "serpentine grasslands" as mapped by the applicant's previous biological consultant. With regard to concerns over the mapping and distribution of native grasslands on the site, the supplemental mapping and *Management Plan and Biological Assessment* and the *Grassland Impact Analysis* provide considerable updated information on this resource that helps to further distinguish the characteristics of each native grassland type known from the project site. The updated *Manual of California Vegetation*²⁸ defines vegetation by dominant species, with the "alliance" being the primary vegetation unit used in this classification system. This classification system was developed by the California Native Plant Society and is recognized by the California Department of Fish and Game (CDFG) as the preferred method in defining vegetative cover. The serpentine grasslands on the site are generally dominated by purple needlegrass, and as such would be considered dense stands of Purple Needlegrass Grasslands according to the *Manual of California Vegetation*. Smaller stands of grasslands on the site are dominated by other native species, primarily blue wildrye and California brome. Most of the remaining grasslands on the site are dominated by non-native species such as slender wild oat, perennial ryegrass, velvet grass, rattlesnake grass, and bromes. Native grasses and forbs occur with varying frequency in areas currently dominated by non-native species, and the distribution and abundance of these native component species changes from year to year depending on seasonal rainfall and temperatures, grazing and trampling, and other influences.

There are no standards established by the California Department of Fish and Game (CDFG) or the Town of Tiburon in defining what constitutes a "native grassland" or thresholds for distinguishing a native grassland from a non-native grassland that has some native plant species component. The *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*²⁹ states that "special status natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." The 2007 *List of California Terrestrial Natural Communities*³⁰ identifies specific community types and dominant vegetation indicators that are considered to have a "high inventory

²⁷ *Mitigation Recommendations for the Approximately 60-Acre Rabin / SODA Residential Development*, Sycamore Associates, Revised March 5, 2007

²⁸ *A Manual of Terrestrial Vegetation of California*, Sawyer, J.O., T. Keeler-Wolf, J.M. Evans, California Native Plant Society, 2nd Edition, 2009.

²⁹ *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*, California Department of Fish and Game, November 24, 2009.

³⁰ *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database*, Biogeographic Data Branch, October 22, 2007.

priority”. CDFG ranks natural communities (also referred to by CDFG as alliances) based on rarity rank, using a system derived from NatureServe, an established network of biological inventories.

Since the Draft EIR was circulated, the 2009 *List of California Vegetation Alliances*³¹ provides the most recent ranking used by CDFG in identifying sensitive vegetation alliances. In this ranking system, an alliance is given both a global (“G”) and a state-level (“S”) rank of 1 to 5; 1: critically imperiled; 2: imperiled; 3: vulnerable; 4: apparently secure; 5: secure. CDFG considers alliances ranked 1, 2, or 3 at the state level to be sensitive. Those alliances ranked 4 and 5 at the state level are considered common enough to not be of concern. With this standard in mind, the applicant’s current biological consultant used a much more rigorous and quantitative standard in identifying and mapping native grasslands on the site. The following provides a summary of the detailed discussion of native grasslands in the *Management Plan and Biological Assessment* and the rating system used in mapping native grassland resources on the site, and page 236 of the Draft EIR is revised as follows to further characterize native grassland on the site.

Grasslands

Grassland vegetation dominates much of the site, and consists of stands of both native and non-native species. In some locations, the soils are shallow or rock outcrops are present, and grassland cover is relatively sparse or absent. Most of the native grasslands throughout the state have been eliminated during the past 150 years by over-grazing, agricultural practices, and other factors. This has led the CNDDDB to recognize native grasslands as a sensitive natural community type with a high inventory priority. Non-native grasses and forbs now dominate much of the grassland cover on the site, outside areas underlain by serpentine soils. Characteristic non-native grasses and forbs on the site include: slender wild oat (*Avena barbata*), dog-tail grass (*Cynosorus echinatus*), perennial ryegrass (*Lolium perenne*), velvet grass (*Holcus lanatus*), rattlesnake grass (*Briza* spp.), bromes (*Bromus* sp.), bristly ox-tongue (*Pichris echiodes*), milk thistle (*Cilybum marianum*), bull thistle (*Cirsium vulgare*), and hoary mustard (*Hirschfeldia incana*).

Areas with serpentine-derived soils continue to support a cover of primarily native species, and these grasslands are recognized as a sensitive natural community type by the CNDDDB. Based on estimates made by the applicant’s consulting biologist and field conditions observed by the EIR biologist, an estimated 6.8 acres of the site support serpentine bunchgrass (see **Exhibit 5.5-1**). The serpentine-derived soils contain chemical properties that diminish their suitability for establishment of non-native grasses and forbs, allowing the native species which have adapted to this soil type to continue to flourish. These include a number of special-status plant species, such as the State and federally-threatened Marin western flax (*Hesperolinon congestum*) which typically occur in shallow, serpentine-derived soils. Native grass species in these grasslands include: purple needlegrass (*Nassella pulchra*), foothill needlegrass (*Nassella lepida*), California melic grass (*Melica californica*), California brome (*Bromus carinatus* var. *carinatus*), blue wildrye (*Elymus glaucus* ssp. *glaucus*) and California oatgrass (*Danthonia californica* var. *californica*). Native perennial forbs in the stands of native grassland include: yarrow (*Achillea millefolium*), wavy-leaf soap plant (*Chlorogalum pomeridianum*), naked-stem buckwheat (*Eriogonum nudum*), Douglas iris (*Iris douglasiana*), and California poppy (*Eschscholzia californica*). Ornamental trees have been planted around the edge of the largest stand of serpentine bunchgrass in the eastern portion of the site, and the existing driveway

³¹ *List of California Vegetation Alliances*, California Department of Fish and Game, Biogeographic Data Branch, December 28, 2009

onto the project site was constructed through the lower edge of this stand. The existing driveway now bisects this stand of serpentine bunchgrass and the habitat it provides to a number of special-status plant species, including Marin western flax and Tiburon buckwheat (*Eriogonum luteolum* var. *caninum*).

Additional detailed mapping was conducted by the applicant's current biological consultant to further characterize the grasslands on the site and identify areas considered to be native grasslands, in addition to the highest quality serpentine bunchgrass community. As described in the document the *Vegetation and Special-Status Plant Management Plan and Biological Assessment*³² (*Management Plan and Biological Assessment*) and the *Grassland Impact Analysis*,³³ the grasslands were categorized according to dominant native species and habitat quality (see **Figure 4** in *Management Plan and Biological Assessment* and Native Grassland map in *Grassland Impact Analysis*). This approach to mapping and designated habitat quality provided a much more rigorous methodology to identifying potentially sensitive resources on the site than that used during previous surveys, and establishes a more conservative and quantitative basis for assessing potential impacts on grassland habitat. The following provides a summary of each of the native grassland types according to their assigned quality.

- “High quality” native grasslands included stands with at least a cover class 25 percent component of purple needlegrass and the presumed existing occurrence of North Coast semaphore grass. All of the serpentine grasslands mapped previously and shown in **Exhibit 5.5-1** fall under this designation as high quality native grasslands because of their abundance of both native grasses and forbs, and presence of special-status plant species in some stands. Based on the 2009 *List of California Vegetation Alliances*, alliances of purple needlegrass have a ranking of “S3?”. A rank of S3 signifies that the alliance is vulnerable and at moderate risk within a particular state or province, and the CDFG considers rankings of S1 through S3 as sensitive with a high inventory priority. The question mark “?” in the ranking indicates that there is not enough evidence on rarity within a particular alliance. Nevertheless, these dense stands are dominated by native species and are considered particularly valuable biologically. According to the updated mapping provided in the *Management Plan and Biological Assessment* and the *Grassland Impact Analysis*, an estimated 4.71 acres of high quality grasslands are present on the site.
- “Medium quality” native grasslands included stands of purple needlegrass with a cover class ranging from ten to 25 percent and stands of blue wildrye and California brome with a minimum native cover class of 50 percent. These are stands of grassland considered intermediate in quality between the indisputable “high quality” stands of purple needlegrass and the lower quality stands of native grassland on the site. Similar to purple needlegrass, blue wildrye also has a rank of S3? in the 2009 *List of California Vegetation Alliances*, but California brome is not currently recognized as an alliance. According to the *Management Plan and Biological Assessment* and the *Grassland Impact Analysis*, an estimated 2.68 acres

³² *Vegetation and Special-Status Plant Management Plan and Biological Assessment, Alta Robles Residential Development Tiburon, Marin County*, LSA Associates, Inc., August 26, 2010.

³³ *Grassland Impact Analysis, Alta Robles Project, Tiburon, California*, letter report prepared for Craig Smith, Redhorse Constructors Inc. by Clinton Kellner, PH.D. and Roger D. Harris, November 15, 2010

of purple needlegrass with a cover class range of ten to 25 percent, and 0.19 acre of blue wildrye/California brome occur on the site.

- “Low quality” native grasslands were not considered to have a high enough native component or are now dominated by overstory vegetation, and are therefore not considered to be a sensitive natural community. These tend to be former native grasslands that are in transition to another community type as native oak woodlands and coyote brush scrub spread across the site. The component of native grasses and forbs varies widely in these stands. In some locations, Italian thistle (*Carduus pycnocephalus*) has formed the dominant species. French broom is also spreading into former stands of native grasslands, although these have not been mapped as low quality grasslands in the *Management Plan and Biological Assessment*. Low quality native grasslands collectively occupy an estimated 3.83 acres, with 3.62 acres occurring as native grass understory and 0.21 acres as Italian thistle/native grass as mapped in the *Management Plan and Biological Assessment*.

One of the major risks to the long-term sustainability of both the native and non-native grassland habitat on the site is the spread of woody vegetation into these areas, particularly the highly invasive non-native French broom. Curtailment of grazing on the site, fire suppression, landscape plantings, and other factors have all influenced the existing vegetation cover on the site, and have contributed to the conversion of grasslands to woody-cover types. One focus of the *Management Plan and Biological Assessment* was to map the current extent of French broom on the site, and to characterize its distribution and rate of spread. Three size classes were mapped, ranging from 12 inches or less, greater than 12 inches to four feet, and greater than four feet tall (see **Figure 5** in *Management Plan and Biological Assessment*). Many of the height classes are mixed with some individuals of each class occurring within a particular mapped stand. But overall, the mapping indicates that French broom is rapidly colonizing throughout the site and presents a severe threat to grassland habitat, occupying an estimated 6.3 acres of the site.

A peer review of the updated mapping and evaluation of native grasslands contained in the *Management Plan and Biological Assessment* and *Grassland Impact Analysis* was performed by the EIR biologist. Field inspections were conducted on September 3 and 27, and November 2, 2010 to confirm the extent of the various mapped grasslands stands. In general, the updated mapping provides a much more thorough characterization of the native grasslands on the site. Some variation was observed from the cover classes depicted in the map of native grasslands (see **Figure 4** in *Management Plan and Biological Assessment*) but this is not surprising given the changes that occur in apparent dominance both seasonally and annually, as noted above, and none warranted substantial adjustments to the mapping.

As discussed on page 262 of the Draft EIR, of the approximately 6.8 acres of serpentine bunchgrass on the site mapped previously, remedial grading and subdrain installation would extend into approximately 0.4 acre of existing habitat. In addition, proposed residential use areas on Lots 5 and 6 would extend up to the edge of the largest stand of serpentine bunchgrass, providing no setback for vegetation maintenance and clearance for fire suppression, and could result in future conflicts that compromise the edge of this stand of native grassland. The *Management Plan and Biological Assessment* and the *Grassland Impact Analysis* provides an updated evaluation of anticipated impacts on native grasslands, identifies detailed conservation measures to be implemented during construction and as part of long-term operational restrictions, describes proposed grassland restoration and habitat enhancement techniques to be use as part of compensatory mitigation for loss of native grassland

habitat, and defines monitoring, maintenance, and management to be implemented as part of a minimum five year program intended to ensure successful establishment of any replacement grasslands. These measures serve to greatly expand the *Mitigation Recommendations* reviewed in the evaluation of potential impacts on native grasslands provided under *Impact 5.5-2 Sensitive Natural Communities*, of the Draft EIR. As discussed on page 262 of the Draft EIR, the *Mitigation Recommendations* do not provide for any long-term vegetation maintenance or management, contain no controls for possible inadvertent damage associated with increased human access to the Common Open Space and undeveloped land on private lots, and do not address the important need for on-going control of the highly invasive non-native species that are spreading across the site and could eventually replace or greatly reduce the remaining native grassland habitat. The “Operation Restrictions” contained in the *Management Plan and Biological Assessment* provide some important controls related to project landscaping, open space limitations and management restrictions not addressed in the *Mitigation Recommendations*, although additional controls and management provisions are still necessary to fully address potential impacts on grassland resources.

The updated evaluation contained in the *Management Plan and Biological Assessment* and the Grassland Impact Analysis identified both temporary and permanent impacts on native grassland resources, with permanent impacts including areas encompassed by proposed residential use, roads, storm drainage systems and retaining walls, basically locations that would be permanently converted from natural habitat. Temporary impacts were assumed where grading associated with landslide remediation, subdrain installation, and wetland mitigation resulted in disturbance or removal of existing cover, but the area would have the potential to be restored to natural habitat again (see **Figure 4** in *Management Plan and Biological Assessment*).

As described in the *Management Plan and Biological Assessment* and the Grassland Impact Analysis, an estimated 4.97 acres of the approximately 11.41 acres of native grasslands on the site would be impacted by the project. This includes the high and medium quality native grasslands considered sensitive natural community types and the low quality native grasslands not considered a sensitive natural community type. After separating out the low quality native grasslands, an estimated 2.31 acres of the approximately 7.58 acres of high and medium quality native grasslands would be impacted. An estimated 5.27 acres of the high and medium quality native grasslands would be avoided by construction-related disturbance, including almost all of the highest quality native grasslands (serpentine bunchgrass) as concluded on page 262 of the Draft EIR. Of the estimated 2.31 acres of high and medium quality native grasslands affected by the proposed project, approximately 1.79 acres would be permanently converted to residential use and project-related improvements, and approximately 0.52 acre would be graded or disturbed during construction but still available for possible restoration as grassland habitat. **Figure 4** in the *Management Plan and Biological Assessment* and the Native Grasslands map in the Grassland Impact Analysis show the extent the native grasslands that would be subject to permanent and temporary impacts under *Alternative 4*, which are slightly greater under the proposed project. The potential impacts of the proposed project on native grasslands would remain significant based on the updated evaluation in the *Management Plan and Biological Assessment* and the Grassland Impact Analysis, which appears thorough and quantitative in the assumption of potential impacts based on the peer review performed by the EIR biologist.

The recommended approach to mitigation for potential impacts to native grasslands is also much more comprehensive in the *Management Plan and Biological Assessment* than that described in the *Mitigation Recommendations*. To compensate for permanent removal of native grasslands considered a sensitive natural community type (high and medium quality), 2.38 acres of “special-status grasslands” are proposed to be created and preserved in perpetuity in designated Open Space (see **Table E** and **Figure 7** in *Management Plan and Biological Assessment*). Although these estimates

were developed for *Alternative 4*, they can generally be applied to the proposed project as well. Revised estimates from the *Grassland Impact Analysis* indicate that a total of 2.31 acres of high and medium quality native grasslands would be permanently or temporarily impacted under the proposed project. With an estimated 2.38 acres of replacement native grasslands proposed in the *Management Plan and Biological Assessment*, this would provide just slightly more than a 1:1 replacement ratio of high and medium quality native grasslands impacted by the proposed project. The expanded information in the *Management Plan and Biological Assessment* regarding recommended conservation measures, details on the recommended grassland restoration effort proposed as part of the project, and a summary of the monitoring, maintenance and management program needed to protect the sensitive resources on the site is useful in demonstrating feasibility of the proposed approach to mitigation. As acknowledged on page 262 of the Draft EIR, re-establishment and restoration of grassland habitat is a challenging task with variable success, and requires considerable maintenance and monitoring. The *Management Plan and Biological Assessment* calls for a minimum 5 year monitoring program and defines restoration techniques, but does not define long-term standards for maintenance of open space and control of weedy species, particularly French broom.

A primary shortcoming of the recommendations in the *Management Plan and Biological Assessment* is that invasive French broom would only be removed in selected locations in close proximity to preserved and restored native grasslands considered to be of high and medium quality (see **Figure 7** in *Management Plan and Biological Assessment*). Much of the existing stands of French broom would remain on private lots and Common Open Space and would most likely quickly invade adjacent remaining native and non-native grasslands, given its aggressive ability to colonize and spread. Additionally, grading and equipment operation associated with project construction activities would create ideal conditions for French broom germination, as indicated on page 262 of the Draft EIR. Of the approximately 6.3 acres of French broom on the site, an estimated 2.5 acres is recommended for removal in the *Management Plan and Biological Assessment* as part of grading and vegetation maintenance. This would leave approximately 3.8 acres or about 60 percent of the existing stands of French broom untreated on the site. These remaining stands of French broom would continue to colonize the adjacent grasslands located outside the footprints of managed native grasslands, be an ongoing management problem, and would further degrade the existing plant and wildlife habitat values of the site.

A comprehensive eradication program for French broom is necessary to fully compensate for project-related impacts on grassland resources. As stated above, these direct and indirect impacts include the loss of an estimated 2.31 acres of native grassland considered to be a sensitive natural community type of high and medium quality and the removal of an additional 2.66 acres of low quality native grasslands, for which no mitigation is proposed in the *Management Plan and Biological Assessment*. If locations outside the footprint of preserved and restored grasslands are not routinely treated in an attempt to eradicate and prevent reestablishment of this species on the site, areas of the remaining grasslands and even the understory of woodland cover would most likely eventually become dense thickets of broom. Mitigation Measures 5.5-1(c) and 5.5-2 would still be required to address potential impacts on sensitive natural communities, but have been revised to acknowledge updated information in the *Management Plan and Biological Assessment* and to clarify that eradication of French broom should be an objective of long-term management of private and common open space on the site, to prevent the further spread of this species and loss of additional grassland habitat.

Mitigation Measure 5.5-1(c) on pages 258 and 259 of the Draft EIR has been revised as follows to acknowledge the updated *Management Plan and Biological Assessment* prepared by the applicant's current biological consultant and to emphasize the importance of French broom control and eradication as part of the mitigation program for the project.

Mitigation Measure 5.5-1(c) A qualified biological consultant shall be retained by the applicant to prepare a detailed *Mitigation and Monitoring Program for Special-Status Species and Other Sensitive Resources (Mitigation Program)*. The *Mitigation Program* shall be prepared in consultation with the CDFG and USFWS, and shall meet with the approval of the Town of Tiburon. The *Mitigation Program* shall define measures which ensure protection of the populations, salvage of any seed and / or individual plants within the limits of grading, replanting of salvaged plant material in suitable protected habitat, long-term protection and management requirements, monitoring of the habitat avoidance and salvage efforts, provisions for any compensatory off-site measures if required by regulatory agencies to address on-site losses, and appropriate measures to avoid possible presence of special-status animal species. Components of the *Mitigation Program* shall include the following:

- Refine and expand on the initial mitigation framework outlined in the *Mitigation Recommendations* and subsequent *Management Plan and Biological Assessment* prepared by the applicant's consulting biologists, address input received during informal and formal consultation called for in Mitigation Measure 5.5-1(a), and incorporate avoidance measures called for in Mitigation Measure 5.5-1(b).
- Describe the inadvertent take measures for California red-legged frog called for in Mitigation Measure 5.5-1(d), as well as any development restrictions that may be required by the USFWS during the consultation called for in Mitigation Measure 5.5-1(a).
- Provide a detailed description of any plant salvage and reinstallation efforts where complete avoidance of the occurrences of special-status plant species is determined to be infeasible, and adequate mitigation has been developed in consultation with regulatory agencies.
- Define the revegetation methods in restoring serpentine bunchgrass and other high and medium quality native grasslands disturbed during grading and installation of any subdrain systems through occurrences of special-status plant species. This shall include details on maintenance and monitoring methods, performance standards for plant re-establishment, and contingency measures if success criteria are not met. Maintenance and monitoring shall be provided for a minimum of ten years in locations where incursion into occurrences of special-status plant species is unavoidable, and a funding mechanism shall be identified.
- Describe the long-term vegetation management goals and methods to achieve them, with an emphasis on maintaining grassland and freshwater habitats that support the occurrences of special-status plant species on the site. This shall include routine removal of invasive species over the entire site, particularly French broom, and selective control of coyote brush and other native scrub species that may eventually replace much of the grassland cover unless properly managed. Performance standards shall be defined regarding vegetation treatment to eliminate any uncertainty in long-term management on the site. French broom removal shall occur on an annual basis until all mature shrubs and seedlings have been eliminated from the site. Long-term monitoring and maintenance shall be provided to ensure that French broom does not become re-established on the site.
- Identify a mechanism that demonstrates the feasibility of long-term on-site management of proposed Common Open Space, public trail easement areas, and portions of private lots outside the residential use area that contain occurrences of special-status species and

sensitive natural communities. This can include obligations defined as part of the Codes, Covenants & Restrictions of the homeowners association for the development. Appropriate development restrictions and vegetation management obligations shall be established over all Common Open Space areas and undeveloped portions of private lots containing essential habitat for special-status species or other sensitive resources.

- Develop effective interpretive measures to prevent inadvertent take of special-status species by persons utilizing the Common Open Space areas or maintaining undeveloped lands on private lots. Methods shall be described to permanently prevent vehicle access into the Common Open Space areas where they border the private roads and driveways, which shall include an effective barrier system (such as rustic split-rail fence, posts, or boulders). Permanent signage shall be placed at 50-foot intervals along the perimeter of the Common Open Space areas that border roadways adjacent to occurrences of special-status plants or where any public trails pass through the vicinity of occurrences of special-status plants that state:

Sensitive Natural Area
No Vehicle or Pedestrian Access
Please Do Not Pick Wildflowers

The discussion under *Impact 5.5-2 Sensitive Natural Communities* and text to Mitigation Measure 5.5-2 on pages 262 and 263 of the Draft EIR has also been revised as follows to provide an update on anticipated impacts to native grassland resources based on information provided in the *Management Plan and Biological Assessment*, quantify required grassland replacement ratios, and emphasize the importance of French broom control and eradication as part of the mitigation program for the project.

Of the approximately 6.8 acres of serpentine bunchgrass on the site identified in the *Mitigation Recommendations*, remedial grading and subdrain installation would extend into approximately 0.4 acre of existing habitat. As described in the updated *Management Plan and Biological Assessment* and *Grassland Impact Analysis*, an estimated 4.97 acres of the approximately 11.41 acres of native grasslands on the site would be impacted by the project, including both the high and medium quality native grasslands considered sensitive natural community types, and the low quality native grasslands not considered a sensitive natural community type. Excluding the low quality native grasslands not considered a sensitive natural community type, an estimated 2.31 acres of the approximately 7.58 acres of high and medium quality native grasslands would be impacted. An estimated 5.27 acres of the high and medium quality native grasslands would be avoided by construction-related disturbance, including almost all of the highest quality native grasslands. Of the estimated 2.31 acres of high and medium quality native grasslands affected by the proposed project, approximately 1.79 acres would be permanently converted to residential use and project-related improvements, and approximately 0.52 acre would be graded or disturbed during construction but still available for possible restoration as grassland habitat. In addition, proposed residential use areas on Lots 5 and 6 would extend up to the edge of the largest stand of serpentine bunchgrass, providing no setback for vegetation maintenance and clearance for fire suppression, and could result in future conflicts which compromise the edge of this stand of native grassland. Proposed landscape improvements and fiber rolls to be installed as part of the *Preliminary Erosion Control Plan* currently extend into the stands of serpentine bunchgrass. Disturbance associated with remedial grading for landslide repair and revegetation, subdrain installation, fire clearance, and other construction activities would disturb or completely remove the existing vegetative cover, and would create conditions suitable for establishment and spread of highly invasive species.

The *Mitigation Recommendations* assume that disturbed areas would be revegetated with native species, and that a Mitigation and Monitoring Plan would be prepared by a qualified restorationist. Re-establishment and restoration of grassland habitat is a challenging task with variable success, and requires considerable maintenance and monitoring. As discussed under *Impact 5.5-1 Special-Status Species*, the plant species identified in the Planting Guidelines and the general approach outlined in the revised Preliminary Planting Plan are not consistent with the program outlined in the *Mitigation Recommendations*, and could result in the eventual replacement of native grasslands on the site. The *Mitigation Recommendations* do not provide for any long-term vegetation maintenance or management, and contain no controls for possible inadvertent damage associated with increased human access to the Common Open Space and undeveloped land on private lots. Uncontrolled access could lead to trampling of grassland habitat from routine recreational use and creation of informal trails. The *Mitigation Recommendations* also do not address the important need for on-going control of the highly invasive non-native species that are spreading across the site and could eventually replace or greatly reduce the remaining native grassland habitat.

Implementation of the revised Preliminary Planting Plan and Planting Guidelines could also further reduce the extent of native serpentine grasslands on the site. Groundcover species are proposed along the existing roadways, including low-growing shrubs and grasses. Most of the species identified in the Preliminary Planting Plan are not indigenous to the Tiburon Peninsula, and some could spread and compete with the native grassland species. While none of the species identified in the Preliminary Planting Plan are particularly invasive, a few could be problematic if they became established in the proposed Common Open Space areas, such as pride-of-Madeira (*Echium fastuosum*). Installation of landscape plantings at the edge of or within the mapped stands of serpentine bunchgrass could outcompete and shade the native grasslands, further reducing their extent and degrading their value. Removal of planted non-native trees and invasive exotics, and controlling the spread of native shrubs such as coyote brush provides an opportunity to enhance the existing condition of the remaining native grasslands on the site, although this has not been acknowledged in the *Mitigation Recommendations*. The direct and indirect impacts of the project on the native serpentine bunchgrass community would be significant.

The following mitigation measures would be required to mitigate impacts to sensitive natural communities.

Mitigation Measure 5.5-2 The *Mitigation Program* called for in Mitigation Measure 5.5-1(c) shall include provisions that provide for the protection, replacement and enhancement of the native serpentine bunchgrass grasslands and other high and medium quality native grasslands on the site. Additional protection and enhancement measures shall include the following:

- Minimize disturbance to the stands of native serpentine bunchgrass and other high and medium quality native grasslands, and enhance this sensitive natural community type through removal of non-native species and improved vegetation management on the site. Where temporary, limited incursions into the stands of native grassland are unavoidable, adequate measures shall be taken to provide for the revegetation and restoration of areas disturbed during construction. High and medium quality native grasslands eliminated or disturbed as a result of project implementation shall be replaced on-site at a minimum 1:1 replacement ratio. Any replacement grasslands shall be maintained and monitored for a minimum of five years until all success criteria have been met, and then shall continue to be maintained as part of long-term management of sensitive resources on the site.

- Adjust the proposed residential use areas and associated landscaping on the south side of the proposed residences on Lots 5 and 6 so that the footprint of new structures, outdoor hardscape areas, and non-native landscaping is setback a minimum of 30 feet from the nearby stand of serpentine grassland. This would allow for improved fire safety clearance around the perimeter of the buildings without adversely affecting the native grasslands as part of routine fuel reduction and maintenance. The area within this setback distance can be restored, enhanced and managed as native grassland habitat, but would most likely be subject to routine cutting of the grassland cover.
- Refine the revised Preliminary Planting Plan and Planting Guideline to emphasize the use of native plant species indigenous to the site and surrounding area. Of particular concern is the proposed use of non-native grassland species in the grassland zones adjacent to the stands of serpentine bunchgrass, which should be exclusively native in Common Open Space. Highly undesirable species in landscape improvements on the site that could spread into the adjacent grassland and woodland habitat shall not be utilized. These undesirable species include: gum eucalyptus (*Eucalyptus globulus*), acacia (*Acacia* spp.), pampas grass (*Cortaderia selloana*), broom (*Cytisus* spp. and *Genista* spp.), gorse (*Ulex europaeus*), bamboo (*Bambusa* spp.), giant reed (*Arundo donax*), English ivy (*Hedera helix*), German ivy (*Senecio milanioides*), Himalayan blackberry (*Rubus discolor*), cotoneaster (*Cotoneaster pannosus*), fennel (*Foeniculum vulgare*), yellow star thistle (*Centaurea solstitialis*), purple star thistle (*Centaurea calcitrapa*), and periwinkle (*Vinca* spp.).
- Restore any portions of the stands of serpentine bunchgrass and other high and medium quality native grasslands disturbed during construction or proposed for enhancement through appropriate revegetation, maintenance and monitoring. Species used in the revegetation effort shall be native and indigenous to the site, utilizing plugs salvaged from the footprint of the construction zone, and seed collected from the vicinity. Salvaged material shall be properly maintained until ready for reinstallation in the fall season after completion of construction-related disturbance, and short-term irrigation may be required to ensure survival during re-establishment.
- Expand the extent of existing serpentine bunchgrass and other native grassland by removing the non-native trees and shrubs within the footprint of the stands of native grasslands on the site, in addition to the eradication program for French broom called for in Mitigation Measure 5.5-1(c). All slash from vegetation removed shall be disposed of properly. As part of this enhancement effort, consideration shall also be given to limited removal of invasive stands of native coyote bush, as called for in Mitigation Measure 5.5-1(c). The area within the driplines of the removed trees and shrubs shall be restored to a cover of native grassland, with supplemental seeding of locally collected seed provided to ensure successful re-establishment of native grassland cover.
- Provide long-term maintenance and monitoring of the serpentine bunchgrass grasslands, as called for in Mitigation Measure 5.5-1(c).

Jurisdictional Waters

An updated evaluation of potential impacts on jurisdictional wetlands and other waters of the U.S was conducted by the applicant's current biological consultant in providing more conservative assumptions in the likely extent of required landslide repair and assessing possible locations to install replacement wetlands to mitigate the potential impacts of the project. These adjustments have resulted in a small

increase in anticipated potential impacts on potential wetlands and drainages. Based on this updated assessment, the estimate for potential impacts on jurisdictional waters on page 264 of the Draft EIR has now increased from 0.07 to 0.30 acre, consisting of an estimated 0.24 acre of freshwater marsh, seeps, and sedge meadow, less than 0.01 acre of seasonal wetlands, and approximately 0.06 acre of unvegetated other waters associated with ephemeral drainages.

An estimated 0.59 acre of jurisdictional waters would be avoided by retaining these areas in Common Open Space and undeveloped lands outside the residential use areas on private lots. At least three possible wetland mitigation locations have been identified in private and common open space areas on the site, as indicated in **Figure 3** of the *Biological Assessment*. Potential impacts on jurisdictional waters remains significant, as concluded on page 264 of the Draft EIR, but recommended mitigation would serve to reduce potential impacts to a level of less than significant. Given these adjustment to the estimates of affected jurisdictional waters, the discussion of potential impacts to wetlands and drainages on page 264 of the Draft EIR has been revised as follows:

Impact 5.5-3 Wetlands and Drainages

The Alta Robles Residential Development would result in direct impacts to an estimated ~~0.30-07~~ acre of jurisdictional waters, could result in further loss of other on-site wetlands due to subdrain installation, and could degrade downstream drainages unless adequate erosion control measures are taken. This would be a significant impact.

Proposed grading and development would generally avoid most of the existing jurisdictional wetlands and drainages on the site, but some jurisdictional features would be eliminated by grading activities, and others could be affected by changes associated with installation of the proposed subdrain system. According to the latest estimates from the applicant's latest consulting biologist ~~Mitigation Recommendations~~, an estimated 0.59 ~~0.82~~ acre of jurisdictional waters would be avoided by retaining these areas in Common Open Space and undeveloped lands outside the residential use areas on private lots. However, an estimated total of approximately 0.3 ~~0.07~~ acre of jurisdictional waters would be disturbed or eliminated based on the assumed limits of grading associated with development and landslide stabilization. ~~According to the *Mitigation Recommendations* by the applicant's consultant,~~ These consist of an estimated 0.24 ~~0.05~~ acre of freshwater marsh, seeps, and sedge meadow, less than 0.01 acre (ten square feet) of seasonal wetlands, and approximately 0.06 ~~less than 0.04~~ acre of unvegetated other waters associated with ephemeral drainages. Grading for development and slope stabilization would eliminate existing wetland areas on Lots 1, 2, 7, 11, and Parcel A. Direct modification and fill of wetlands and waters would also result from installation of subdrain systems designed to dewater hillside slopes and reduce the potential for slope instability. Large subdrain systems would be installed in the swales and along ephemeral drainages in the proposed Common Open Space on Parcels A and B.

The assumptions in the *Mitigation Recommendations* appear to underestimate the extent of direct disturbance to drainages and wetlands required to install these systems, and do not address the indirect impacts of dewatering the drainages and wetlands. Additional areas of unvegetated "other waters" in the proposed Common Open Space on Parcels A and B could be impacted than the estimated 0.01 acre identified in the *Mitigation Recommendations*, but this would in part depend on effectiveness of construction-related controls. Depending on the effectiveness of these subdrain systems, additional areas of freshwater seeps and marsh could eventually be eliminated over time where subsurface water is effectively intercepted and then bypasses the wetland area as a result of the new drainage systems. The wetland vegetation can only survive if sufficient surface water is present during the growing season. It is difficult to

predict the possible changes to wetland vegetation in the vicinity of drainage improvements, but it is likely that some additional loss of wetland habitat would occur as a result of their installation. Of greatest concern is the proposed subdrain system that would extend into the lower elevations of the largest complex of freshwater marsh and serpentine bunchgrass along the southeastern edge of the site, in the proposed Common Open Space of Parcel A, which is located upslope of the sharp turn to the existing driveway near its intersection with Paradise Drive. The revised estimates by the applicant's latest consulting biologist appear to be more accurate in predicting potential impacts on jurisdictional waters. Although the total acreage of jurisdictional waters affected by proposed development would be relatively low, these are regulated waters and sensitive natural community types, and their loss would be significant.

9.4 RESPONSES TO COMMENTS

All comments submitted to the Town of Tiburon on the Draft EIR in letters A through L are presented in the following pages. The original letters are reproduced and comments are numbered for referencing with responses. Some responses refer readers to other comments or responses in this section or to the pages in the Draft EIR where specific topics are discussed.

LETTER A

1

SANITARY DISTRICT NO. 5 OF MARIN COUNTY
2001 PARADISE DRIVE
P.O. BOX 227
TIBURON, CALIFORNIA 94920
TELEPHONE (415) 435-1501
FAX (415) 435-0221

PLANNING DIVISION
AUG 28 2009

Diane Henderson, Contract Planner
Town of Tiburon Community Development Department
1505 Tiburon Blvd.
Tiburon, CA 94920

Subject: Comment on Draft EIR Alta Robles Residential Development

Dear Ms. Henderson,

Sanitary District No.5 of Marin County has reviewed the Draft EIR for the Alta Robles Residential Development Project. The District has found a few changes and additions which need to be addressed.

- 1 • Page 52 – add the existing sewer line located on Paradise Drive is a 4 inch Force Main therefore the sewer line which is constructed must be a force main of adequate size for the entire seven homes to connect too. Each home must install an injector pump or a pump station must be installed.
- 2 • Fees associated with connecting to the Paradise Drive sewer line are \$10,000.00 for connecting to the sewer line plus a connection fee of \$325.00 per fixture unit. These are the current fees.
- 3 • Page 312 – Description of the proposed On-site Sewer System – Each home must install an injector pump or a pump station must be installed. The Paradise Drive sewer line is a Force Main.
- 4 • Page 312 – second paragraph – the Four inch force main extends to 3700 Paradise Drive not to Plata Verde Road.

If you have any question, please do not hesitate to call. 415-435-1501

Regards,

Robert L. Lynch
District Manager

RESPONSE TO LETTER A – ROBERT, L. LYNCH, DISTRICT MANGER, SANITARY DISTRICT NO. 5 (AUGUST 28, 2009)

Response to Comment A-1

Based on this comment the paragraph on page 52 of the Draft EIR describing the sewer system is revised as follows:

The PDP proposes to construct new sanitary sewer pipelines along the alignments of the Main Road and the Upper Road.³⁴ One sanitary sewer line would be constructed from Lot 2 down the Main Road to connect to an existing sanitary sewer line in Paradise Drive. Lots 1 and 2 and Lots 9 through 14 would connect to this sanitary sewer line. A second sanitary sewer line would be constructed in the Upper Road and serve Lots 3 through 8. This sanitary sewer line would connect to the existing sanitary sewer line in the existing driveway, just above Lot 8, which in turn is connected to an existing sewer line in Paradise Drive.

According to Sanitary District No. 5 the existing sewer line located on Paradise Drive is a four-inch Force Main, therefore, the sewer line which is constructed must be a force main of adequate size for the entire seven homes to connect to. Each home must install an injector pump or a pump station must be installed.

Response to Comment A-2

Comment noted. No additional response necessary.

Response to Comment A-3

Based on this comment the paragraph on page 312 of the Draft EIR describing the proposed on-site sewer system is revised as follows:

Description of the Proposed On-Site Sewer System According to the PDP's Preliminary Utility Plan, new sanitary sewer lines would be constructed along the alignments of the Main Road and the Upper Road.³⁵ One sanitary sewer line would be constructed from Lot 2 down the Main Road to connect to the existing sanitary sewer line in Paradise Drive. Lots 1 and 2 and Lots 9 through 14 would connect to this sanitary sewer line. A second sanitary sewer line would be constructed in the Upper Road and serve Lots 3 through 8. This sanitary sewer line would connect to the existing sanitary sewer line in the existing driveway, just above Lot 8, which in turn is connected to an existing sewer line in Paradise Drive. According to Sanitary District No. 5, because the Paradise Drive sewer line is a Force Main each home would be required to install an injector pump or a pump station must be installed.

Response to Comment A-4

Based on this comment the second paragraph on page 312 of the Draft EIR is revised as follows:

³⁴ The existing house on the Rabin property currently is provided sanitary sewer service by Sanitary District No. 5.

³⁵ The existing house on the Rabin property currently is provided sanitary sewer service by Sanitary District No. 5.

Sanitary District No. 5 recently completed construction of a new Paradise Drive sanitary sewer line. A four-inch force main extending approximately 6,400 feet north of existing facilities ~~located near the intersection of the Playa Verde Road / Paradise Drive intersection~~ to 3700 Paradise Drive was recently constructed. The new line is located entirely within the Paradise Drive right-of-way. The new line allows connection of Seafirth Estates homes to Sanitary District No. 5 facilities and abandonment of the existing Seafirth Estates treatment plant.

LETTER B

DEPARTMENT OF PUBLIC WORKS

P. O. Box 4186, San Rafael, CA 94913-4186 • 415/499-6528 • FAX 415/499-3799 • TTY 415/473-3232

COUNTY OF MARIN
www.co.marin.ca.us/pw

ADMINISTRATION
499-6528

ACCOUNTING
499-7877 • FAX 507-2899

AIRPORT
451-A AIRPORT ROAD
NOVATO, CA 94945
897-1754 • FAX 897-1264

BUILDING MAINTENANCE
499-6576 • FAX 499-3250

CAPITAL PROJECTS
499-7877 • FAX 499-3724

COMMUNICATION
MAINTENANCE
499-7313 • FAX 499-3738

DISABILITY ACCESS
499-6528
CALIFORNIA RELAY SERVICE 711

ENGINEERING & SURVEY
499-7877 • FAX 499-3724

FLOOD CONTROL DISTRICT
499-6528

COUNTY GARAGE
499-7380 • FAX 499-7190

LAND DEVELOPMENT
499-6549

PRINTING
499-6377 • FAX 499-6617

PURCHASING
499-6371

REAL ESTATE
499-6578 • FAX 446-7373

ROAD MAINTENANCE
499-7388 • FAX 499-3656

STORMWATER PROGRAM
499-6528

TRANSPORTATION
PLANNING & TRAFFIC
OPERATIONS
499-6528

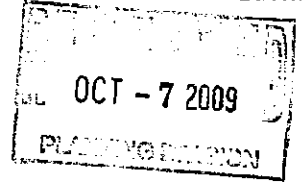
WASTE MANAGEMENT
499-6647 • FAX 446-7373

ALL AREA CODES ARE 415

October 2, 2009

Diane Henderson
Contract Planner
Town of Tiburon, Community Development Department
1505 Tiburon Boulevard
Tiburon, CA 94920

Farhad Mansourian, RCE
Director



Subject: Draft EIR for Alta Robles Residential Development
APN 039-301-01, 039-021-13

Dear Ms. Henderson,

Thank you for providing us with the opportunity to comment on this project. The County of Marin Department of Public Works (DPW) received and reviewed the Draft EIR identified above dated August 2009. The following list identifies our concerns based on the review of this report.

Comments from Traffic Division

The Traffic Operations staff at the County of Marin has reviewed the Draft Environmental Impact Report (DEIR) for the above referenced project. In our review we found a number of significant questions related to the proposal and its potential impacts.

ADEQUACY OF LAND USE POLICY EVALUATION

Section 4.6 of the DEIR assessing the consistency with LAFCO policies is inadequate because the DEIR did not assess all of LAFCO's policies. In particular, LAFCO Policy and Procedure Guidelines, Chapter III, Section 2 B.2, whether "boundaries should not be drawn so as to create an island, corridor, or strip either within the proposed territory or immediately adjacent to it. Where such an island, corridor or strip would be created, the proponent shall justify the reasons for nonconformance with this standard. (§56668)" is not discussed in the DEIR. Had this been discussed the DEIR would have disclosed that the proposed annexation was creating a corridor and strip.

The EIR did not assess LAFCO Policy and Procedure Guidelines, Chapter III, Section 2 B.3., "Whenever practicable, boundary lines of areas proposed to be annexed to cities and/or districts shall be so located that all streets and rights-of-way will be placed within the same jurisdiction as the properties which abut thereon and/or for the benefit of which such streets and rights-of-way are intended. (§56668)." The DEIR did not disclose that all streets and right of ways fronting the project will not be placed in the same jurisdiction. Note that the proposed project also does not comply with the referenced California Government Code.

Document2

1

2

Under LAFCO polices, boundary descriptions accompanying proposals for changes of organization or boundaries of local agencies shall be definite and certain. The precise boundary is not provided in the exhibits.

3

The vicinity map (Exhibit 3.0-3) should clearly show the city/county line and sphere of influence for the Town of Tiburon, and should provide a broader perspective of adjacent land use. Figure 1 below shows the existing city limits. The DEIR is inadequate because it does not inform the decision makers on the land use context for the annexation.

4

The entire Paradise Drive road right of way fronting the property should be included in the annexation evaluation because of the adjacent Town of Tiburon boundary on the opposite side of the road. The Seafirth Estates is on the other side of Paradise Drive and there is the potential that that the Soroko property will also be annexed to the Town of Tiburon. In this sense the DEIR does not adequately analyze the project.

5

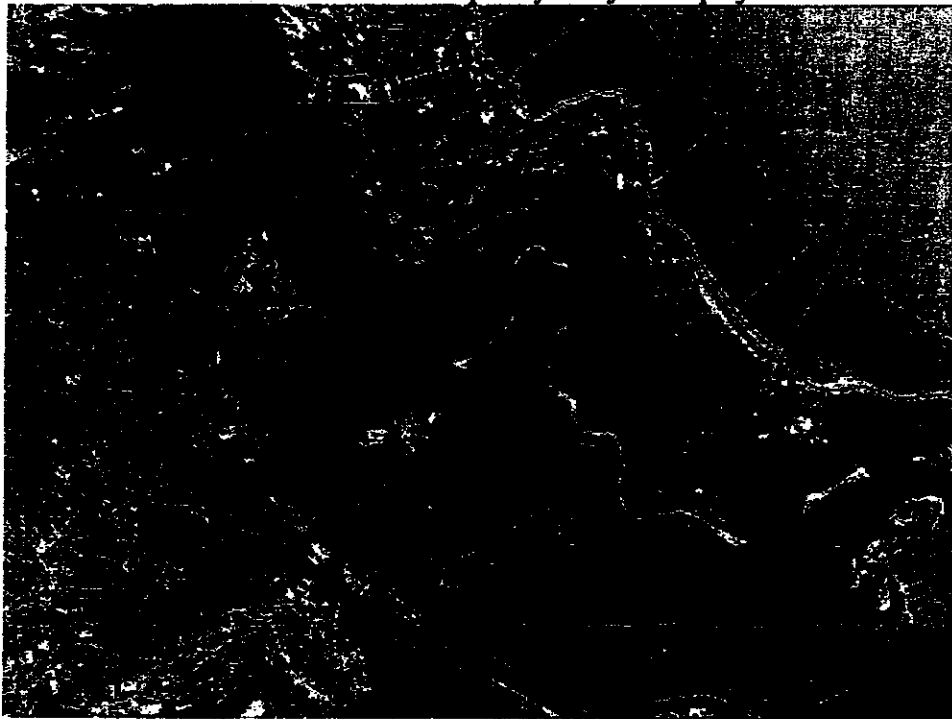


FIGURE 1

TRAFFIC IMPACTS

The proposed access from Paradise Road was originally constructed as a fire road in 2001 and does not meet current county road standards. The EIR should include analysis to show vertical transitions and turning radii to comply with current design standards.

6

The DEIR identifies several traffic impacts including insufficient sight distance for access onto Paradise Drive. The proposed mitigation measure is to correct the sight distance through grading the hillside back and installing retaining walls (Exhibit 5.1-23). The DEIR incorrectly states (pg. 169) that the County would be responsible for

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maintaining the retaining walls along Paradise Road. The maintenance responsibility will be that of the fronting property owner if the walls are in the County right of way. The EIR should discuss the impact of the retaining wall(s) if they are not properly maintained.

7 CONTINUED

In addition, it does not appear that the maximum possible height of the wall was evaluated in the EIR using detailed topography available (see grading permits for SODA property). In addition, where it is possible, the County of Marin requires private improvements to be constructed on private property. The DEIR did not analyze the construction impacts of the retaining wall. The DEIR should also evaluate the use of the level area in front of the proposed wall. If sight distance is impacted by parked vehicles or stored construction materials, use restrictions should be proposed and necessary improvements should be included in the project mitigation to maintain sight distance.

8

RANGE OF ALTERNATIVES (Access)

The applicant states that alternate access locations are not feasible. The applicant failed to inform the decision makers of the reasonable range of alternatives for site access including an analysis of access from the existing road system in the Town of Tiburon (Hacienda Drive) that is feasible to be accessed from the Rabin Property and meets the project's objectives.

9

TRAFFIC MITIGATION

The County of Marin has a Public Transportation Facilities Fee ordinance to mitigate cumulative impacts at selected intersections from future projects. The EIR should include this fee as project mitigation for cumulative impacts at those intersections.

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Comments from Land Development Division

1. The Draft EIR should reference the Marin County Unincorporated Area Bicycle and Pedestrian Master Plan, dated March 2008. The project shall provide a bike shoulder along Paradise Drive as describe by the Master Plan. Revise exhibits to show a roadway section along Paradise Drive similar to the Sorokko Property which is as follows an 11-foot lane, 4-foot wide paved shoulder and 2-foot wide dirt shoulder.
2. Provide a legible copy of the Preliminary Grading and Drainage Plan and Preliminary Erosion Control Plan as described on pages 52 and 53 for Marin County's review and approval.
3. See page 52, green roofs are proposed to mitigate the increase in storm water, however no details regarding the roofs are provide. Provide additional information such as who will maintain the proposed green roofs? What will prevent the future home owners from removing the green roofs from their homes? What is the detention capacity of the green roofs, C factor? Also provide additional details regarding other alternative measures to be installed as part of this project to improve the storm water quality?
4. The exhibits on the Draft EIR are not legible, refer to Marin County Code Title 24 for specific road and driveway design criteria.

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5. Proposed drainage improvements on exhibit 5.4-4 appear to encroach into neighboring properties. Provide a copy of the agreement with the neighbors to install and maintain the proposed facility within their property. 15
6. See page 169, the EIR incorrectly identifies Marin County responsible for implementing and/or overseeing construction and maintenance upon completion of the improvement along Paradise Drive that would be necessary to provide a minimum site distance of 220-feet. These improvements include a 90-foot long wall with varying heights (0'-8'). If the wall is placed in the right-of-way, the maintenance responsibility should be of the HOA or the fronting property owner. Otherwise the wall should be constructed within the project site, on private property. If the wall is built on private property, the Draft EIR did not adequately analyze the impacts as the wall would be higher. The Draft EIR did not analyze the construction impacts of the retaining wall. 16
7. See page 222, how is the comparison between runoff from areas 1 and 4 the same as calculating the pre and post project runoffs from the entire project site? Does the analysis provided include the runoff from the areas upstream from area 4? Note the area for area 4 varies, see exhibits 5.4-3 and 5.4-4, explain the difference? Which area was used in your calculations? Will the overall project create an increase in runoff? If the intent is to install cisterns throughout the site to reduce the runoff please provide location and details of the cisterns. What is the capacity of these cisterns and how is additional runoff contained in the winter, when the cisterns are full? How will the cisterns pick up water from the proposed driveways, roads, paths? 17
8. See page 49, it appears that the project intent would include dedicating land in lot 1 to Marin County. Is this being coordinated with Parks and Open Space? Have they seen a copy of this draft EIR for comment? 18

If you have any question regarding these items or if you would like to schedule a meeting to resolved any outstanding drainage issues please contact me.

Sincerely,



Michel Jeremias, PE
Associate Civil Engineer
DPW – Land Development
(415) 473-4398

C: Berenice Davidson
Ben Berto, Marin County - CDA

RESPONSE TO LETTER B – MICHEL JEREMIAS, PE, ASSOCIATE CIVIL ENGINEER, MARIN COUNTY DEPARTMENT OF PUBLIC WORKS (OCTOBER 2, 2009)

Response to Comment B-1

The commentator states *Section 4.6 Marin Local Agency Formation Commission Policies* of the Draft EIR is inadequate because it does not address the proposed project’s consistency with *LAFCO Policies and Procedures for the Evaluation of Proposals* that discourage new boundaries that create islands, corridors, or strips (Chapter III, Section 2.B.2). The commentator states the proposed annexation of the SODA property would create a corridor and strip. However the commentator does not specify where the corridor/strip would be located.

Unincorporated lands of Marin County, including the SODA property, are located along both sides of Paradise Drive near the north-eastern shoreline of the Tiburon Peninsula. This area generally starts at the intersection of Trestle Glen Boulevard and Paradise Drive and heads south-east to the point where Paradise Drive enters the incorporated areas of the Old Tiburon neighborhood. This area is primarily residential and consists of undeveloped and developed properties. Paradise Beach Park and San Francisco State’s Romberg Tiburon Center for Environmental Studies are also located in the area. While the SODA property is unincorporated it lies contiguous to incorporated properties located to the west and south, and the incorporated Seafirth Estates neighborhood to the north, across Paradise Drive. Other properties in the area, such as the Sorroko property, are anticipated for annexation in the near future.

The Town of Tiburon recognizes an “island” of unincorporated properties exists in the Paradise Drive area. In fact, the area of entire unincorporated land southeast of Trestle Glen Boulevard is an unincorporated island. *Tiburon General Plan* Policy LU-29 states this area is “functionally a part of Tiburon, and therefore supports the annexation of the area into Tiburon...”. If the SODA property is annexed into the Town of Tiburon it would alter the contiguous pattern of unincorporated properties by isolating the Lerner/Winter property and other unincorporated properties near Eden lane from other unincorporated properties in the area. This could be viewed as creating an isolated island of property, or as decreasing the size of an existing island or corridor. Marin LAFCO policy states that when an island is created the annexation proponent shall justify reasons for the non-conformance. In this case the proponent could argue that: (a) the annexation would decrease the size of a pre-existing island of unincorporated properties; (b) the SODA property is located within the Town of Tiburon Sphere of Influence; (c) policies in the *Tiburon General Plan* support the annexation of properties in this area and the Town Council has demonstrated an intent to support this annexation by insisting that the Town process the development application; and (d) the annexation of the SODA property would not impede or disrupt the provision of public services in the area. Marin LAFCO would be responsible for processing the annexation request and would determine how the annexation request complies with their policies.

Response to Comment B-2

Comment noted. It is the intention of the Town of Tiburon that the entire Paradise Drive right of way adjacent to the project site be included with the annexation request of the SODA property.³⁶

³⁶ Nichols • Berman personal communication with Scott Anderson, Community Development Director for the Town of Tiburon June 30, 2010.

Response to Comment B-3

The boundaries of the proposed project are precisely drawn in **Exhibit 3.0-7**. Additional details regarding the site boundaries is provided in the Precise Development Plan on file with the Town of Tiburon. This document is available for review at the Town of Tiburon Planning Division, 1505 Tiburon Boulevard, Tiburon. However this comment refers to LAFCO's submittal requirements for the annexation requests, which is separate from the EIR process. Upon application submittal to LAFCO the applicant would be responsible to comply with LAFCO requirements for application maps and legal descriptions.

Response to Comment B-4

The commentor states that **Exhibit 3.0-3** should show the incorporated boundary for the Town of Tiburon, the Sphere of Influence for the Town of Tiburon, the boundary of unincorporated Marin County, and provide a broader perspective of land use in the vicinity of the project site. While *State CEQA Guidelines* do not specifically require this information in an EIR's exhibits this comment is pertinent to the forthcoming annexation request and it would serve the readers of the EIR to identify the location of Town and County jurisdictions in the vicinity of the project site.

Section 3.1 Site Location and Land Use identifies that the 20.95 acre SODA property is located in an unincorporated portion of Marin County within the Town of Tiburon's Sphere of Influence, and the 31.26 acre Rabin property is located within the Town of Tiburon. **Section 3.1 Site Location and Land Use** also contains a list of surrounding residential land uses that describes the neighborhoods location, lot sizes, homes sizes, and the time period during which the neighborhood was developed. Regarding this comment, it would have been beneficial to indicate which jurisdiction each of these neighborhoods are located in (Town or County) to provide a broader perspective of the current status of adjacent land uses. Therefore, the bulleted list of nearby surrounding land uses on pages 36 and 37 of the Draft EIR (located under the heading **Surrounding Land Use**) is revised as follows:

Nearby residential land uses including the following:

- Hacienda Drive on the south boundary of the Rabin property. This residential area is located within the Town of Tiburon. In the vicinity of the project site the residential lots along Hacienda Drive range in size from 18,400 to 47,800 square feet. Single family homes range in size from 2,374 to 5,073 square feet.³⁷ This area began development in the 1960s.
- Acacia Drive residential subdivision borders the Rabin property on the west boundary. This residential area is located within the Town of Tiburon. The seven residential lots on Acacia Drive range in size from 39,581 to 77,972 square feet. Single family homes range in size from 3,700 to 6,272 square feet. Included with the residential development on Acacia Drive is a 138,085 square foot private open space parcel.³⁸ Acacia Drive was developed in the late 1980's.
- Seafirth Estates is located north of the project site along Paradise Drive, within the Town of Tiburon boundaries. Residential lot sizes in Seafirth Estates range from 5,000 to

³⁷ Marin County Assessor's information, 2006.

³⁸ *Ibid.*

40,000 square feet and homes range in size from 2,167 to 3,833 square feet.³⁹ Seafirth Estates was developed in the 1950's.

- East of the project site, along Paradise Drive is Norman Estates. This residential area is located within the Town of Tiburon. The lot sizes for the 12 homes on Norman Way range from 15,000 to 88,843 square feet (not counting one 5.7-acre lot) and homes range in size from 2,290 to 4,305 square feet.⁴⁰ Norman Estates was developed in the end of the 1970's. In 2006 the Town approved a Precise Development Plan for a 26-acre property surrounding Norman Estates. The Tiburon Glen Estates would permit construction of three single-family houses.
- In 2008 Marin County approved a Master Plan and Land Division for the 18.9 acre Sorokko property located at 3820 Paradise Drive. This property is located within unincorporated Marin County, but may be annexed into the Town of Tiburon in the future. The approval divided the property into four lots and a remainder parcel. The four lots range in size from 2.35 acres to 3.35 acres. The remainder parcel is 7.27 acres. The conditions of approval for the Sorokko property limit development on each lot and the remainder parcel to a maximum floor area of 8,000 square feet.

More information about jurisdictional boundaries and annexation potential can be obtained from the Town of Tiburon Planning Division, 1505 Tiburon Boulevard, Tiburon.

Response to Comment B-5

The Town of Tiburon has an agreement with the owner of the Sorokko property that provides for the annexation of the Sorokko property to the Town after May 2012.⁴¹ If the SODA property is annexed to the Town prior to the Sorokko annexation it is the intention of the Town of Tiburon that the entire Paradise Drive right of way adjacent to the project site be included with the annexation request of the SODA property.⁴² Annexation of Paradise Drive along with the SODA annexation would be consistent with Chapter III, Section 2 B.3 of Marin LAFCO Policy and Procedure Guidelines.

Response to Comment B-6

Impacts 5.1-9 Project Impacts Related to Site Access and 5.1-10 Project Impacts Related to Emergency Access and Internal Circulation discuss the project driveway's compliance with Local and County code requirements, as follows:

Transitions - The Marin County Development Code requires that new driveway vertical transitions start at least four feet back from the edge of the adjoining road.

³⁹ Sorokko Property, Draft Environmental Impact Report, Leonard Charles and Associates, October 2007, page 4.16-3.

⁴⁰ *Ibid.*

⁴¹ Agreement Regarding Annexation of Real Property Commonly Known as 3820 Paradise Drive to the Town of Tiburon, approved by STS Holdings, LLC and the Town of Tiburon, May 2, 2007.

⁴² Nichols • Berman personal communication with Scott Anderson, Community Development Director for the Town of Tiburon June 30, 2010.

The proposed entrance road would have an upward vertical transition beginning more than four feet from the edge of Paradise Drive, making it consistent with Marin County Development Code transition requirements.

Roadway Grades - The maximum allowable grade for private roads and driveways is 18 percent. TFPD will allow grades up to 21 percent if the applicant can demonstrate to TFPD's satisfaction that there is no feasible way to reduce the driveway grade to 18 percent and TFPD determines that it can serve the project...

Grades on both the Main Road and the Upper Road would range from a minimum of ten percent to a maximum of 18 percent. The project would, therefore, comply with TFPD roadway grade requirements.

Secondary (i.e. emergency only) access to the project site would be provided via a gated entrance located immediately south of 180 Hacienda Drive that would connect to an existing fire road located on the Town-owned Middle Ridge open space. As specified by TFPD requirements, this unpaved roadway shall be designed to accommodate the weight of fire engines.

Driveway Width - The TFPD requires that residential road widths must be at least 20 feet wide, with certain exceptions granted to developments with six or fewer residences.

Both the Main Road and the Upper Road would be 24 feet wide to serve the 13 new single-family homes to be built on the project site, with a “flare-out” providing a wider connection of the Main Road at its terminus on Paradise Drive, exceeding the TFPD minimum width standard. The project would therefore comply with TFPD width requirements.

Curve Radius - TFPD requires a minimum 50-foot curve radius on driveways. For curves with less than a 60-foot wide radius, the driveway must be at least 14 feet wide at the curve with 16 feet of clearance.

Both the Main Road and the Upper Road comply with this standard. Therefore, the project would comply with TFPD driveway curve radius requirements.”

Response to Comment B-7

As discussed in Response to Comment D-21, based on the vehicle speeds measured in September 2009 and the existing sight distance, the sight distance at the intersection of Paradise Drive and the entrance road would meet the AASHTO standard for stopping sight distance. Therefore, the retaining wall discussed in the comment would not be necessary and the responsibility for maintenance is no longer an issue.

Response to Comment B-8

As discussed in Response to Comment D-21, based on the vehicle speeds measured in September 2009 and the existing sight distance, the sight distance at the intersection of Paradise Drive and the entrance road would meet the AASHTO standard for stopping sight distance. Therefore, the retaining wall discussed in the comment would not be necessary.

Response to Comment B-9

Access to the project site is limited by physical and legal constraints. There are no potential alternative access locations that are feasible and would reduce environmental impacts. The project’s

proponents have explored potential alternative access points for the project site over a two-year planning process.⁴³

The existing gated driveway that provides access to the Rabin residence is too steep for emergency vehicles to access. Grading to construct a road that meets access standards would exacerbate impacts to biological resources located along the path of the road, such as serpentine bunchgrass, Marin dwarf flax, and Tiburon Buckwheat (*Impact 5.5-1 Special-Status Species* and *Impact 5.5-2 Sensitive Natural Communities*). Potential access through the Slater and Sons property, which is located north of the project site, would require massive amounts of grading to construct a road at a location that avoids biological resources and achieves an elevation change of approximately 100 feet within a vertical distance of 300 feet.⁴⁴ There is no legal public access of record over Hacienda Drive, therefore it would not be feasible for the applicant to utilize this route as access to the project site. Currently in the vicinity of 116 and 117 Hacienda Drive there is a sign posted which states “End of Public Road No Public Traffic or Parking on Roadway Beyond This Point.” Furthermore a new street providing access to the Rabin property from Hacienda Drive would be located along the Tiburon Ridge. This would be inconsistent with local plans and policies that discourage development along the Tiburon Ridge and other significant ridgelines, particularly *Tiburon General Plan* policies OSC-13 and C-4 which discourage new roadways along ridgelines.

Response to Comment B-10

The commentor states the County of Marin Public Transportation Facilities Fee should be included as project mitigation for cumulative transportation impacts. The purpose of the fee is to mitigate cumulative impacts at selected intersections from future projects.⁴⁵ The fee is based on the number of new PM peak-hour trips generated by a proposed project. The County’s Public Transportation Fee applies to projects that are in the unincorporated County and receive permits or other land use entitlements from the County. Projects that are within incorporated areas (such as the Town of Tiburon) and receive land use entitlements from a city or town do not pay the fee. Therefore, since the proposed project includes the annexation of the SODA property to the Town of Tiburon the project would not be required to pay the fee.

It should also be noted that the analysis in *Section 5.1 Transportation* has found that the project would make less than cumulatively considerable contributions to cumulative impacts at signalized and unsignalized intersections (*Impact 5.1-2 Cumulative-plus-Project Impact on Signalized Intersections* and *Impact 5.1-3 Existing-plus-Project and Cumulative Impacts on Unsignalized Intersections*), and a less-than-significant impact on public transit (*Impact 5.1-6 Project Impact on Transit*).

Response to Comment B-11

The *Marin County Unincorporated Area Bicycle and Pedestrian Master Plan*⁴⁶ includes all the unincorporated regions of the county. The *Marin County Unincorporated Area Bicycle and Pedestrian Master Plan* is intended to coordinate and guide the provision of all pedestrian and bicycle-

⁴³ Tiburon Planning Commission Staff Report for February 24, 2010, Agenda Item 1, page 5.

⁴⁴ Tiburon Planning Commission Staff Report for February 24, 2010, Agenda Item 1, page 5

⁴⁵ Marin County Code Section 15.07.

⁴⁶ *Unincorporated Area Bicycle and Pedestrian Master Plan*, Marin County, adopted March 25, 2008.

related plans, programs, and projects in the County. In the vicinity of the project site Paradise Drive is identified as a Class III Bikeway.⁴⁷ Paradise Drive also is identified as a part of the Rural Roads Improvement Project. Rural road improvements include:

- Install turnouts where feasible
- Install “Share the Road” and other bicycle signs.
- Add three to four foot shoulders where feasible.

The commentor states that roadway improvements along the frontage of Paradise Drive should include an 11-foot wide travel lane, a four-foot paved shoulder, and a two-foot wide dirt shoulder. This road section is consistent with the conditions of approval imposed by Marin County for development of the Sorokko property across Paradise Drive from the project site. The Sorokko conditions, however, further state “the review of requests for exceptions to this requirement should consider the preservation of protected trees, avoiding extending culverts with substantial retaining walls, and avoiding the necessity of relocating utility poles”.⁴⁸

A preliminary review of the proposed road section indicates that to accommodate the requested widths it would be necessary to grade into the hillside along a majority of Paradise Drive. In addition, four separate retaining walls (ranging in height from one to seven feet for a total length of approximately 750 feet) likely would be required. Furthermore, the drainage swale that exists along the road would need to be evaluated and alternative drainage options (including the need for a storm drain pipe) would need to be evaluated.

As stated in Response to Comment B-2, it is the intention of the Town of Tiburon that the entire Paradise Drive right of way adjacent to the project site be included with the annexation request of the SODA property. This is consistent with the agreement that the Town of Tiburon has with the owner of the Sorokko property. This agreement provides for the annexation of the Sorokko property to the Town after May 2012.⁴⁹

With annexation of this portion of Paradise Drive into the Town, the Town would be responsible for the final determination of the roadway improvements. In order to reduce the extent of necessary grading and reduce the extent of the retaining walls it is likely that the Town would accept a reduced width for both the paved and dirt shoulder.⁵⁰

Based on this comment Mitigation Measure 5.1-7 on page 174 of the Draft EIR is revised as follows:

⁴⁷ Class III Bikeway (Bicycle Route) – provides for a right-of-way designated by signs or pavements markings for shared use with motor vehicles.

⁴⁸ Sorokko Condition of Approval, Marin County Board of Supervisors, October 2008, condition 60.

⁴⁹ Agreement Regarding Annexation of Real Property Commonly Known as 3820 Paradise Drive to the Town of Tiburon, approved by STS Holdings, LLC and the Town of Tiburon, May 2, 2007.

⁵⁰ Communication to Scott Anderson from Nicholas T. Nguyen, P.E., Director of Public Works/Town Engineer, Town of Tiburon, July 16, 2010.

Mitigation Measure 5.1-7 Provide a consistent-width road section shoulder (four to six feet in width (11-foot travel lane, four-foot wide paved shoulder and two-foot wide dirt shoulder) on the project frontage along the south side of Paradise Drive (directly abutting the project site), beginning at least 200 feet west of the proposed project entrance road and extending east to the existing driveway that serves the Rabin property (a distance of approximately 1,700 feet, or one-third of a mile). Advisory signage shall be installed approximately 500 feet in advance of the proposed project driveway to alert motorists to potential cyclists around blind curves on Paradise Road.

~~Along most of the project frontage this mitigation can be implemented by installing a drainage pipe in place of the existing drainage ditch and widening the roadway shoulder to cover the new drainage pipe. Alternatively, for the roadway segment immediately east of the project entrance, implementation of Mitigation Measure 5.1-4 would provide space for widening the shoulder for a 220-foot segment of Paradise Drive. Since the property frontage already contains adequate space to accommodate the wider shoulder in most locations secondary impacts resulting from this mitigation would be less than significant.~~

~~This mitigation is consistent with the conditions of approval imposed by Marin County for development of the Sorroko property, which require that the Sorroko project applicant improve Paradise Drive along the frontage of the property to provide a minimum of four feet of paving between the “fogline” (the white line separating the travel lane from the shoulder) and edge of the road.~~

The provision of an 11-foot travel lane, four-foot wide paved shoulder, and two-foot wide dirt shoulder may require grading into the hillside along a majority of Paradise Drive, the construction of retaining walls up to seven feet height, and the installation of additional storm drain pipe. Minor deviations from this road section may be permitted in the discretion of the Town Engineer in order to reduce the amount of hillside grading, to preserve existing trees, and to avoid the construction of retaining walls, the need for additional storm drain pipe plus the necessity of relocating utility poles.

Response to Comment B-12

The Preliminary Grading & Drainage Plan is included in the Precise Development Plan on file with the Town of Tiburon. This document is available for review at the Town of Tiburon Planning Division, 1505 Tiburon Boulevard, Tiburon.

Response to Comment B-13

No design details for the project’s proposed green roofs were provided by the applicant’s civil engineer. The roofs would be maintained by the individual property owners and their upkeep would be monitored by the Home Owners Association. Removal could conceivably be necessary in cases of inadequate moisture isolation from the underlying structure, or conversely poor irrigation management.

The green roof surfaces, while considered pervious, would function much as the surrounding undeveloped watershed area during significant, high-intensity rainstorms (e.g. ten-year to 100-year events). During such events, both watershed and rooftop soils would possess limited infiltration

capacities, with expected “C” values (per Rantz)⁵¹ of 0.4. While the applicant’s civil engineer used the County method’s higher “C” value of 0.6, this discrepancy was shown by the EIR peak flow analysis to be inconsequential. Using the more accurate natural watershed “C” value of 0.4 and an impervious surface “C” of 0.95, the EIR analysis determined that for the on-site drainage area with the highest post-project increase in impervious surface area (Drainage Area 4) would result in a percentage increase of 39 percent, essentially equal to that computed by the applicant’s civil engineer. The similar proportional increase is a reflection of the relatively small cumulative impervious surface area entailed by the proposed project. Because the green roofs play such a minor role in runoff detention, and the lot-based cisterns are incorporated into the peak flow/runoff mitigation scheme, the failure of individual roof units due to moisture damage or lack of maintenance would not constitute a significant impact on site drainage patterns and on-site and off-site flooding. Therefore, specific mitigations, such as replacement of failed roofs by bioretention planters cannot be mandated through a mitigation process.

To clarify the above, the last paragraph on page 222 of the Draft EIR is revised as follows:

The peak flow rates for each area were computed for the 100-year design rainstorm using the Caltrans Zonal Method, modified as noted above for the runoff coefficient (“C”) estimation. The open space slopes on the project site, as well as the pervious sod roofs of the proposed residences were characterized as natural watershed and assigned a conservative “C” value of 0.4.⁵² The applicant’s civil engineer used an undeveloped area “C” value of 0.6, which would result in higher existing condition peak flow values. The applicant’s civil engineer used a runoff coefficient of 0.90 for ~~developed spaces, as did~~ impervious areas, whereas the EIR hydrologist used a value of 0.95.

In response to the comment and in conjunction with current guidelines from Marin County regarding implementation of low impact development (LID) measures for stormwater retention and water quality treatment, as well as the Phase II NPDES mandate for stormwater best management practices (BMPs) that would attain treatment of contaminants to the maximum extent practicable (MEP), Mitigation Measure 5.4-4 is revised as follows:

Mitigation Measure 5.4-4 In addition to implementing Mitigation Measure 5.4-2 and the erosion control and urban runoff pollution prevention measures cited in the Preliminary Erosion Control Plan, the applicant shall incorporate the following additional site-appropriate BMPs or their equivalents, in the project SWPPP for short- and long-term implementation by the applicant and individual lot owners, in order to comply with the requirements of the NPDES General Permit and provisions of the Town of Tiburon Municipal Code:⁵³

- The Home Owners Association (HOA) shall privately contract with Mill Valley Refuse Service (MVRs) or its equivalent to undertake street sweeping twice a month. MVRs already serves numerous areas on the Tiburon Peninsula.

⁵¹ *Mean Annual Precipitation and Precipitation Depth-Duration-Frequency Data for the San Francisco bay Region, California*, US Geological Survey Open-File Report, S.E. Rantz, 1971.

⁵² *Ibid.*

⁵³ “Stormwater Management and Discharge Control Program”, Chapter 20A, Ordinance 407NS (citing erosion control requirements and implementation of Best Management Practices for stormwater), *Town of Tiburon Municipal Code*.

- The HOA shall provide each homeowner with pamphlets or other informative documentation regarding the use of less toxic pest management procedures, including integrated pest management. MCSTOPP has related on-line information which also includes descriptions of less toxic pest control products and procedures, the effectiveness of which has been proven in the scientific literature (e.g. see www.ourwaterourworld.org/). The TMDL study on pesticides in urban creeks in the San Francisco Bay Region also references significant recent research into pesticide practices and alternatives to limit their migration to surface waters and San Francisco Bay.

In addition to the above measures to enhance the treatment of site-generated stormwater runoff, the following low impact development (LID) measures shall be integrated into the project drainage design to treat project site stormwater quality to the maximum extent practicable level (MEP) per the NPDES Phase II guidelines:

- Install in-line water quality filters at roadway storm drain inlets, or incorporate other modes of bioretention facilities (e.g. rain gardens, bioswales, infiltration trenches) designed to remove stormwater contaminants from site runoff. Bioretention measures shall be designed in accordance with MCSTOPPP’s *Guidance for Applicants: Stormwater Quality Manual for Development Projects in Marin County - A Low Impact Development Approach*.⁵⁴ For the in-line filtration option, the installed filtration devices shall be those produced by Filterra Bioretention Systems, or an equivalent, possessing contaminant removal rates similar to those shown below. These systems are an at-the-source treatment strategy designed for relatively high pollutant removal efficiency via the use of a plant / soil / microbe treatment media. **Exhibit 5.4-7** provides the expected pollutant removal efficiency rates shown on the company website.

Exhibit 5.4-7
Pollutant Removal Efficiency for Filterra Bioretention Systems

<u>Pollutant</u>	<u>Removal Rate (percentage)</u>
<u>TSS (total suspended solids) Removal</u>	<u>85</u>
<u>Phosphorus Removal</u>	<u>73</u>
<u>Nitrogen Removal</u>	<u>43</u>
<u>Heavy Metal Removal</u>	<u>33 – 82</u>
<u>Fecal Coliform</u>	<u>57 – 76</u>
<u>Predicated Oil & Grease</u>	<u>> 85</u>

Source: [Clearwater Hydrology 2009](#)

Significance after Mitigation Implementation of Mitigation Measure 5.4-4 would substantially minimize on-site and downstream water quality impacts. Therefore, implementation of Mitigation Measure 5.4-4 would reduce project impacts on water quality to a less-than-significant level.

⁵⁴ Guidance for Applicants: Stormwater Quality Manual for Development Projects in Marin County- A Low Impact Development Approach. Prepared by the Marin County Stormwater Pollution Prevention Program (MCSTOPPP) in cooperation with Marin County and Marin’s cities and towns. Vers. 6, Feb. 2008.

Responsibility and Monitoring The applicant would be responsible for preparing the SWPPP, the NOI and the NPDES Permit application. For further discussion of these requirements, see *Impact 5.4-2 Alteration of Existing Drainage Patterns and Erosion and Downstream Sedimentation*. The applicant would be responsible for entering into an arrangement with the MVRS for the required on-site street sweeping program. The State Water Resources Control Board would be responsible for reviewing the NOI and the NPDES permit application, including the project SWPPP. The applicant would be responsible for publishing and distributing literature that would educate homeowners on proper lawn and landscaping maintenance, as well as less toxic pest management practices. The applicant would also be responsible for the design and installation of in-line stormwater filtration systems and / or bioretention facilities for water quality treatment. The HOA would be responsible for filter/facilities maintenance, which in the case of the filters would include periodic replacement of the filtration media and proper disposal of the spent material, and preparation and submittal of annual maintenance reports to the Town Engineer. The Town Engineer would be responsible for review and approval of the in-line filters and appurtenant structures, the proposed HOA filter maintenance schedule and routine, and bioretention facility designs and siting. The Town Engineer would also be responsible for reviewing the submitted filtration device maintenance logs, and making recommendation when necessary for adjustments to the maintenance regime or methods.

Response to Comment B-14

The exhibits contained in the Draft EIR (such as **Exhibit 5.1-23** Preliminary Sight Distance Study and **Exhibit 5.1-24** Bicycle Mitigation Option) are for illustrative purposes only. Final construction drawings would be prepared per Town and / or County requirements as part of the Tentative and Final Subdivision Map approval.

Response to Comment B-15

Exhibit 5.4-4 shows proposed drainage area boundaries and drainage paths that extend beyond the project site and onto neighboring properties. These are not physical drainage improvements, but rather the delineation of the proposed drainage area boundary and the directional flow of runoff. No drainage improvements are proposed to be constructed on neighboring private property.⁵⁵

Response to Comment B-16

As discussed in Response to Comment D-21, based on the vehicle speeds measured in September 2009 and the existing sight distance, the sight distance at the intersection of Paradise Drive and the entrance road would meet the AASHTO standard for stopping sight distance. Therefore, the retaining wall discussed in the comment would not be necessary.

Response to Comment B-17

The EIR peak flow analysis confirmed that the percentage increases in post-project, 100-year peak flows cited in the Preliminary Hydrology Report⁵⁶ were accurate. Since Drainage Area 4 had the

⁵⁵ Nichols•Berman communication with Robin Welter, CSWCSW/ST2, April 2010.

⁵⁶ *Preliminary Hydrology Report for Alta Robles Development, Tiburon, Marin County, California*, CSW/Stuber-Stroeh Engineering Group Inc., January 2006.

highest proposed developmental intensity (i.e. highest proportional impervious surface area increase), it represented the worst case scenario for increases in the 100-year peak flow. The EIR peak flow analysis utilized the existing condition and post-project condition drainage areas cited in **Exhibits 5.4-3** and **5.4-4**, which differed by 0.38 acre (2.77 acres versus 2.39 acres). The difference was due to changes in roadway width associated with the improvement to the existing fire road and its reflection in the watershed boundary delineation. The difference was not considered significant in the context of the peak flow computation, and if anything imputed a higher development density to the post-project condition. Furthermore, since the EIR analysis produced a similar estimated increase in that peak flow, it also verified that the detention storage analysis in the Preliminary Hydrology Report (see Appendices V and VIII) contained proportionally similar results to the EIR hydrologist's independent analysis. *Table 1: Differences Between Pre and Post Development Runoff Quantities for a 100-Year Storm Event* of that report listed existing condition versus post-project peak flow rates for each of the nine principal drainage areas (Drainage Areas 1 through 9), one of which (Drainage Area 1) incorporated drainage areas Drainage Area 10 through 15. For the entire site, the cumulative peak flow rates for the existing and post-project conditions were 89.25 cfs and 94.36 cfs respectively, or an increase of 5.7 percent.

Based on this additional information *Impact 5.4-1* is revised as follows:

Impact 5.4-1 Alteration of Existing Drainage Patterns and On- and Off-Site Flooding

Project development would result in the clearing of land for the proposed site improvements, as well as localized alterations in the drainage pattern and the installation of roadways and storm drain systems. While the proposed cistern installations would maintain pre-development peak flow rates for the design 100-year rainstorm for each of the site drainage areas, concentrated stormwater would be discharged at two points along existing swales or small drainageways (i.e. more defined bed and banks). If concentrated flows delivered increased volumes of sediment to Paradise Drive culvert inlets, these roadway culverts could become obstructed and create nuisance backwater flooding along Paradise Drive. With implementation of measures included in the PDP, particularly those related to landslide remediation, this would be a less than significant impact.

The EIR hydrologist's peer review of the applicant's peak flow and detention storage analyses concurred that the proposed cistern capacities cited in the Preliminary Hydrology Report⁵⁷ would be adequate to maintain post-development peak flow rates at pre-development levels and to mitigate any peak flow impacts. While the 100-year peak flow rates computed by the EIR hydrologist and the applicant's civil engineer were different, the associated percentage increases in rates were essentially the same. In either case, post-project peak flow rates were less than the downstream culvert capacities reported in the Preliminary Hydrology Report at the particular drainage area outlets. Since those computed flows were not found to cause flooding under unobstructed culvert conditions, no significant flooding impacts would result from implementation of the applicant's stormwater detention and conveyance plan. There are no Town of Tiburon storm drainage design guidelines or policies that mandate the consideration of episodic delivery of large volumes of sediment and debris to, and partial obstruction of, downstream roadway culverts, and subsequent inducement of roadway sheet flooding. However, as noted above, implementation of the proposed landslide remediation program would reduce the risk of both these episodic releases of sediment and debris and the severe culvert obstruction.

⁵⁷ Appendix VIII Hydraflow Hydrographs Program Results, Preliminary Hydrology Report for Alta Robles Development Tiburon, Marin County, California, *op. cit.*

Watershed peak flow rates for each of the project's drainage areas were compiled in Table 1: Differences Between Pre and Post Development Runoff Quantities for a 100-Year Storm Event on page 3 of the Preliminary Hydrology Report. Based on these individual drainage area peak flow determinations, the cumulative increase in peak flow rates was computed at 5.7 percent (i.e. 94.36 cfs vs. 89.25 cfs).

The Preliminary Hydrology Report and its technical appendices included the modeling of lot stormwater runoff under existing and post-project conditions. Based on the generated runoff hydrographs, an outlet design was produced that both maintained the pre-development peak flow rate and satisfied the cistern storage requirement indicated by the differential hydrograph runoff volumes. The cistern surface area was indicated at 19 square feet, with a depth of 4.0 feet and a 3.0-inch diameter outlet pipe, which would function as a hydraulic orifice. The invert of the outlet orifice was set flush with the cistern bottom. This design allowed for continual evacuation of incoming stormwater prior to the onset of the design storm. For the 100-year design storm, the incoming post-project peak discharge was 0.51 cfs. The cistern regulated the outlet discharge to a maximum of 0.39 cfs, which matched the pre-development peak flow for the modeled lot. At the attenuated peak of the outflow hydrograph, the maximum cistern storage was computed to be 54 cubic feet. This represented roughly 70 percent of the total cistern storage of 78 cubic feet. This extra storage reservation would serve to accommodate lower intensity rainfall occurring in advance of the 100-year design storm. Thus, the proposed cistern design would likely meet the mitigation objectives for peak flow and temporary detention of stormwater runoff.

In order to provide adequate sight distance for vehicles approaching the entrance road traveling west on Paradise Drive a consistent-width road section on the project frontage along the south side of Paradise Drive Mitigation Measure 5.1-4 5.1-7 would require cutting back a portion of the hillside east of the entrance road. This would involve cutting into the toe-of-slope east of the entrance and constructing a retaining wall up to eight feet high. This would also require the culverting of the roadside stormwater ditch that parallels the south side of Paradise Drive, in the vicinity of the Main Road entrance. The ditch conveys local slope and roadway runoff to Culvert #5 (see Exhibit 5.4-4) during rainstorms. Periodic talus material eroded from the cut-slope facing the roadway can enter the ditch and be transported downgradient to the culvert inlet; however, the rate of sediment delivery to the ditch is low. Field inspection of the culvert inlet in August 2007 indicated that only minor sediment deposition was evident in any of the culverts receiving stormwater drainage from the project area and that the ditch sediments were coarse, i.e. primarily small gravels. The ditch gradient (0.9 percent) and culvert gradient, which is significantly greater, are sufficient to move the observed small gravels entering it from the adjoining cutbank during moderate to high flow conditions. Moreover, given the sufficient capacities of upstream and downstream culverts along Paradise Drive, the ditch sediment load would only rarely be supplemented by excess sediment diverted from the inlet sumps to the Paradise Drive culverts. Thus, as long as the applicant's civil engineer provides the Town with a culvert design that conforms to the Town's stormwater drainage criteria and is sized to drain the appropriate roadway and hillslope drainage area produced by the proposed grading at the driveway entrance, it is unlikely that the proposed culverting of a segment of the roadside drainage ditch would increase the potential for nuisance flooding along Paradise Drive. This assessment of the impact of culverting the roadside ditch applies only to the limited segment south and downstream of the northern driveway entrance. Any proposal to expand such ditch culverting would require additional design features to facilitate periodic sediment and debris cleanout.

Mitigation Measure 5.4-1 No mitigation would be required.

The locations of the proposed lot cisterns were not provided as part of either the applicant's Preliminary Hydrology Report or the PDP/Tentative Map. The applicant, or subsequent, individual developers, will submit more precise design details and locations for the cisterns, as well as a cistern maintenance plan, to the Town for engineering review prior to final plan approval.

Appendices V (Calculation Sheets: Cistern) and VIII (Hydraflow Hydrographs Program Results) of the Preliminary Hydrology Report did provide design capacities for the lot cisterns in order to satisfy the peak flow mitigation requirement. Based on the expected impervious surface area for each lot, the report's authors recommended a cistern capacity of 78 cubic feet to achieve the mitigation objectives. The storage volume was based on the net increase in area indicated by the pre- and post-development 100-year, 0.3-hr. runoff hydrographs.

In conjunction with the comment and the response above, *Impact 5.4-2* and Mitigation Measure 5.4-2 is revised to include further clarifying language regarding the mitigation of project peak flows for the lesser, yet geomorphically significant two-year design rainstorm, as follows:

Impact 5.4-2 Alteration of Existing Drainage Patterns on Erosion and Downstream Sedimentation

Project development would result in the installation of new roads and storm drain systems that would discharge more concentrated flows into existing swales or small drainageways (i.e. more defined bed and banks). This could result in localized incision (i.e. erosion) of the receiving drainageways even if the rock energy dissipators are installed as proposed in the PDP. Also, the PDP shows an incomplete tie-in to a roadside sump at Culvert 7. These alterations in the routing and concentration of discharged runoff would result in a significant impact on hillslope and channel erosion.

The Precise Development Plan (PDP) includes a Preliminary Grading and Drainage Plan.⁵⁸ The PDP also includes a Preliminary Erosion Control Plan.⁵⁹ Both the Preliminary Grading and Drainage Plan and the Preliminary Erosion Control Plan are described in ***Chapter 3.0 Description of the Proposed Project.***

Project development would result in the collection and concentration of stormwater runoff, be it subject to detention by the proposed cisterns or not. Also, while the Preliminary Hydrology Report has shown that post-project, lot-based peak flow rates for the 100-year, 0.3-hour rainstorm would be maintained to pre-development levels by the proposed cistern design, the analysis did not confirm a similar mitigation for the design two-year rainstorm. The two-year storm and its corollary two-year peak flow has an important geomorphic role in channel response to water and sediment inflows. This discharge is referred to in the literature on fluvial geomorphology as the "channel forming discharge". Thus, the cistern performance with respect to mitigating increases in this lower magnitude, more frequent flow is critical to the stability of received drainageways.

Review of the existing site drainage patterns and comparison to the planned storm drain alignments and outlet locations indicates that concentrated storm drain discharge from two 15-inch storm drains would enter existing unreinforced drainageways, one within Lot 7 and Parcel A. Each outlet location would be reinforced by a rock energy dissipator. These energy

⁵⁸ *Preliminary Grading & Drainage Plan, Precise Development Plan, Sheets C8 and C9, CSW/ST2, May 8, 2007.*

⁵⁹ *Preliminary Erosion Control Plan, Precise Development Plan, Sheets C16 and C17, CSW/ST2, May 8, 2007.*

dissipators would reduce the erosive potential of the storm drain discharge in the immediate vicinity of the outlets, however, the concentrated runoff would remain more erosive downstream of the dissipators than pre-development flows for the same rainstorm, particularly for minor to moderate storms and storms that occur under drier antecedent moisture conditions in the drainages.

The Preliminary Grading and Drainage Plan proposes an above-ground 15-inch storm drain that would collect stormwater runoff from a portion of the Main Road and Lots 9 and 10, and discharge it at the property boundary, immediately adjacent and upslope of Culvert 7. The building layout shown on the PDP for Lot 10 suggests that some of the stormwater collected at the roadway inlet to this storm drain would represent a cross-basin diversion, albeit minor. Since the storm drain outlet is shown at the property boundary, no energy dissipation is shown accompanying it. If the above-ground pipe were actually terminated where shown, the drain discharge would issue forth as a small waterfall dropping approximately eight feet to the edge of a roadside sump at the entrance to the culvert. Such an outfall would present a potential hazard to motorists or bicyclists moving eastbound on Paradise Drive. This abrupt termination was likely done to avoid incursions onto the County of Marin right-of-way along Paradise Drive. All three of the storm drain outfalls could have significant impacts, both locally and downstream (and upstream if drainageway headcuts migrate headward).

Project erosion and pollution control measures are described and shown in the Preliminary Erosion Control Plan. The described measures comprise Best Management Practices (BMPs) that are commensurate with accepted erosion control and urban runoff pollution prevention practice for construction sites. Except for the aforementioned storm drain discharges implementation of the Preliminary Erosion Control Plan would ensure that no significant erosion impacts would occur due to development-related hillslope grading or building construction.

The applicant would be required to prepare and submit an NPDES permit and Notice of Intent (NOI) to the State Water Resources Control Board. The NOI / NPDES permit would include a Stormwater Pollution Prevention Plan (SWPPP), which incorporates Best Management Practice (BMPs) for source control of water quality contaminants, on-site treatment of stormwater, as well as post-construction stormwater quality maintenance. The erosion control measures described in the Preliminary Erosion Control Plan would be incorporated into the SWPPP. The measures incorporated into the project's Preliminary Erosion Control Plan include: on-site construction and post-construction measures to treat site stormwater runoff; measures to protect and revegetate disturbed / exposed soil surfaces; specified areas for equipment wash-out and materials storage; stabilized construction entrances; and other maintenance measures.

Mitigation Measure 5.4-2 The following measures shall be implemented to reduce the project impact on existing drainage patterns and downstream erosion and sedimentation:

- The applicant shall conduct a supplemental analysis of cistern performance for the two-year design rainstorm to determine whether the preliminary cistern outlet design would be sufficient to mitigate any increases in the lot-based, post-project two-year peak flow. If the analysis shows that the outlet was too large to maintain pre-development peak flow rates for this rainstorm, the applicant shall reconfigure the proposed outlet design to successfully mitigate increases in this recurrence interval storm, as well as the 100-year rainstorm.

- The applicant shall prepare a field inspection and geomorphic assessment of the two receiving drainageways noted in *Impact 5.4-2*. If channel instabilities exist or were projected to occur due to the delivery of more concentrated site runoff, suitable channel stabilization measures would be designed and submitted to the Town Engineer for review. Biotechnical techniques based on appropriate hydraulic and fluvial geomorphic analysis shall be employed, to the extent practicable. Any channel stabilization work shall be designed and overseen by a civil engineer or hydrologist familiar with fluvial geomorphic processes and stream restoration technologies. The applicant shall obtain the permits from the appropriate regulatory and resource agencies, including the San Francisco Bay Regional Water Quality Control Board (RWQCB), the U.S. Army Corps of Engineers (Corps), the California Department of Fish and Game (CDFG), the Town of Tiburon, and potentially the Marin County Department of Public Works, prior to the construction of any stabilization measures within a defined drainageway, i.e. a channel with defined bed and banks. Typically, the permitting agencies require a ten-year monitoring period for such instream construction of channel stabilization or restoration measures, including monitoring for channel stability and revegetation success.
- The applicant shall revise the depicted outlet position of Culvert 7 such that it crosses onto the Town's right-of-way along Paradise Drive and provides for an acceptable discharge to the culvert inlet sump. This would require coordination with the Town Engineer and, ultimately, the Town's approval of the extension and outlet configuration.
- Lot cisterns shall be located within the buildable area/grading area designated for each lot in the Precise Development Plan. If a particular lot cistern had to be constructed outside the currently proposed lot grading boundary to facilitate gravity flow to or from the cistern, the applicant shall amend the current project Erosion Control Plan as necessary to mitigate the added potential for erosion and downstream sedimentation.

Significance after Mitigation Implementation of Mitigation Measure 5.4-2 would ensure proper site drainage and minimize the risk of drainageway destabilization and Paradise Drive nuisance flooding. Erosion would be limited to the maximum extent practicable. This would reduce erosion and sedimentation impacts to a less-than-significant level.

If implementation of Mitigation Measure 5.4-2 led to the construction of channel stabilization work in any of the site drainageways, construction equipment access and movement on site hillslopes and within creek riparian corridors could result in localized erosion. This localized erosion could yield sediment to the stabilized creek reaches and downstream to culvert inlets along Paradise Drive. Use of the measures cited in the project's Preliminary Erosion Control Program, including seeding (broadcast or hydroseeding) of disturbed slopes and, if seed is broadcast, installation of erosion control blanket, native mulch or sterilized straw would ensure that there would be no significant secondary impacts.

Responsibility and Monitoring Mitigation Measure 5.4-2 shall be implemented by the applicant prior to the final plan approval. The Town Engineer shall be responsible for reviewing the supplemental Hydrology Report assessing the two-year design rainstorm and its impact on the proposed cistern design. The Town Engineer shall also be responsible for reviewing the fluvial geomorphic and hydraulic stability assessment, as well as any proposed channel stabilization designs. The applicant would be responsible for preparation and submittal of any regulatory agency permits required for construction of such channel stabilization measures. The Town Engineer would be responsible for periodic monitoring of the construction of the stabilization measures to ensure proper construction practice is being

followed. The applicant would also be responsible for conducting maintenance and monitoring of constructed channel stabilization work for whatever period is required by the prospective agency permits, typically five to ten years

Response to Comment B-18

With respect to the pending annexation request, at the present time it is the applicant's intent to voluntarily grant open space easements to the Town of Tiburon. If it is decided to grant an open space easement to Marin County it would be the applicant's responsibility to coordinate with Marin County Department of Parks and Open Space.



LETTER C

STATE OF CALIFORNIA

GOVERNOR'S OFFICE of PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

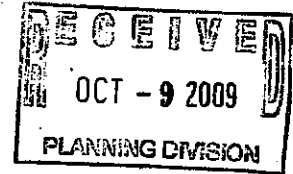


ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

October 6, 2009

Diane Henderson
City of Tiburon
1505 Tiburon Boulevard
Tiburon, CA 94920



Subject: Alta Robles Residential Development
SCH#: 2007072104

Dear Diane Henderson:

1

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on October 5, 2009, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

For: Scott Morgan
Acting Director, State Clearinghouse

Document Details Report
State Clearinghouse Data Base

LETTER C ATTACHMENT

SCH# 2007072104
Project Title Alta Robles Residential Development
Lead Agency Tiburon, City of

Type EIR Draft EIR
Description Approval for development of a 52 +/- acre site into 14 lots and a total of 13 building sites (one house is existing). Provision of access, roads, utilities, and infrastructure and ancillary improvements such as slide repair and landscaping.

Lead Agency Contact

Name Diane Henderson
Agency City of Tiburon
Phone 415-457-0525 **Fax**
email
Address 1505 Tiburon Boulevard
City Tiburon **State** CA **Zip** 94920

Project Location

County Marin
City Tiburon
Region
Lat / Long
Cross Streets Paradise Dr at Seafirth Rd
Parcel No. 039-301-01; 021-13
Township **Range** **Section** **Base**

Proximity to:

Highways 131
Airports No
Railways No
Waterways SF Bay
Schools Del Mar MS, Reed ES
Land Use GP: Planned Development Residential
Z: Residential Planned Development & RMP-0.4

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Growth Inducing; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Game, Region 3; Office of Historic Preservation; Department of Parks and Recreation; San Francisco Bay Conservation and Development Commission; Department of Water Resources; California Highway Patrol; Caltrans, District 4; Regional Water Quality Control Board, Region 2; Native American Heritage Commission

Date Received 08/19/2009 **Start of Review** 08/19/2009 **End of Review** 10/05/2009

Note: Blanks in data fields result from insufficient information provided by lead agency.

**RESPONSE TO LETTER C – SCOTT MORGAN, ACTING DIRECTOR, STATE OF CALIFORNIA,
GOVERNOR’S OFFICE OF PLANNING AND RESEARCH, STATE CLEARINGHOUSE AND
PLANNING UNIT (OCTOBER 6, 2009)**

Response to Comment C-1

Comment noted. No additional response necessary.



LETTER D

Scott L. Hochstrasser

IPA, Inc

E-Mail slh1ipa@aol.com
42 Glen Drive, Suite B * Fairfax, CA 94930 USA * Tele (415)459-6224 * Fax 459-5810

October 1, 2009

Hand Delivered

Diane M. Henderson, Contract Planner
Town of Tiburon Community Development Department
1505 Tiburon Boulevard
Tiburon CA 94920

OCT - 1 2009

**RE: Project Applicant Team- COMMENTS –
Alta Robles Residential Development DEIR, August 2009
Rabin/SODA: Applications for Alta Robles Project –
3825 Paradise Drive Tiburon: Assessor’s Parcel # 039-021-01 &
039-301-39: Town File # 30701: PD #20, PD#49 – Prezone/Annexation**

Dear Diane;

Thank you for the opportunity to comment on the “Alta Robles Residential Development Draft Environmental Impact Report prepared by Nichols-Berman for the Town of Tiburon, August 2009.

In working with our consultant team to review the document we found it to be very well prepared, easy to read and with only a few sufficiency issues. Rather than try and organize comments of our various consultants into one letter and risking loosing the force of their individual comments, I have asked each of our team members to put their comments in to a memo format addressed to IPA, Inc. Each memo is focused on particular sections of the DEIR and they are attached where noted below. Please accept this cover letter and each of the attached memos prepared by the various members of the Alta Robles development team as a full and complete set of comments on behalf of the applicant.

In our comments we focused on sufficiency of the DEIR discussion of possible impacts on the environment, and noted where clarifications and amplifications are needed for the reader. We have provided some additional technical information that supports ways in which we believe adverse impacts might be minimized further, and we have provided feasible alternative and new mitigation measures that we believe will reduce environmental impacts further. We also provided comments related to land use and the DEIR consultants efforts at making a General Plan and Zoning consistency analysis. Overall, I think our comments are fair, justified and fit closely with those raised by the Planning Commission and the public at the September 23, 2009 public hearing. The following is a list of our comments with reference to each DEIR section and where noted the attached Memos.

1.0 Introduction – **Comment:** Page #3 regarding date for comment submittal and person to whom comments are to be addressed, the DEIR is inconsistent with the public notice announcing the availability of the DEIR and Notice of Public Hearing for Wednesday September 23, 2009. Because the Town offices are closed on Friday October 2, 2009 we have elected to submit our comments today.

2.0 Summary of Findings – **No Comment**

3.0 Description of the Proposed Project – **Comment – please see Exhibit A - attached Memo prepared by CSW, dated 9-30-09. (Please also see notes in Exhibit H, identified below.)**

4.0 Land Use and Planning – **Comment – please see Exhibit B - attached Memo prepared by IPA, Inc., dated 10-1-09**

5.0 Environmental Setting, Impacts, and Mitigation Measures

5.1 Transpiration – **Comment – please see Exhibit C -attached Memo prepared by Robert I. Harrison, dated 9-21-09 and CSW memo noted above.**

5.2 Air Quality – **No Comment**

5.3 Noise – **Comment – please see Exhibit D- attached Memo prepared by Red horse Constructors, dated 9-29-09**

5.4 Hydrology and Water Quality – **Comment – please see CSW memo.**

5.5 Biological Resources – **Comment – please see CSW memo. See Exhibit E- attached Memo prepared by Roger D. Harris, LSA, dated 9-24-09.**

5.6 Geology and Soils – **Comment – please see attached Exhibit F- Memo prepared by Scott Stephens, Miller Pacific Engineers, dated 9-23-09.**

5.7 Public Services – **Comment – please see attached CSW Memo.**

5.8 Visual Quality – **Comment – please see attached Exhibit G- Memo prepared by Harry Benke, Visual Impact Analysis, dated 9-28-09 and attached Exhibit F- Memo prepared by Kao Design Group, dated 10-1-09.**

6.0 Alternatives to the Proposed Project – **No Comment**

7.0 Other Sections Required by CEQA – **No Comment**

8.0 Report Preparation and Persons Consulted – **No Comment**

Summary and Conclusion

Overall our team thinks that Mr. Berman’s office did a very good job of assessing the potential environmental impacts of the proposed project. The project sponsor understands that Alternative #3 – Revised Site Plan is the CEQA “environmentally superior alternative” and has provided additional feasible mitigation measures to address the significant unavoidable impacts identified in the report. We look forward to review and certification of the Final Environmental Impact report and working closely with the Town staff and decision makers on the merits of the project.

Sincerely,

Scott E. Hochstrasser

CC: Client, Legal Counsel, Consulting Team

111 4502 4502 4502 4502

EXHIBIT A

CSW ST 2

CSW/Stuber-Stroeh Engineering Group, Inc.

Engineers | Land Planners | Surveyors | Landscape Architects

MEMORANDUM

DATE: September 30, 2009 **File:** 5.495.11

TO: Scott Hochstrasser, International Planning Associates, Inc.

FROM: Al Cornwell / Robin Welter,
CSW Stuber Stroeh Engineering Group, Inc.

SUBJECT: Comments on the Biological Resources Section, Draft Environmental Impact Report
"Alta Robles Residential Development," August 2009
State Clearinghouse No. 2007072104

CSW Stuber-Stroeh Engineering Group, Inc. has been retained to assist the Alta Robles client with the following review and comment on the August 2009 Draft Environment Impact Report (DEIR).

General Comment

The Alta Robles DEIR provided a detailed analysis of the proposed 14 lot subdivision, as provided in the May 8, 2008 submittal, and developed mitigation measures that serve to protect the natural resources that exist on the site. The following comments on the Description of the Proposed Project, Mitigation Measures, Transportation, Hydrology and Water, and Public Services and Utilities will further clarify the unique balance and sustainable approach the Client brings to the Alta Robles development and the Town of Tiburon.

Specific Comments

3.0 Description of the Proposed Project

Page 50, Upper Road, Paragraph 2

2	Change to say that emergency <u>and utility</u> access will be provided from the gated entrance at Hacienda.
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Page 60, Grading

3	Exhibit 3.0-12 provides an overall synopsis of the grading but further clarification of the Estimated Earthwork Summary is necessary to illustrate the relationship of the grading to the requirements of the Town's Hillside Guidelines.
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The total estimated cut of 24,600 cubic yards outlines the grading quantities for the entire project, including the Lots and the Main and Upper Roads. Each Lot has been carefully designed to maintain harmony within its unique site by integrating the houses within the hillside using earthen berms and terraced building design. This strategy produces an average of 1435 cubic yards of cut within the house footprint. This totals 18,655 and is a significant portion of the cut shown in Exhibit 3.0-12. While this increases the grading for the project, it provides homes that are in the spirit of the Hillside Guidelines.

CSW ST 2

To: Scott Hochstrasser, International Planning Associates, Inc.
 From: Al Cornwell / Robin Welter
 Date: September 30, 2009
 Re: Alta Robles DEIR – Biological Resources
 Page: 2

3 CONTINUED

The houses are designed with very low profiles, resulting in homes that are terraced into the hillside and are virtually underground. This harmonizes each home with its surroundings. Visually most of the houses will present a single story façade to offsite view, and each house will support a portion of living green roof that will further blend the house into the surrounding hillside. Houses and roadways were also carefully located to minimize disruption of landslide areas or were incorporated into the repair to remove unstable portions, making the resulting project safer for the community and future residents.

Page 61, Exhibit 3.0-13

4

Exhibit 3.0-13 examines the retaining walls in detail on a lot-by-lot basis. However, additional information is necessary to clarify the locations and visual impacts of the retaining walls within the development. The earthen and terraced building strategy allows the houses to be molded into the hillside to promote harmony between the structures and the existing contours. The results listed in Exhibit 3.0-13 should indicate which walls are integrated into the house structure and will not be visible. The attached Revised Exhibit 3.0-13, dated September 29, 2009, clarifies the location of the retaining walls relative to the Lot and the visual impacts from the road or the community. All visible Lot retaining walls not associated with the house will be 6 feet or less in height.

Terraced retaining walls along the Main road were designed to avoid extensive grading down slope to protect natural resources, and to reduce tree loss throughout the site. These walls will be a maximum of six feet high, with a neutral color and landscaped in front of or in between the terraces to blend back into the hillside.

5.1 Transportation

Mitigation Measure 5.1-7, Page 174

5

Paradise Road is considered a Class III bicycle facility according to the Town of Tiburon Bicycle and Pedestrian Master Plan and Marin County's Unincorporated Area Bicycle and Pedestrian Master Plan. In these two guideline documents a Class III facility, which is part of the Rural Roads Improvement Project, the following improvements are suggested:

- A 3' - 4' path, where feasible, around blind corners and turnouts where the existing swale will not be reduced in size or capacity.
- Advisory and warning signs installed along the 1,700 feet of frontage road.

These improvements would reduce conflicts between bicycles and vehicle traffic and increase safety along the frontage of the project.

To: Scott Hochstrasser, International Planning Associates, Inc.
From: Al Cornwell / Robin Welter
Date: September 30, 200
Re: Alta Robles DEIR – Biological Resources
Page: 3

5.4 Hydrology and Water Quality

Impact 5.4-2 Alteration of Existing Drainage Patterns on Erosion and Downstream Sedimentation, Page 227

6

The energy dissipaters shown on the plans were placed to show that the intent of the discharge from the storm drain outfall would be returned to surface flow. The dissipaters did not show the lineal extent of the dissipater for clarity in the drawings. The total flow to these areas will need to be determined based on the increase in impermeable areas from the roadways, but reduced by the flow which will not reach these points since the Lot developments will include a cistern to reduce storm water flows.

Based on the storm drain outfalls ability to return the concentrated flow to overland sheet flow as described above, Mitigation Measure 5.4-2, first bullet, second sentence first part should be restated as follows: ~~"if channel instabilities exist or were or were projected to occur due to the delivery of more concentrated-~~ instability is projected to occur based on the projects projected delivery of... site runoff, suitable channel...

7

Mitigation Measure 5.4-3, Page 230

Secondary impacts of grading and subsurface drainage control can also be coordinated with the Geotechnical engineer to reduce the impacts of subsurface drainage by controlling the outlet of the subdrains where biotic resources would be affected.

5.5 Biological Resources

Mitigation Measure 5.5-2, Page 263, 5th bullet

8

Removal of non-native trees and shrubs within the areas of present native grasslands could cause additional disruption to the existing grasslands resulting from removal equipment and foot traffic. Additional tree removal will also increase fire loads within the site and could impact wildlife using the existing shrubs and trees for habitat.

5.7 Public Services and Utilities

Impact 5.7-1, Fire Service Impact, Page 301

9

Second paragraph – change: "The project proposes the use of 'green roofs' on some of the houses" to "The project proposes the use of 'green roofs' on portions of all proposed houses."

Exhibit 3.0-13

Alta Robles Preliminary Retaining Wall Exhibit

1/28/2008

Revision 8/29/09

LOT NO.	WALL NO.	HEIGHT RANGE	LENGTH (FT)	MATERIAL	PURPOSE	VISIBILITY
1	W1-A	3'-5'	333	TBD	Lot Development- Road Retaining Wall	Visible
	W1-B	3'-5'	325	TBD	Lot Development- Road Retaining Wall	Visible
	W1-C	2'-6'	31	TBD	Lot Development- Road Retaining Wall	Visible
2	W2-A	4'-5'	111	TBD	Lot Development- Road Retaining Wall	Visible
	W2-B	5'	172	TBD	Lot Development-Road Retaining Wall	Visible
	W2-C	4'-6'	109	TBD	Lot Development- Road Retaining Wall	Visible
	W2-D	4'-5'	114	TBD	Lot Development- Road Retaining Wall	Visible
	W2-E	2'-8'	54	TBD	Lot Development-Road Retaining Wall	Visible
	W2-F	0'-14'	350	TBD	House Construction-Structural Wall	Non Visible*
3	W3-A	2'-4'	163	TBD	Lot Development- Road Retaining Wall	Visible
	W3-B	3'-5'	239	TBD	Lot Development- Road Retaining Wall	Visible
	W3-C	0'-11'	564	TBD	House Construction-Structural Wall	Non Visible*
4	W4-A	0'-2'	34	TBD	Lot Development- Road Retaining Wall	Visible
	W4-B	0'-15'	253	TBD	Driveway and House Construction-Structural Wall	Non Visible in House*
	W4-C	0'-4'	114	TBD	House Construction-Pool Wall	Visible
5	W5-A	0'-8'	39	TBD	Lot Development- Driveway Retaining Wall	Visible
	W5-B	0'-15'	491	TBD	House Construction-Structural Wall	Non Visible*
6	W6-A	0'-8'	196	TBD	House Construction-Structural Wall	Non Visible*
	W6-B	0'-10'	247	TBD	House Construction & Lot Development-Structural Wall	Non Visible in House*
7	W7-A	0'-8'	240	TBD	Lot Development- Road Retaining Wall	Visible
	W7-B	0'-10'	557	TBD	House Construction-Structural Wall	Non Visible*
8	W8-A	1'-6'	174	TBD	Lot Development-Driveway Wall	Visible
	W8-B	0'-11'	201	TBD	House Construction-Structural Wall	Non Visible*
	W8-C	1'-4'	257	TBD	Lot Development-Landscape Stair Wall	Visible
NEAR 7	ROAD1	1'-3'	108	TBD	Lot Development-Road Retaining Wall	Visible
9	W9-A	3'-4'	72	TBD	Lot Development-Driveway Wall	Visible
	W9-B	4'	80	TBD	Lot Development-Driveway Wall	Visible
	W9-C	1'-16'	382	TBD	House Construction-Structural Wall	Non Visible*
	W9-D	2'-8'	179	TBD	Lot Development-Road Retaining Wall	Visible
	W9-E	1'-4'	123	TBD	Lot Development-Road Retaining Wall	Visible
10	W10-A	7'-21'	108	TBD	House Construction-Structural Wall	Non Visible*
	W10-B	0'-21'	192	TBD	House Construction-Structural Wall	Non Visible*
	W10-C	0'-18'	144	TBD	House Construction-Structural Wall	Non Visible*
	W10-D	1'-6'	127	TBD	Lot Development-Road Retaining Wall	Visible
	W10-E	6'	139	TBD	Lot Development-Driveway Wall	Visible
	W10-F	2'-8'	125	TBD	Lot Development-Driveway Wall	Visible
11	W11-A	0'-5'	200	TBD	House Construction-Pool and Terrace Wall	Visible
	W11-B	2'-13'	102	TBD	House Construction & Lot Development-Structural Wall	Non-Visible in House*
	W11-C	13'-28'	267	TBD	House Construction-Structural Wall	Non-Visible*
12	W12-A	2'-4'	298	TBD	Lot Development-Road Retaining Wall	Visible
	W12-B	1'-2'	98	TBD	Lot Development-Road Retaining Wall	Visible
	W12-C	0'-7'	112	TBD	Lot Development-Driveway Wall	Visible
	W12-D	1'-11'	90	TBD	House Construction & Lot Development	Non Visible in House*
	W12-E	0'-16'	496	TBD	House Construction-Structural Wall	Non-Visible*
13	W13-A	1'-20'	533	TBD	House Construction-Structural Wall	Non-Visible*
14	W14-A	0'-10'	356	TBD	House Construction-Structural Wall	Non-Visible*
	W14-B	4'-7'	257	TBD	Lot Development-Road Retaining Wall	Visible
	W14-C	3'-6'	203	TBD	Lot Development-Road Retaining Wall	Visible
LOT A	W1A-A	0'-4'	52	TBD	Lot Development- Road Retaining Wall	Visible
LOT B	ROAD3	0'-4'	98	TBD	Road Development	Visible
NEAR 14	ROAD2	4'	37	TBD	Road Development	Visible

* Refer to the Grading and Drainage sheets, C8 and C9, for exact wall locations relative to the structure of the house. Large retaining walls within the House Construction will not be visible from the road or the community but smaller walls 10' and below will potentially be seen depending on house design.

EXHIBIT B



SCOTT L. HOCHSTRASSER
IPA Inc.

Email * slh1ipa@aol.com * 42 Glen Drive, Suite B * Fairfax, CA 94930 USA * Tele (415)459-6224 * Fax 459-5810

MEMORANDUM

TO: Town of Tiburon
 FROM: Scott L. Hochstrasser, Planning Consultant
 DATE: October 1, 2009
 RE: "Alta Robles Residential Development" Draft EIR August 2009

Thank you for the opportunity to provide comments on the above noted draft EIR. The following is comments are focused on Section 4.0 Land Use and Planning. The purpose of the comments is to provide clarity, amplification and additional information to be considered in making the consistency determinations provided in Exhibit 4.01 "Consistency with Town of Tiburon General Plan.

Goal LU-1 (Page 80) Inconsistent –

The DEIR consultant finds that the proposed project building development and residential land use is consistent with the density, architectural styles, stories and heights of the surrounding neighborhoods. The discussion goes on to note that the project homes would be "somewhat larger" in terms of square feet than existing homes in the vicinity. The consultant then concludes that based on a range of home sizes that exist that the project homes are inconsistent or larger. To be fair this analysis should focus on the General Plan policy and Zoning regulations governing development on the surrounding neighborhood. The fact is that all of the surrounding neighborhood lots under the General Plan and Zoning have a potential to redeveloped or expanded beyond what exists. Many of the surrounding lots provide enough area for existing homes to expand up to 8,000 sq ft. with 500 sq ft. of garage space. The DEIR provides an example where new development across the road (Sorokko property) was recently granted approvals to develop new homes with up to 8,000 sq ft. of floor area.

To be fair this analysis needs to look at what exists as a baseline, but it must go beyond that to identify governing rules and regulations that apply to surrounding neighboring property for what could be. Using the existing home size to judge the proposed plan consistency does not provide equal protection, fairness and equity to the project sponsor when all other property owners in the area governed by the same General Plan Land Use designation and Zoning regulations can grow their estate homes beyond what exists.

In the final analysis, with full disclosure of what other surrounding property owners are entitled to and given their lot sizes and governing policy and regulations, the proposed homes are well within and consistent with the size range anticipated by the General Plan and Zoning regulations.

Policy LU-15 (Page 83) Remodels, tear-downs / rebuilds, and new construction shall be compatible with the design, size, and scale of existing dwellings in the surrounding neighborhood.

11

Comment: The proposed architectural building massing and style are compatible to the selected existing neighboring houses, but they have less apparent mass and are more integrated into the landscape than the existing mission style stucco buildings of the Acacia Court, and Gilmartin. Furthermore, the same argument provided above under LU-I can be made here. The DEIR assumes the “worst case” for the project development and the “existing case” for the neighborhood character by comparing existing surrounding development rather than the potential for existing surrounding neighborhood under same or similar zoning.

Significant Ridgelines

Policy OSC-, 9, (page 87) Inconsistent - Undeveloped ridgelines have overriding visual significance to the Town. In balancing open space interests with development interests, the protection of predominantly undeveloped ridgelines shall have the highest priority.

12

Comment: Policy notes protection of “predominantly” undeveloped ridgelines. Lot 5 – The proposed detached garage, located within the vertical setback of the Tiburon Ridge would replace an existing storage structure, adapted to the use of garage. The ridge is not “undeveloped” in the baseline condition, and the view is not the “predominant” vertical offset. (See VIA – visual impact analysis comments for details)

13

Comment: Lot 4 would does not encroach on the horizontal offset and only slightly encroaches on the strict application of the 50 foot vertical offset of the Tiburon Ridge. The purpose and intent of the policy, as stated, is to protect the predominant undeveloped ridgeline and in this case the flatness of the Tiburon Ridge at this location is not the predominant ridge and the 150 foot horizontal offset achieves the Town policy objective. Moreover, the building design proposed for Lot 4 would minimize its visual impact by setting the mass and bulk within the screen and behind the existing tree canopy and setting the building into the topography. The color of the buildings should be rendered to match the dark coloration of the trees and hillside to minimize its visibility.

Policy OSC- 11 – See Comments noted above.

14

Policy OSC- 12 – Significant Ridges

15

Comment: The EIR finds the project to be inconsistent with this policy but relies on the more restrictive standard specified for Tiburon Ridge, 50 vertical feet of setback. The text goes on to say that Lots 3, 4, 7-12 and 14 would approach crests of Ridgeline 5 & 6. Then goes on to say “However, specific setbacks for Ridgelines 5 & 6 would be evaluated

15
CONT'D

during the development review process.” Accordingly, the wrong standard is being used, and there is no evidence presented that supports the conclusion that these lots would be inconsistent with the standards and criteria established by the policy. One must assume, based on the reference to Exhibit 4.02 that this somehow shows the Lots are not meeting the General Plan policy, Town standards & criteria threshold yet it does not. In fact, Exhibit 4.02 shows that the lots are on both sides of the Significant Ridge, but not on top of it and if one reviews the building location plans you would find that the proposed buildings themselves are setback from the Significant Ridge and include design mitigation to avoid breaking the views of the ridge.

Policy OS-13 – Roads and Utilities construction along or across the Tiburon Ridge or Significant Ridge

16

Comment: The EIR finds that “the project does not propose to construct roads along or across the Tiburon Ridge. Moreover, it fails to identify in the baseline condition that in fact fire roads and access roads for existing water tanks on the property already exist. These roads and the water storage utility can be seen on Exhibit 3.0-3 Project Site air photo. Additionally, the EIR discussion notes that roads would be constructed on Significant Ridgelines 5&6 and notes they are not perpendicular crossings of the ridgeline. Yet again the EIR fails to note the existing baseline conditions. On both Ridgeline 5 & 6 roads and utility extensions exist. The conclusion that the proposed project will be inconsistent with Town policy because it intends to use existing roads on Tiburon Ridge and Significant Ridgelines is unfair. In fact, the most significant new road development proposed only connects the two existing Significant Ridgeline roads and the new road development is generally out of the ridgeline setbacks specified.

Policy OSC-30 (Page 89) Development shall be encouraged in areas where it least interferes with views of and views from open space to the maximum extent feasible.

17

Comment: As noted the project would preserve open space along the Tiburon Ridge, and thereby preserve views. The project includes public trail that brings users of public open space along the Tiburon Ridge – and thereby exposes the proposed development to some views by hikers. The EIR consultant relies on Impact 5.8-1 to conclude that even though the project provides more open space and invites the public to views they don’t have with the project, the project would be inconsistent with the Town Policy. The visual analysis prepared by VIA (See attached comments) refutes the claims made in Impact 5.8-1. Moreover, if the project provides open space and trails how can it be inconsistent with what the policy encourages, development in the least interfering areas. Not only is the project consistent with this policy – it creates open space and views where none exist otherwise.

Summary & Conclusion Comment

18

Clearly the proposed project is found to be consistent with almost all of the Town

18
Cont'd

General Plan policies. However, as is stated on page 77 of the DEIR; “A project does not need to be consistent with every policy of a general plan; rather, it must be “generally consistent” and “in harmony”. State law does not require that a project completely satisfy every policy stated in a general plan. Based on the EIR analysis, this project, by design is consistent and in harmony with the general plan and the EIR should disclose this fact to the reviewing decision makers and the public. The few inconsistencies that were found are not supported by facts, ignore some of the baseline conditions and seems to place the applicant in a “catch 22” where inconsistency is found because the application includes open space then invites public viewing with proposed public trails. Finally, the EIR concludes that there are policy inconsistencies where there is no standard, criteria or stated Town threshold for weighing consistency.

4.2 Zoning

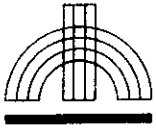
4.3 TOWN OF TIBURON DESIGN GUIDELINES FOR HILLSIDE DWELLINGS

Design Goals / Principles Inconsistent - Buildings are designed to avoid downhill cantilevers.

19

The building locations, design, vegetated roof features and cantilevers are designed to lessen the bulk and massing of the buildings. The designs are specific to cast shadow with dark flat stained wooden trellis to minimize the appearance of the structure below, consistent with the intent of the design guidelines.

EXHIBIT C



LETTER D - EXHIBIT C

MEMORANDUM

To: IPA, Inc.
From: Robert L. Harrison
Date: September 21, 2009
Re: Section 5.1 Transportation – Draft Environmental Impact Report
“Alta Robles Residential Development” – August 2009.

Robert L. Harrison Transportation Planning has been retained to assist the Alta Robles project sponsor with review and comment on the project DEIR.

Impacts 5.1-1; 5.1-2; 5.1-3. (Pages 159, 162-164) The DEIR finds that the project would have a less than significant impact of the operation of local streets and highways in both the Existing Plus Project and Cumulative Plus Project Conditions.

20

Thus, the DEIR finds that there is no action required of the project sponsor to mitigate these conditions. The Town of Tiburon is identified as responsible for the implementation of Mitigation Measure 5.1-2 to offset the cumulative impact at the intersection of Tiburon Boulevard with Trestle Glen Boulevard.

Impact 5.1-4. (Page 166) The DEIR incorrectly identifies a safety impact due to inadequate sight distance at the project entrance from Paradise Drive. The DEIR incorrectly reports, on page 167 and in Exhibit 5.1-22, that the sight distance to the east from the entrance driveway is 110 feet. The available sight distance to the east from the project entrance, both as shown on Exhibit 5.1-23 and confirmed by measurement in the field, is 190 feet.

21

The required sight distance at the project entrance is based on the speed of traffic on Paradise Drive. The DEIR refers to a traffic speed study conducted for the Sorokko Property Final Environmental Impact Report, page 4.5-10, that found the 85th percentile speed of traffic on Paradise Drive was 31 to 32 mph.

A speed study conducted at the proposed project entrance driveway on Saturday September 19, 2009 found the 85th percentile speed of traffic on Paradise Drive to be 29 mph for westbound traffic and 31 mph for eastbound traffic. (Copies of the September 2009 speed study are attached to this memorandum).

The required stopping sight distance for a design speed of 29 mph is 190 feet and for 31 mph is 210 feet. A table showing stopping sight distance standards for several design speeds is attached to this memorandum.

Memorandum to IPA, Inc. – September 21, 2009
Page Two

The available sight distance at the project entrance driveway meets the required sight distance to both the east and to the west. Looking to the east, the speed of approaching traffic was found to be 29 mph requiring 190 feet sight distance where 190 feet is available. Looking to the west from the project driveway the speed of approaching traffic was found to be 31 mph requiring 210 feet of sight distance where 220 feet are available.

21 CONT'D

The proposed location of the project driveway would have a less than significant impact on sight distance and traffic safety. Mitigation Measure 5.1-4 would not be required to offset the impact of the project.

Impact 5.1-5. (Page 171) The DEIR finds that the project would contribute to the cumulative impact of traffic growth on regional roadways and identifies this as a significant cumulative impact. However, the project impacts to Tiburon Boulevard are found in the DEIR to be less than significant.

22

The project would add less than 0.1% to the traffic volume on Highway 101. This volume of traffic is far less than the day to day variation in traffic volume and could not be accurately measured. This is described in the DEIR as a significant unavoidable cumulative impact.

To offset this impact, the DEIR describes Mitigation Measure 5.1-5 which is aimed at the responsibility of the Town of Tiburon to participate in the Highway 101 Corridor planning program.

Impact 5.1-6. (Page 172). The DEIR finds that the project would have a less than significant impact on public transit. No mitigation is required by the DEIR.

23

Impact 5.1-7. (Page 172). The project's "slight" contribution to bicycle traffic and the addition of 124 daily motor vehicle trips to Paradise Drive are identified in the DEIR as a significant cumulative impact to bicycle safety.

24

Mitigation Measure 5.1-7 (Page 174) requires the project sponsor to construct at least 1,900 feet (0.36 mile) of widened (four to six feet wide) shoulder along the project site frontage to accommodate bicycle traffic. The DEIR finds that with the proposed mitigation measure the project's impact on bicycle safety would be reduced to less-than-significant.

Impacts 5.1-8; 5.1-9; 5.1-10; 5.1-11; 5.1-12 (Pages 175-179). The project would have a less-than-significant impact on pedestrian circulation, site access, emergency access, internal circulation, parking and construction traffic. No mitigation is required by the DEIR.

25

Spot Speed Study - Town of Tiburon
Prepared by: Marks Traffic Data

Paradise Drive

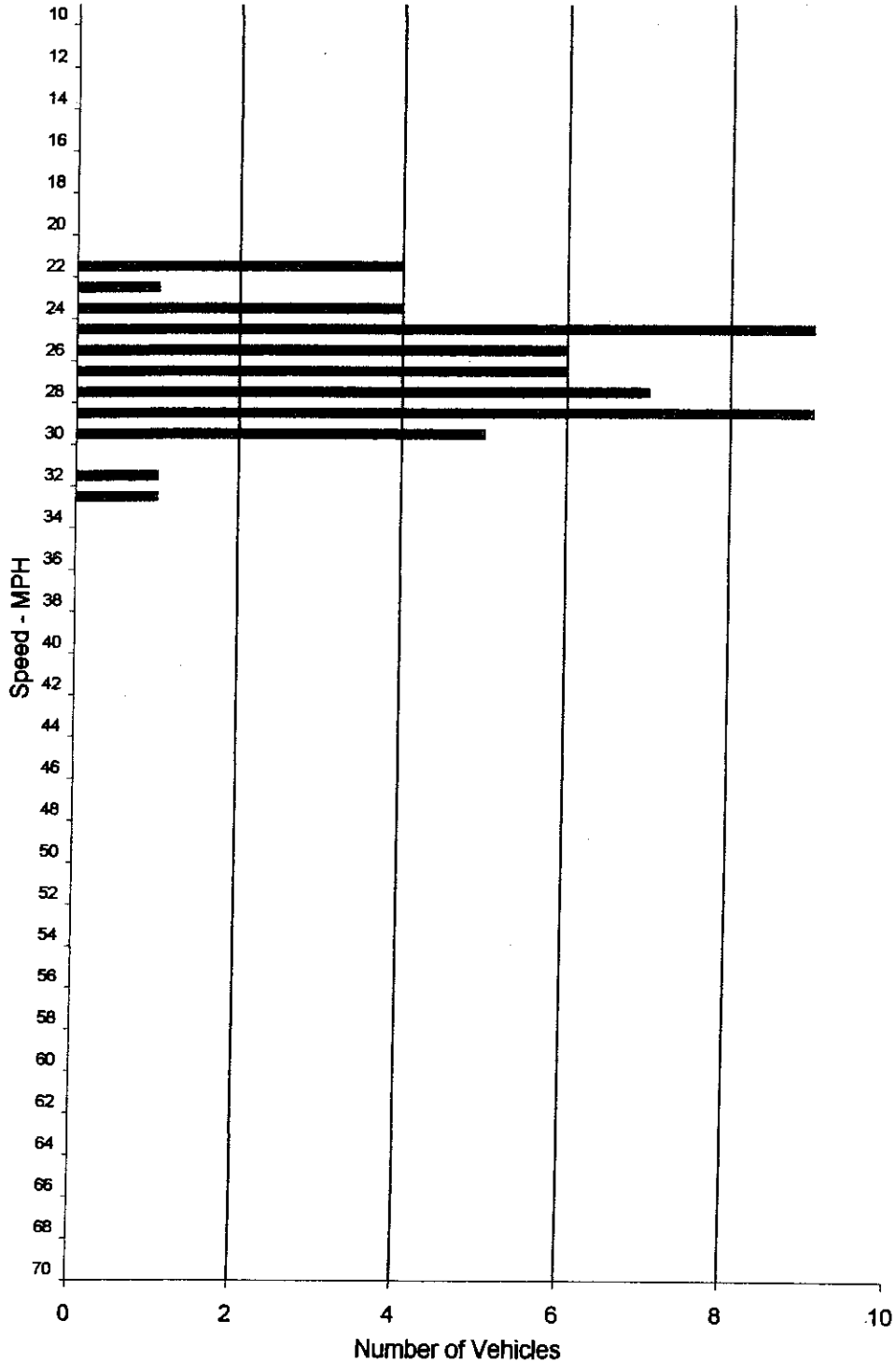
DATE: 9/19/2009
Start Time: 1:00
DAY: Saturday

Location: 0.8 mile e/o Trestle Glen Rd.
End Time: 2:30
Posted Speed: 25 MPH
Weather: Sunny
Direction: w

Observer: Mietek
Calibration: DONE
Project #:

Spot Speeds

Speed mph	ALL Vehicles
<=10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	4
23	1
24	4
25	9
26	6
27	6
28	7
29	9
30	5
31	0
32	1
33	1
34	0
35	0
36	0
37	0
38	0
39	0
40	0
41	0
42	0
43	0
44	0
45	0
46	0
47	0
48	0
49	0
50	0
51	0
52	0
53	0
54	0
55	0
56	0
57	0
58	0
59	0
60	0
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS										
Class	Count	Average Speed	Range	50th Percentile	85th Percentile	10 MPH Pace	Percent in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	53	26.8	22 - 33	27 mph	29 mph	21 - 30	51	96%	0% / 0	4% / 2

Spot Speed Study - Town of Tiburon

Prepared by: Marks Traffic Data

Paradise Drive

DATE: 9/19/2009
 Start Time: 1:00
 DAY: Saturday

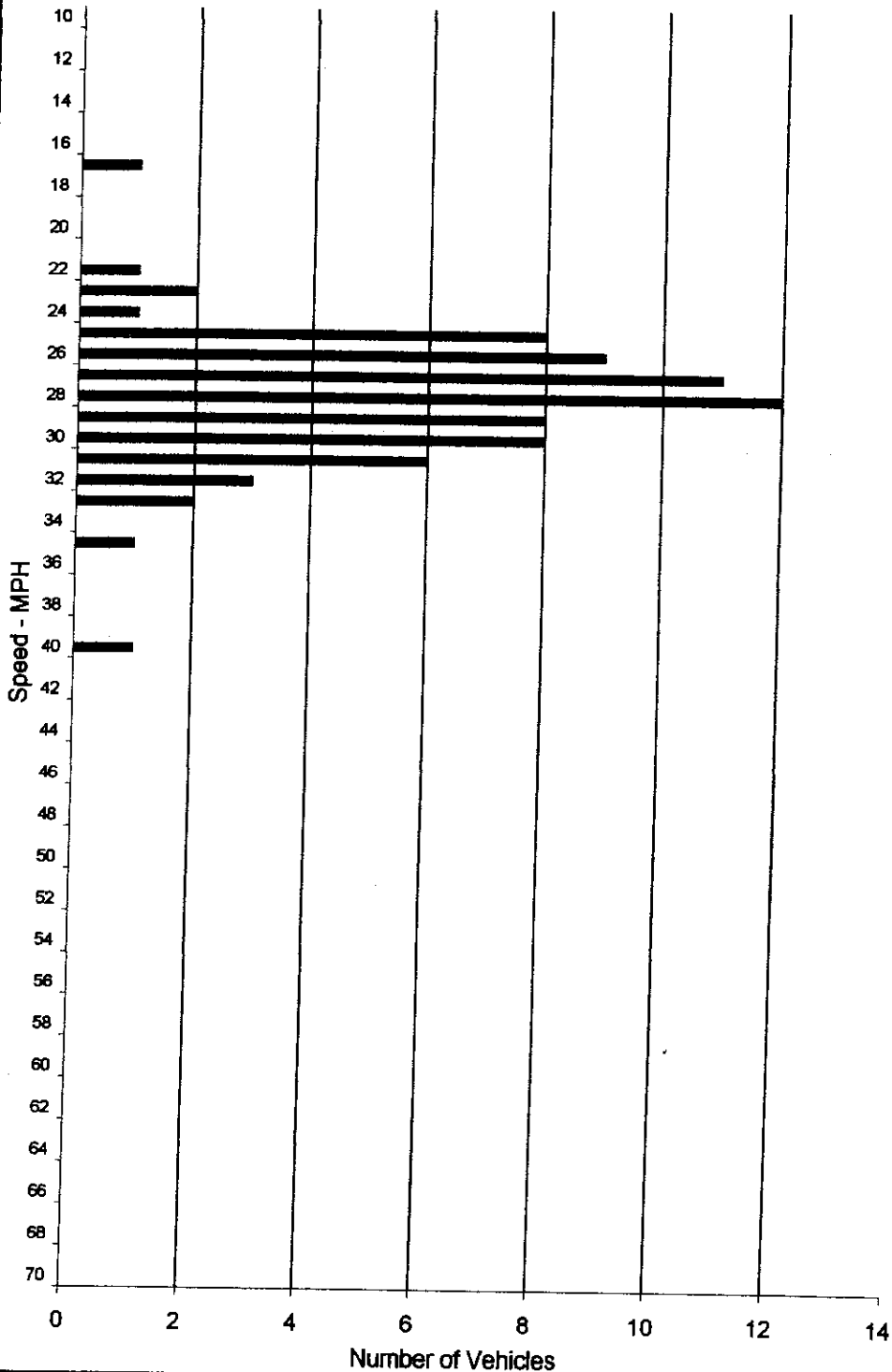
Location: 0.8 mile e/o Trestle Glen Rd.
 End Time: 2:30
 Posted Speed: 25 MPH

Weather: Sunny
 Direction: E

Observer: Mietek
 Calibration: DONE
 Project #: 0-Jan

Spot Speeds

Speed mph	ALL Vehicles
<=10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	1
18	0
19	0
20	0
21	0
22	1
23	2
24	1
25	8
26	9
27	11
28	12
29	8
30	8
31	6
32	3
33	2
34	0
35	1
36	0
37	0
38	0
39	0
40	1
41	0
42	0
43	0
44	0
45	0
46	0
47	0
48	0
49	0
50	0
51	0
52	0
53	0
54	0
55	0
56	0
57	0
58	0
59	0
60	0
61	0
62	0
63	0
64	0
65	0
66	0
67	0
68	0
69	0
>=70	0



SPEED PARAMETERS										
Class	Count	Average Speed	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	74	28.0	17 - 40	28 mph	31 mph	23 - 32	68	92%	2% / 2	6% / 4

Stopping Sight Distance

$$d = (1.47 V t) + (V^2 / 30f)$$

Stopping Sight Distance **d**
 Approach Speed **V**
 Perception Time = 2.5 sec. **t**
 Coefficient of Friction **f**

Design Speed (mph)	Assumed Speed for Condition (mph) (Range)		Coefficient Of Friction	Stopping Sight Distance (feet)				Design Standards	
				Computed Stopping Sight Distance (Range)		Rounded For Design (Range)		AASHTO Note 1	Caltrans Note 2
15	14	15	0.41	67.4	73.4	70	80	80	N/A
20	18	20	0.40	93.2	106.8	100	125	115	125
25	24	25	0.38	138.7	146.7	140	150	155	150
29		29	0.36		184.4		190	N/A	N/A
30	28	30	0.35	177.6	196.0	180	200	200	200
31		31	0.35		205.4		210	N/A	N/A
32		32	0.35		215.1		220	N/A	N/A
35	32	35	0.34	218.0	248.7	220	250	250	250
40	36	40	0.32	267.3	313.7	270	320	305	300
45	40	45	0.31	319.0	383.1	325	390	360	360
50	44	50	0.30	376.8	461.5	390	475	425	430
55	48	55	0.30	432.4	538.2	450	550	495	500
60	52	60	0.29	501.9	634.3	525	650	570	580
65	55	65	0.29	549.8	724.5	560	730	645	660
70	58	70	0.28	613.6	840.6	625	850	730	750
75	N/A	N/A	0.28	945.3		N/A	N/A	820	840
80	N/A	N/A	0.27	1,084.1		N/A	N/A	910	930
Added slow speed calculation				Computed		Rounded			
10			0.42	44.7		50		N/A	N/A

Notes:

1 - AASHTO. "A Policy on Geometric Design of Highways and Streets", 2004. Exhibit 3-1. Page 112.

2 - Caltrans "Highway Design Manual", Table 201.1, page 200-1.

EXHIBIT D

MEMORANDUM

To: Scott Hochstrasser, International Planning Associates, Inc.

From: David Warner, Redhorse Constructors Inc.

Date: 29 September, 2009

Re: Alta Robles Residential Development Draft Environmental Impact Report 8/2009

Redhorse Constructors Inc, has been retained to assist the Alta Robles client with the following review and comment on the August 2009 Draft Environment Impact Report (DEIR).

General Comment

Section 5.3 Noise (Page 208-210) Impact 5.3-1 Construction Noise. - It should be pointed out in the impact analysis section that the EIR consultant does not take in to consideration two critical factors regarding construction noise. First, as part of the baseline conditions it should be pointed out that a good deal of the road construction earthwork has been performed already. The major circulation pattern planned follows the alignments of existing graded roads on the site; the existing driveway to Lot #1 and the fire road. Secondly, there is a great deal of open space included in the project proposal and it surrounds the boundary of the actual construction. In fact, 71 % of the 52 acre site will be open space providing significant setbacks from the construction area to the closest property line. The EIR does point out the closest distances to existing residential development from the proposed construction activity to range from 250 feet to over 500 feet. Although it is not noted one assumes these distances are from the property lines not from the actual construction activity. Additionally the site is surrounded by existing public open space, vegetation, mature trees and substantial undulations in topography.

On page 210 the consultant notes that construction activity noise "increase would be less where terrain shielding occurs". Yet the analysis provides no assessment of the benefits of the existing terrain shielding that exists including vegetation, topography and existing and proposed open space. Rather it goes on to say noise levels could exceed standards and be received by residences nearby during earth movement operation and foundation construction without any assessment of the benefits of terrain shielding that clearly exists. The DEIR does not provide evidence to support the claim that there would be a substantial increase in noise at adjacent houses as a result of the project but simply says because the work would likely go on for more than one construction season there is a "likelihood" that noise increases would be significant. The analysis is incomplete because it does not take into consideration that a significant part of the earth work for roads exists, and that there is substantial terrain shielding. The analysis should include some projection of how terrain shielding actually will increase noise.

The above said the purpose of this document is to discuss additional mitigation measures with the goal to further mitigate and reduce the potential significant noise impact to Less Than Significant level. The most significant proposed additional mitigation includes limiting the heavy earth work to a total of a 6 month period in any one year.

Suggested Feasible Additional Mitigation Measures

5.3.1 Construction Noise

Comment No. 27 Continued from previous pages

Mitigation measures to reduce construction noise impacts in addition to those nominated under section 5.3.1 in the DEIR are:

- Enforce optimum equipment operating standards by controlling the type, use and duration of mechanical equipment operations.
- Maintenance of equipment; the noise level of most equipment with continued use and natural wear and tear will increase over time if not regular maintained. In addition to controlling the type, duration and use of equipment onsite, the condition and maintenance schedules of equipment shall form part of the construction noise mitigation measures.
- In addition to the existing terrain shielding, where feasible, locate equipment behind temporary barriers to muffle noise. For example, pneumatic compressors can be contained behind a plywood box to reduce noise while in use.
- Worker radios would be banned from site due to safety concerns and would not be an issue as discussed in the DEIR.
- Propose increased use of off-site prefabricated components and assemblies shall be used to reduce and minimize on-site construction activity and corresponding environmental impacts. This would reduce the duration of construction time and result in a reduction of noise impact on site. The proposed off-site prefabrication would reduce the corresponding noise, dust, and material handling and worker traffic to and from the site.
- All on-site heavy equipment used for grading and earth movement for subdivision improvements including road building, utility installation, and slide mitigation shall be limited to use for a maximum period of 6 months in any one year (from April 15 to October 15).
- A majority of personnel will be shuttled to and from the construction site to reduce the traffic and parking activities which shall also assist in the reduction of site noise.

EXHIBIT E

MEMORANDUM

DATE: September 24, 2009

TO: Scott Hochstrasser, International Planning Associates, Inc.

FROM: Roger D. Harris, Certified Wildlife Biologist
LSA Associates, Inc., 157 Park Place, Point Richmond, CA 94925

SUBJECT: Comments on the Biological Resources Section, Draft Environmental Impact Report
"Alta Robles Residential Development," August 2009
State Clearinghouse No. 2007072104

LSA Associates, Inc. (LSA) has been retained to assist the Alta Robles client with the following review and comment on the DEIR.

General Comment

28

The Biological Resources section of the Alta Robles DEIR documents the valuable biological resources on the site, correctly focusing on the serpentine grasslands and the associated special-status plants growing there. The prescribed mitigation measures provide the tools for crafting an environmentally superior alternative. Some lot lines will need to be revised from the proposed project in the DEIR and alternative methods will need to be made to landslide remediation to craft an environmentally superior alternative.

Specific Comments

29

Exhibit 5.5-4 Special-Status Animals Considered to Potentially Occur in Site Vicinity. Page 248
The status of the following species listed in the table has changed and should be updated to the correct current statuses as follows:

- California red-legged frog is now a California candidate threatened species.
- Cooper's hawk, sharp-shinned hawk, ferruginous hawk, California horned lark, merlin, and prairie falcon are no longer California Species of Special Concern (CSC) with publication of a revised list February 4, 2008. These species should be removed from the table and should no longer be referenced in the text as special-status species.
- Peregrine falcon has been de-listed on the federal level.
- Golden eagle, which appears twice on the table, is no longer a CSC species.

30

Impact 5.5-1, Special-Status Species. Marin Western Flax. Page 253ff

Hesperolinon congestum goes by the English names of both Marin western flax and Marin dwarf flax. *Marin Flora* (Howell et al. 2007) and *The Jepson Manuel Higher Plants of California* (Hickman 1993) both adopt the latter usage as the one with priority, because it is an older name. I suggest that the usage of Marin dwarf flax be adopted.

31

The proponent's approach in response to the DEIR will be to avoid direct impacts to Marin dwarf flax to the extent feasible as impact avoidance is the environmentally superior to other mitigations.

32

Mitigation Measure 5.5-1(b), first bullet. Page 258. A landslide retaining wall would be installed along the boundary of the residential use are on Lot 13 and the open space. This would protect the house on Lot 13 and would obviate the need to make repairs on Landslide N, which could potentially impact Marin dwarf flax. With installation of the retaining wall, the 100-foot setback would not be necessary. Regarding future conflicts between preservation of the Marin dwarf flax and possible landslide remediation, alternatives to landslide repairs would be employed to achieve the least damaging way to minimize biological impacts and any losses would be mitigated.

33

Impact 5.5-3, Wetlands and Drainages, first paragraph. Page 264. However, an estimated total of approximately 0.3 acre of jurisdictional waters would be disturbed or eliminated based on the assumed limits of grading associated with the proposed project. A small portion of the impacts would be the direct result of the development with the larger remaining portion of the impacts associated with landslide stabilization. These impacts would consist of approximately 0.24 acre of freshwater marsh, seeps, sedge meadow, and other seasonal wetlands, and approximately 0.06 acre of other waters associated with ephemeral drainages.

Please substitute the above language with the revised wetland impact amounts for the following sentences in the DEIR:

However, an estimated total of approximately 0.07 acre of jurisdictional waters would be disturbed or eliminated based on the assumed limits of grading associated with development and landslide stabilization. According to the *Mitigation Recommendations* by the applicant's consultant, these consist of an estimated 0.05 acre of freshwater marsh, seeps, and sedge meadow, less than 0.01 acre (ten square feet) of seasonal wetlands, and less than 0.01 acre of unvegetated other waters associated with ephemeral drainages.

The revised wetland impact estimate is based on a more conservative evaluation of the effects of implementing the Town's landslide remediation policy, which could not only directly impact wetlands and other waters but could also indirectly dewater portions of these jurisdictional features.

The estimated 0.3 acre of impacts would still be within the 0.5-acre limit to qualify under a Nationwide Permit 29, Section 404, Clean Water Act. A 0.3-acre impact to jurisdictional wetlands and other waters would still be an insignificant impact, because it would be fully mitigated according to the conditions of the DEIR. In addition, the three resource agencies that would permit the proposed action – the U.S. Army Corps of Engineers, the Regional Water Quality Control Board, and the California Department of Fish and Game – would have the opportunity to impose additional mitigations to ensure that the policy of no net loss of functions and values will be achieved in order to qualify for their respective permits.

EXHIBIT F

File: 1343-01DEIRmemo.doc

To: Scott L. Hochstrasser, President
IPA, Inc. (International Planning Associates)
42 Glen Drive, Suite B
Fairfax, California 94930

From: Scott A. Stephens, Geotechnical Engineer No. 2398
Miller Pacific Engineering Group
504 Redwood Blvd., Suite 220
Novato, California 94947

Date: September 23, 2009

Re: Section 5.6 Geology and Soils Comments
Draft Environmental Impact Report (DEIR)
Alta Robles Residential Development, August 2009

Miller Pacific Engineering Group has been retained to review, comment and provided geotechnical consultation regarding the Geology and Soil Section on the DEIR. Based on our review we have the following comments.

34

- Within the fourth paragraph of the **Site-Specific Landslide** Section on page 279, text states that according to the Town's Landslide Mitigation Policy ...Risk Level B landslides that are required to be *repaired* or avoided...

Risk Level B landslides need to be improved or avoided. Repair implies a higher level of stabilization. The word "repaired" should be replaced with "improved".

35

- First paragraph of **Impact 5.6-2 Seismic Related Ground Failure** on page 286 states that Risk Level A landslides ... that are repaired shall have a calculated factor of safety greater than 1.0 for pseudo-static (seismic) conditions.

The current language would infer the entire landslide need to have a seismic factory of safety greater than 1.0 which would required stabilization measure in areas we are trying to avoid to protect the biological resources. Recommend adding "for the repaired portion" to the end of the sentence.

36

- Last sentence of first paragraph **Mitigation Measure 5.6-2 Seismic Related Ground Failure** on page 287 states ...Risk Level A landslides to have a calculated factor of safety greater than 1.0 for pseudo-static (seismic) conditions.

Same comment as above.

37

- First paragraph of **Impact 5.6-3 Landsliding** on page 287 states "In order to conform to the Town's Landslide Mitigation Policy....."

International Planning Associates

September 23, 2009

Page 2 of 2

Comment No. 37 continued from previous page

37 The planned Alternative 3 landslide remediation is intended to meet the goal of the landslide policy, but does require variation from the strict interpretation in order to balance landslide stabilization with saving biologic resources. Recommend modifying the sentence to "In order to conform to *the goal of Town's Landslide Mitigation Policy.*"

38 • Third bullet point of Mitigation Measure 5.6-3 Landsliding on page 289 states "...in accordance with the Town's Landslide Mitigation Policy....."

Same comment as above, insert the goal of before Town's Landslide Mitigation Policy.

39 • **Mitigation Measure 5.6-6** on page 295. In order to comply with the Town's Landslide Mitigation Policy, landslide and slope stabilization would result in secondary impacts; however, implementation of Mitigation Measures discussed in Section 5.5 Biological Resources would reduce secondary impacts of grading and subsurface drainage control on affected biotic resources to a less-than-significant level.

This would be a good spot to add some language regarding balancing slope stabilization with saving biologic resources. For example, slope stabilization shall be performed at the project site to meet the goal of the Town's Landslide Mitigation Policy. Alternative slope stabilization measures should be considered that would reduce the secondary impacts on the biologic resources. The alternative landslide stabilization plans shall be submitted to the Town of Tiburon and/or the Town's Geotechnical Consultant for review and conformation the plans are in accordance with the landslide policy goal.

Please call if there are any questions or if you need additional information.

EXHIBIT G

TO: IPA, Inc.
FROM: Harry Benke, Visual Impact Analysis LLC
DATE: September 28, 2009
RE: Section 5.8. Visual Quality - Draft Environmental Impact Report
Alta Robles Residential Development, August 2009

Visual Impact Analysis LLC (VIA) has been retained to assist the Alta Robles client with the review and preparation of comments associated with the potential visual and aesthetic effects of the proposed residential development. Impacts and mitigation measures were evaluated in the Visual Quality section (pages 319-345) of the "Alta Robles Residential Development Draft Environmental Impact Report" (DEIR).

Summary of Visual Resources Review

Based upon a review of the project DEIR, information gathered from a recent site reconnaissance and its extensive visual resources evaluation experience, VIA concurs with the conclusion from the DEIR Visual Quality section that impacts 5.8-2 and 5.8-3 (visual effects from viewpoint number 2 and 3) are less than significant based upon the significance criteria. **However, VIA does not concur with the significant and unavoidable impact determination for 5.8-1 (effects from Viewpoint Number 1).**

40

A brief summary of the DEIR visual quality analysis is provided below, followed by results of the review of the DEIR documentation and recent field reconnaissance of the site.

DEIR Visual Quality Section

The visual quality analysis of the DEIR has been based upon a field reconnaissance of the project site and surrounding area by the EIR consultants. From the survey, the Town of Tiburon and the EIR consultants selected three viewpoints for the preparation of photosimulations. Viewpoint Number 1 is located at the Middle Ridge open space, Viewpoint Number 2 is from Paradise Drive, and Viewpoint Number 3 is from Acacia Drive.

To evaluate the potential impacts upon the visual environment, significance criteria (i.e., substantially affects a scenic vista; damage to scenic resources within a State Scenic Highway, degrades the existing visual character or quality of the site or its surroundings; substantial light and glare affecting views) were used from the CEQA Guidelines (DEIR, page 327). In addition, two further elements-- "sensitivity" and "visual dominance"--

(DEIR, pages 320-323) were considered by the EIR consultants. According to the DEIR, "...sensitivity describes the nature of the landscape cover; prominence of the view; and plans and policies governing the use of the land that provide an expectation of development and encourage or discourage certain types of development."

Dominance "...is a measure of how the form, line, color, and texture of structures added to a view interact with those elements of the natural surroundings of the project site." A hierarchy (DEIR, Exhibit 5.8.2, pages 322-323) with four levels of sensitivity (Low; Moderate; High; Maximum) and visual dominance (Dominant; Co-Dominant; Subordinate; Maximum) was applied to the project.

The visual analysis of the three viewpoints resulted in the following impacts:

Impact 5.8-1 View Looking North from Middle Ridge Open Space (Viewpoint No. 1). Project implementation would lead to a significant unavoidable visual impact (High sensitivity; Co-Dominant) even with recommended mitigation measures (limit building height; limit floor space; plant vegetative screening; use low-reflectance glass) identified in the DEIR (DEIR, pages 328-330).

Impact 5.8-2 View Looking West from Paradise Drive (Viewpoint No. 2). A less-than-significant impact (Moderate sensitivity; Co-Dominant) would occur and no mitigation measures would be required (DEIR, pages 334-335).

Impact 5.8-3 View Looking East from Acacia Drive (Viewpoint No. 3). A less-than-significant impact (Moderate sensitivity; Co-Dominant) would occur and no mitigation measures would be required (DEIR, pages 339-340).

VIA Review of DEIR Visual Quality Section

VIA reviewed the details of the project description and the DEIR Visual Quality section and applicable planning and land use policies. In addition, a comprehensive site reconnaissance of viewpoint number 1 and the surrounding area was conducted on September 23, 2009 to evaluate the results of the EIR consultants.

Viewpoint Numbers 2 and 3

For views from viewpoint numbers 2 and 3, VIA concurs that the implementation of the proposed project would have a less-than-significant impact upon the existing visual environment. The development of the 52.21-acre site for residential development would be consistent with its designation in the Tiburon General Plan and already existing uses within the area.

41

Viewpoint Number 1

Based upon the review and site reconnaissance of Viewpoint Number 1, VIA does not concur with the DEIR conclusion that the implementation of the project will have a

42

significant and unavoidable effect upon the existing visual environment. Furthermore, the preparation of the photosimulation and the application of the sensitivity and dominance elements are misapplied for Viewpoint Number 1.

Following are the specific comments:

Sensitivity and Dominance of the View. The EIR states that the view of the project location has “high” sensitivity and that the project would be a “co-dominant” feature of the visual environment at Viewpoint Number 1. According to the “Sensitivity Level and Appropriate Visual Dominance” hierarchy (DEIR, page 322), a “co-dominant” feature in which “...Project elements are moderate in that they are prominent within the setting and attract attention equally with other landscape features. Project generally must borrow from naturally established form, line, color, and texture so that visual characteristics are compatible with their surroundings.”

During the field reconnaissance of September 23, it was abundantly clear that the project site, whether with its present features or with the implementation of the proposed project, would not be “prominent within the setting” nor would it “attract attention equally with other landscape features.” For the following reasons:

42

1. Within the much larger context of the views and panoramas available from Viewpoint Number 1, there are many other landscape features, both natural and man-made, that would far more dominate the visual environment (figures 1.1 through 1.5), draw more attention to the eye of users (e.g., hikers, dog-walkers, photographers), and subordinate the visual importance of the project site. These more dominant features are not adequately represented by the photosimulation nor have they been described in the text of the DEIR.

2. Prominent natural features would include, but not be limited to, the openness of the sky (and billowing clouds, particularly during late winter/spring) above, the expanse of San Pablo Bay to the north, San Francisco Bay and Richardson Bay to the south, the eastern slopes of Mount Tamalpais to the west, and the distant ridges and mountains to the north. Fog overtopping ridges would be another significant visual resource. During springtime, surrounding hills would be covered with green grasses.

3. Prominent and generally well-known man-made features would consist of, but not be limited to, the Golden Gate Bridge and the City of San Francisco to the south, the Richmond-San Rafael Bridge to the north and the Bay Bridge to the south, San Quentin State Prison to the north, and the general pattern of urbanization along shorelines and slopes.

The development of the proposed residential project could be viewed as an expected use of the site and generally consistent with residential development within the general area consistent with the General Plan land use designation which provides for up to 20 (twenty) units of housing. Moreover, the proposed development is planned to be less

visible compared to existing surrounding single-family residential development along Gilmartin Drive and existing residences already in proximity to the western portion of project site (which are not shown in the photosimulation) (Figure 1.6). Man-made features (e.g., paved roads, buildings, structures, telephone/electrical poles) are currently visible within the 52.21-acre property.

Duration and Availability of the View. From the September 23 site reconnaissance, it appears that Viewpoint Number 1 represents the highest point within this portion of the Middle Ridge open space and the Tiburon Ridge Trail in which there is a relatively unhindered view of the project site features. As the trail continues west, the elevation quickly decreases so that the rising right shoulder of the trail and existing trees limit the visual accessibility and duration of the panoramas and views of the project site. More importantly the Tiburon General Plan and implementing Tiburon Design Guidelines establish the threshold criteria for evaluation and hierarchy of sensitive views as follows.

Tiburon Design Guidelines: Sensitive Parts of the View. The “Tiburon Design Guidelines,” (page 34) “...the horizon line is [the] most sensitive part of [the] view, then foreground, then middleground. If possible, avoid cutting horizon line of a neighbor’s view.” From the publicly accessible Middle Ridge open space and the Tiburon Ridge Trail, the proposed project location is generally considered a middleground feature, which according to the Tiburon Design Guidelines, is the least sensitive view. Implementation of the project does not intrude upon any horizon lines and any impact, if one exists, would be “less than significant” simply by the fact that the Town’s own criteria finds the middleground feature of views to be least sensitive.

Mitigation Measure 5.8-1. Mitigation 5.8-1 (DEIR, pages 329) recommends measures to reduce the visual impact of 5.8-1, including the revision of the Preliminary Planting Plan to plant native trees where they would screen the buildings so as to limit the exposure of the structural facades to no more than a total of 30 percent that would be seen from Viewpoint Number 1. It further concludes that the plantings, along with other mitigation, would not result in reducing the impact to a less than significant level. Given that the significance determination of impact 5.8-1 should be revised, the mitigation measures may need to be modified. Furthermore, with mitigation measure modifications and the fact that the view is the “least sensitive” and does not intrude upon the horizon line, a feasible mitigation to reduce impacts to “less than significant” could be achieved.

Visual Impacts and Consistency with the General Plan. For Goal OSC-B (DEIR, page 85), the text of the “Consistency with Mitigation” should be revised to indicate that there will not be a significant visual impact from Viewpoint Number 1. Notwithstanding that the proposed project is inconsistent with Policy OSC-11 that requires development to occur 50 feet or more of the nearest peak elevation of the Tiburon Ridge; the proposed project would not have a physical effect upon the visual landscape.

Figure 1.1 Bay views and dominant features to the right of Viewpoint #1

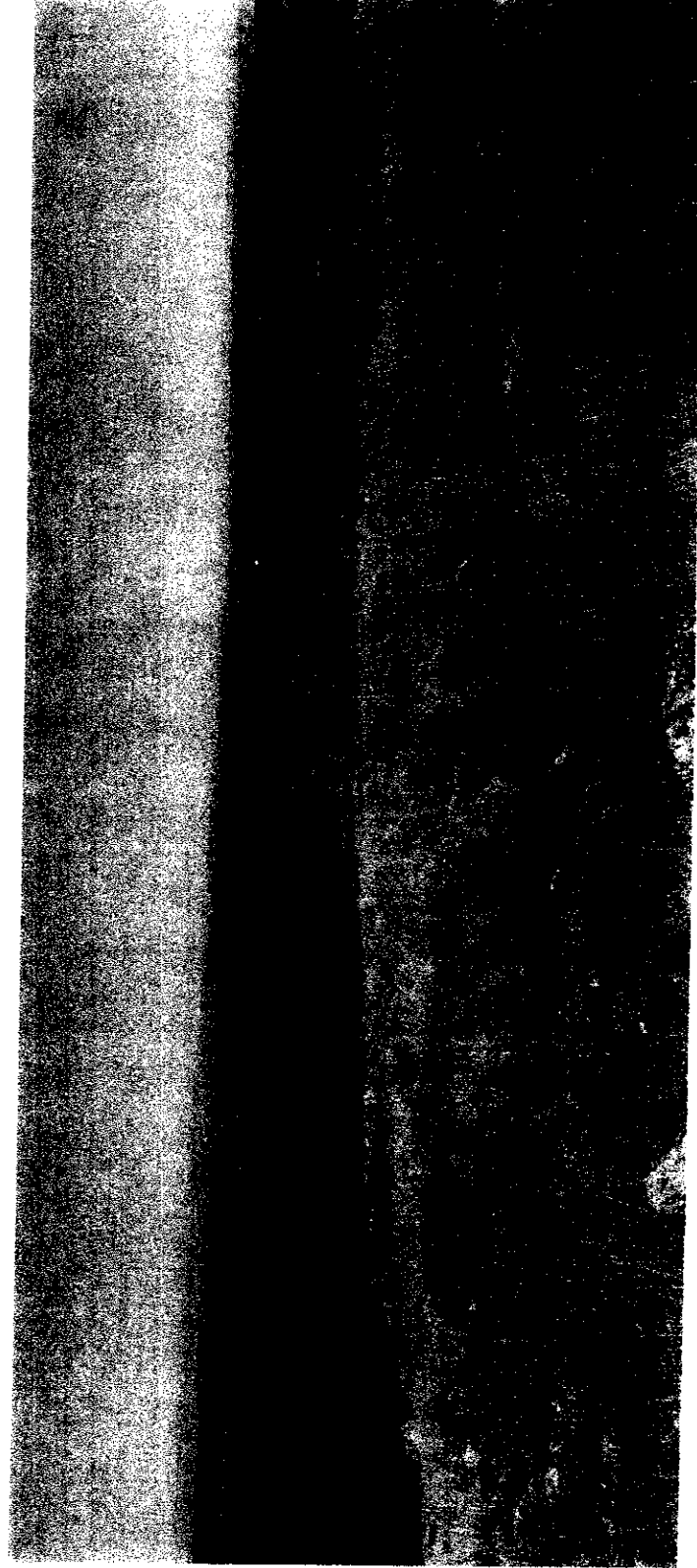


Figure 1.2 Mt. Tamalpais and other dominant features to the left of Viewpoint #1



Figure 1.3 Fog and other dominant features to the left of Viewpoint #1



Figure 1.4 Panorama centered around Viewpoint #1 with no project



Figure 1.5 Panorama with Viewpoint #1 delineated and overlaid with the proposed project simulation correctly scaled from the DEIR which shows the proposed project is subordinate and located in the less sensitive middleground.

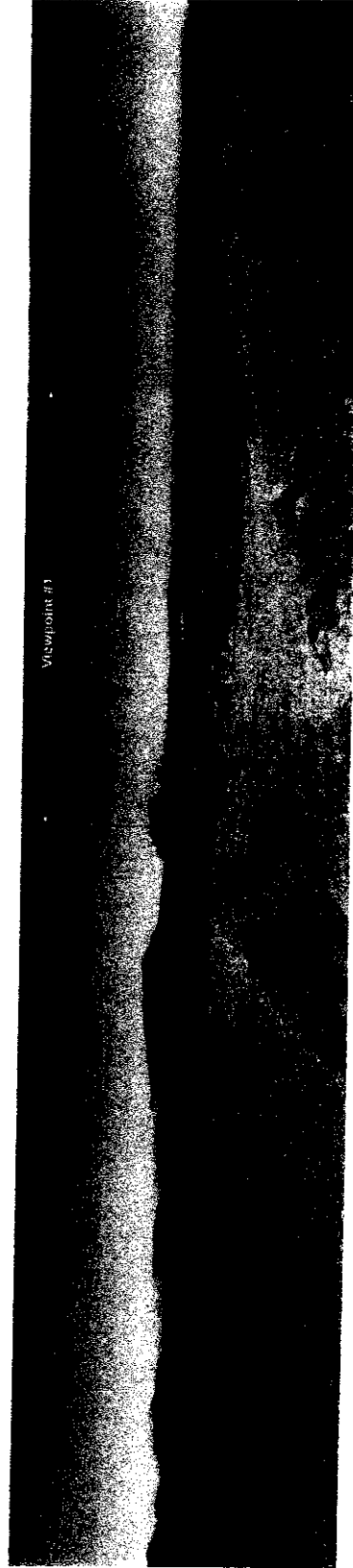


Figure 1.6 Existing residences already in proximity to the western portion of project site



EXHIBIT H

MEMORANDUM

To: Scott Hochstrasser, International Planning Associates, Inc.

From: Kenneth Martin Kao, Kao Design Group Inc.

Date: 1 October, 2009

Re: Comments on Draft Environmental Impact Report,

Alta Robles Residential Development August 2009, State Clearinghouse No. 2007072104

Kao Design Group, Inc. has been retained to assist the Alta Robles client with the following review and comment on the August 2009 Draft Environment Impact Report (DEIR).

General Comment

The Alta Robles DEIR comments have identified select significant impacts that may be mitigated to result in Less Than Significant Impact, and some it assessed as Significant Unavoidable impacts. The comments below are being forwarded in an effort to amplify and clarify additional facts of the project design and provide ways the project impacts might be further minimized with additional feasible alternative mitigation.

We reference the graphic visualizations that have been rendered to clarify how the use and placement of site retaining walls fit into the hills and serve three fundamental functions in mitigating site related issues.

Geologic stabilization: The placement of retaining walls across the site support geologic stabilization and landslide conditions by reinforcing the land surfaces.

Balanced cut and fill: The site and building retaining walls allow for balance of site work construction cuts and fills, keeping soils on the site and reducing the need for import and/or export of excavated soils.

Visual impact: Retaining walls are used to reduce the visual impact of the house structures by reducing their overall apparent building mass and height by integrating the buildings into the landscape forms. The graphic visualizations illustrate how retaining walls are integrated into the house forms and thus allow reduced building scale and consequent visual impact rather than placement of buildings on top of the hillside.

Summary of Significant Unavoidable Impact Assessment:

5.3.1 Construction Noise– The following is an additional feasible mitigation that should be considered as feasible.

Propose increased use of off-site prefabricated components and assemblies shall reduce and minimize on-site construction activity and corresponding environmental impacts. This would reduce the amount of time needed for on-site construction impact. The proposed off-site prefabrication would reduce the corresponding noise, dust, and material handling and worker traffic to and from the site.

Visual Quality Section 5.8

- 5.8-1 View Looking North from Middle Ridge Open Space (Viewpoint No. 1)
 The Visual Consultant (Via) in their comments, offer a re-assessment of the DEIR to demonstrate that the design conforms to the criteria of "Subordinate Visual Dominance" from this view. The DEIR fails to fully disclose the project design mitigation which includes the use of the vegetated roof design element proposed for each of the 13 new homes. This vegetation element is designed to a specification and would be planted to complement existing tree color. Additionally, the materials and colors offered as design mitigation in the project architecture would require all new buildings include a flat stain on wood exterior. The EIR renderings and views do not include these project design mitigations and thereby assumes buildings much more visible than the proposed buildings with the design mitigation elements. The DEIR does not take into consideration the project design mitigation elements and without disclosure of these project design mitigations the visual impact analysis results show visual impacts that are mitigated by design and that are not intended.

Exhibit 3.0-12 Estimated Earthwork Summary

- 47 **Comment:** The DEIR inadequately describes and miss-informs the reader of the building design mitigation provided to avoid or lessen visual impacts. The volume of the earthwork proposed to set buildings into the hillside, consistent with the recommendation of the Town Hillside design guidelines, are provided in the project submittal to minimize the visual exposure of the buildings. Additionally, the building design with buried retaining walls at the uphill side of the homes, are added for the geologic stabilization and serve the landslide repair efforts. The proposed earthwork cut/fill scope proposed on-site is balanced and sequenced to eliminate additional earth work and truck traffic impacts on the adjacent roads. The building designs are proposed to balance grading on-site, secure geology and stabilize land, and reduce apparent bulk, mass and potential visual impacts. The project design approach provides a comprehensive, green and sustainable alternative that minimizes several potential environmental impacts.

Exhibit 3.0-13 Retaining Wall Summary

- 48 **Comment:** The retaining wall height and length summary table is misleading and incorrectly characterizes the proposed retaining walls that are to remain exposed to view, as compared to the retaining walls that are to be enclosed and integrated into the proposed residential structures, and concealed from view. The scope of the retaining wall height, area, should be more precisely described with additional documentation and references to design and engineering proposals.

The house development includes specific design to fit buildings into the hillside with retaining walls for site stabilization being used for rear or uphill walls for new homes. CSW will provide a revised table to more amplify and clarify how the building design impacts grading quantities fit within the overall grading scheme.

Retaining Walls – shown with proposed excavation, in a balanced cut/fill format.



Alta Robles - 3D digital model

Eastern Axon view with Excavated Land Mass – KDG 30 Sep 2009

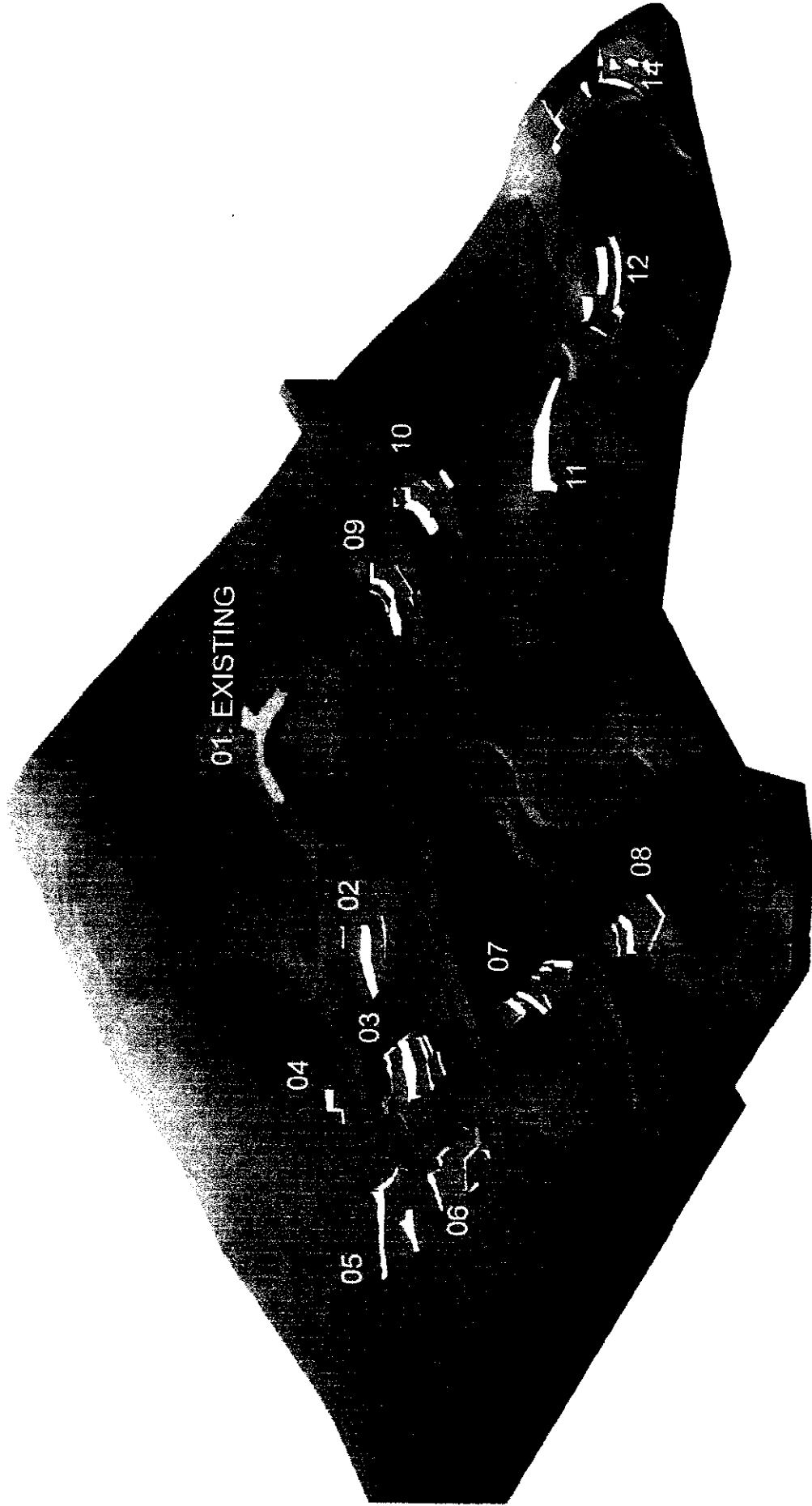
Retaining Walls – Concealed from view, within proposed houses from view.



Alta Robles - 3D digital model

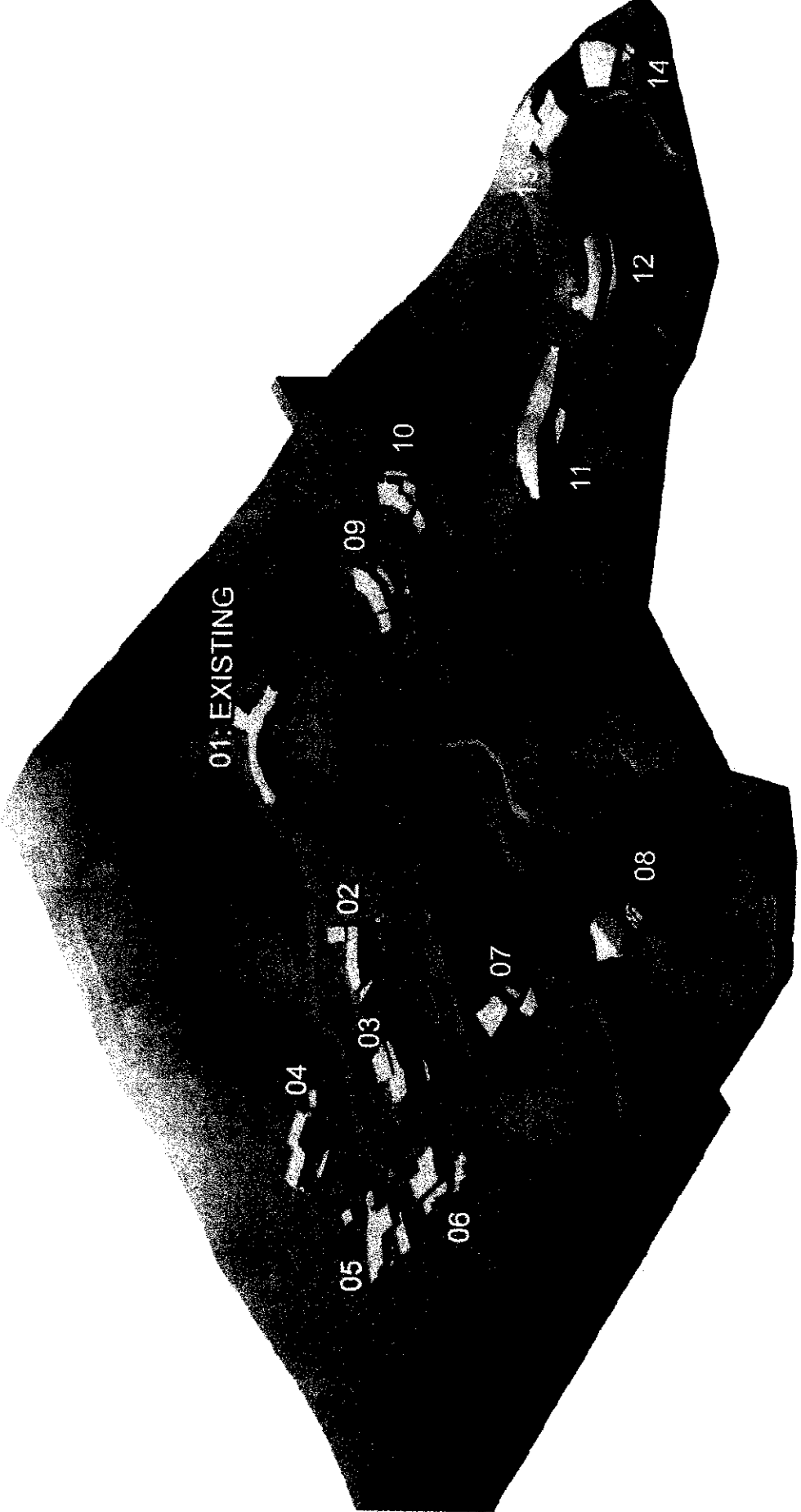
(Eastern Axon view with Excavated Land Mass Showing (white) Walls that are part of Houses KDG 30 Sep 2009 AV-2

Retaining Walls – Integrated with proposed houses and landscape.

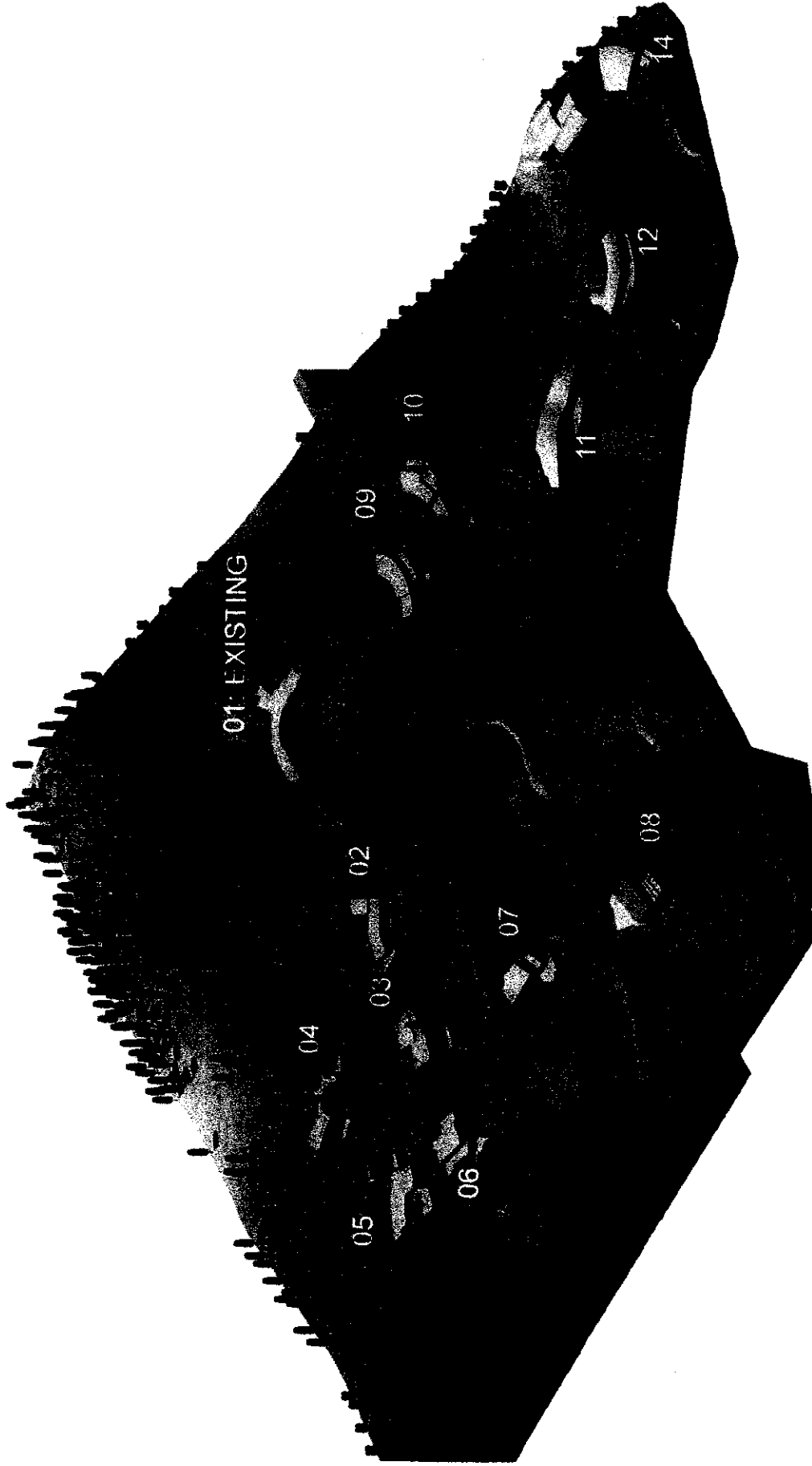


Alta Robles - 3D digital model
Showing (tan) Walls that are part of Houses, with Driveway walls, KDG 30 Sep 2009

Retaining Walls – Shown with proposed houses



Retaining Walls – Shown with proposed houses and trees



**RESPONSE TO LETTER D – SCOTT L. HOCHSTRASSER, IPA, INC. (OCTOBER 1, 2009)
(APPLICANT'S REPRESENTATIVE)**

Response to Comment D-1

Comment noted. Due to the closure of the Town offices on October 2, 2009 the comment period closed on October 5, 2009.

Response to Comment D-2

Based on this comment the sixth paragraph on page 50 of the Draft EIR is revised as follows:

No public vehicular access is proposed from Hacienda Drive. A utility access easement plus secondary (i.e. emergency only) access to the project site would be provided via a gated entrance on the Town's Middle Ridge Open Space located immediately east of 180 Hacienda Drive that would connect to an existing fire road located on the Town-owned Middle Ridge open space. Emergency vehicles such as fire and police would be allowed to utilize this access.

Response to Comment D-3

Comment noted. No additional response necessary.

Response to Comment D-4

Comment noted. **Exhibit 3.0-13** has been revised to incorporate the additional information provided by the applicant's representative. The wall numbers correspond to wall locations shown in **Exhibit 3.0-14**. As shown in **Exhibit 3.0-14** several of the walls would be structural walls incorporated into house design. In general, such walls would not be visible from the road or the surrounding area.

The revised **Exhibit 3.0-13** is provided on the following page.

Response to Comment D-5

Comment noted. Mitigation Measure 5.1-7 recommends that a consistent-width shoulder (four to six feet in width) be provided along the project frontage. This exceeds the recommended shoulder width for Class III facilities identified in the *Town of Tiburon Bicycle and Pedestrian Master Plan* and *Marin County Unincorporated Area Bicycle and Pedestrian Master Plan*. Based on this comment mitigation measure 5.1-7 on page 174 of the Draft EIR is revised as follows:

Mitigation Measure 5.1-7 Provide a consistent-width road section shoulder (four to six feet in width (11-foot travel lane, four-foot wide paved shoulder and two-foot wide dirt shoulder) on the project frontage along the south side of Paradise Drive (directly abutting the project site), beginning at least 200 feet west of the proposed project entrance road and extending east to the existing driveway that serves the Rabin property (a distance of approximately 1,700 feet, or one-third of a mile). Advisory signage shall be installed approximately 500 feet in advance of the proposed project driveway to alert motorists to potential cyclists around blind curves on Paradise Road.

Exhibit 3.0-13 (Revised)
Retaining Wall Summary

Lot Number	Wall Number	Height (in feet)	Length (in feet)	Purpose	Visibility
1	W1-A	3-5	333	Lot Development-road retaining wall	Visible
	W1-B	3-5	325	Lot Development-road retaining wall	Visible
	W1-C	2-6	31	Lot Development-road retaining wall	Visible
2	W2-A	4-5	111	Lot Development-road retaining wall	Visible
	W2-B	5	172	Lot Development-road retaining wall	Visible
	W2-C	4-6	109	Lot Development-road retaining wall	Visible
	W2-D	4-5	114	Lot Development-road retaining wall	Visible
	W2-E	2-6	54	Lot Development-road retaining wall	Visible
	W2-F	0-14	350	House Construction-structural wall	Non-visible
3	W3-A	2-4	163	Lot Development-road retaining wall	Visible
	W3-B	3-5	239	Lot Development-road retaining wall	Visible
	W3-C	0-11	564	House Construction-structural wall	Non-visible
4	W4-A	0-2	34	Lot Development-road retaining wall	Visible
	W4-B	0-15	253	Driveway & house construction-structural wall	Non-visible in house
	W4-C	0-4	114	House construction –pool wall	Visible
5	W5-A	0-9	39	Lot Development-driveway retaining wall	Visible
	W5-B	0-15	491	House Construction-structural wall	Non-visible
6	W6-A	0-9	196	House Construction-structural wall	Non-visible
	W6-B	0-10	247	House Const. & Lot Development –structure wall	Non-visible in house
7	W7-A	0-8	240	Lot Development-road retaining wall	Visible
	W7-B	0-10	557	House Construction- structural wall	Non-visible
8	W8-A	1-6	174	Lot Development-driveway wall	Visible
	W8-B	0-11	201	House Construction-structural wall	Non-visible
	W8-C	1-4	257	Lot Development-landscape stair wall	Visible
Near 7 9	Road 1	1-3	108	Lot Development-road retaining wall	Visible
	W9-A	3-4	72	Lot Development-driveway wall	Visible
	W9-B	4	80	Lot Development-driveway wall	Visible
	W9-C	1-16	382	House Development-structural wall	Non-visible
	W9-D	2-16	179	Lot Development-road retaining wall	Visible
10	W9-E	1-4	123	Lot Development-road retaining wall	Visible
	W10-A	7-21	108	Lot Development-structural wall	Non-visible
	W10-B	0-21	192	Lot Development-structural wall	Non-visible
	W10-C	0-18	144	House Construction-structural wall	Non-visible
	W10-D	1-6	127	Lot Development-road retaining wall	Visible
	W10-E	6	139	Lot Development-driveway wall	Visible
11	W10-F	2-6	125	Lot Development-driveway wall	Visible
	W11-A	0-5	200	House construction-pool and terrace wall	Visible
	W11-B	2-13	102	House const. & Lot Development-structural wall	Non-visible in house
12	W11-C	13-28	267	House Construction-structural wall	Non-visible
	W12-A	2-4	298	Lot Development-road retaining wall	Visible
	W12-B	1-2	98	Lot Development-road retaining wall	Visible
	W12-C	0-7	112	Lot Development-driveway wall	Visible
	W12-D	1-11	90	House construction & lot development	Non-visible in house
13	W12-E	0-16	496	House Construction-structural wall	Non-visible
	W13-A	1-20	533	House Construction-structural wall	Non-visible
14	W14-A	0-10	356	House Construction-structural wall	Non-visible
	W14 B	4-7	257	Lot Development-road retaining wall	Visible
	W14-C	3-6	203	Lot Development-road retaining wall	Visible
Lot A	WLA-A	0-4	52	Lot Development-road retaining wall	Visible
Lot B	Road 3	0-4	98	Road development	Visible
Near 14	Road 2	4	37	Road development	Visible

Source: CSW/ST2

~~Along most of the project frontage this mitigation can be implemented by installing a drainage pipe in place of the existing drainage ditch and widening the roadway shoulder to cover the new drainage pipe. Alternatively, for the roadway segment immediately east of the project entrance, implementation of Mitigation Measure 5.1-4 would provide space for widening the shoulder for a 220-foot segment of Paradise Drive. Since the property frontage already contains adequate space to accommodate the wider shoulder in most locations secondary impacts resulting from this mitigation would be less than significant.~~

~~This mitigation is consistent with the conditions of approval imposed by Marin County for development of the Sorroko property, which require that the Sorroko project applicant improve Paradise Drive along the frontage of the property to provide a minimum of four feet of paving between the “fogline” (the white line separating the travel lane from the shoulder) and edge of the road.~~

The provision of an 11-foot travel lane, four-foot wide paved shoulder, and two-foot wide dirt shoulder may require grading into the hillside along a majority of Paradise Drive, the construction of retaining walls up to seven feet height, and the installation of additional storm drain pipe. Minor deviations from this road section may be permitted in the discretion of the Town Engineer in order to reduce the amount of hillside grading, to preserve existing trees, and to avoid the construction of retaining walls, the need for addition storm drain pipe plus the necessity of relocating utility poles.

Response to Comment D-6

Comment noted. The Draft EIR acknowledges that the cisterns would have an impact on mitigating project-related increases in peak flow rates. It is understood that dissipater lengths would be tailored to the delivered flow rates for the particular contributing area. Also, see Response to Comment B-17 regarding cistern design and performance.

Response to Comment D-7

Comment noted. Where the subdrains are installed for landslide remediation, the result would be premature conversion of shallow groundwater flow to surface water flow. Adjustment of outlet placement locations would not remedy this impact, although it could prevent direct physical disruption of a particular sensitive habitat.

Response to Comment D-8

Mitigation Measure 5.5-2 on pages 262 and 263 of the Draft EIR was recommended to address the adverse affects that invasive non-native trees and shrubs have on the native grasslands that remain on the site. These native grasslands represent a significant biological resource. This proposed mitigation is one of the most effective ways of protecting the remaining native grasslands on the site, in addition to adjusting the limits of proposed grading to avoid the most sensitive of the remaining stands associated with the serpentine formations on the site. Removal of non-native species from native grassland is a common practice in the science of habitat restoration, and has been recommended by the applicant’s biologists as well. Care must be exercised in the process of non-native vegetation removal to minimize disturbance to the remaining surrounding grasslands. Contrary to the assertion by the commentor, the dense thickets of non-native shrubs and flammable properties of many of the non-native trees actually contribute to fuel loads and the fire risks of the site, and they reduce the existing habitat values of the site to native wildlife species.

Response to Comment D-9

Based on this comment the second sentence of the second paragraph under Impact 5.7-1 on page 301 of the Draft EIR is revised as follows:

The project proposes the use of “green roofs” on ~~some of the~~ portions of all the proposed houses.

Response to Comment D-10

The commentor is correct in his statement that the analysis of the project’s consistency with the Town’s adopted public plans and zoning in regard to consistency with the surrounding neighborhood uses the existing homes as a baseline. Based on the goals and policies of the *Tiburon General Plan* the past practice has been to ensure that new construction is compatible with existing development in the surrounding neighborhood. For example, policy LU-15 states that remodels, tear-downs / rebuilds, and new construction shall be compatible with the design, size, and scale of *existing* (emphasis added) dwellings in the surrounding neighborhood. Furthermore, section 16-52.020 of the zoning ordinance in regard to neighborhood character states in part that the height, size, and /or bulk of the proposed project bears reasonable relationship to the character of *existing* (emphasis added) buildings in the vicinity.

As the commentor notes, and the EIR acknowledges, the conditions of approval by Marin County for the Sorokko property permit development on each lot up to a maximum floor area of 8,000 square feet. It also should be noted that the County’s conditions of approval state that this is considered a maximum floor area and is not guaranteed. So, the individual homes constructed on the Sorokko property may be less than the maximum 8,000 square feet.

Response to Comment D-11

Comment noted. As discussed in Response to Comment D-10, policy LU-15 states that new construction shall be compatible with the design, size, and scale of *existing* (emphasis added) dwellings in the surrounding neighborhood. As noted in the EIR, although the number of stories and building heights would be similar to other houses in the area, in regard to size, the proposed houses would be somewhat larger in terms of square feet than the existing homes in the vicinity.

Response to Comment D-12

The commentor questions the EIR’s determination that the proposed project would be inconsistent with Policy OSC-9 and questions whether the on-site ridgelines are “predominantly undeveloped”. **Exhibit 4.0-2** shows the location of the Tiburon Ridge and the two significant ridgelines on the project site. **Exhibit 4.0-2** also shows both the 150 horizontal feet setback and the 50 vertical feet setback for Tiburon Ridge on the project site. As shown on **Exhibit 4.0-2**, with the proposed project approximately one-third of the area of Lot 5 would be within the 50 vertical feet setback of the Tiburon Ridge. The proposed attached garage on Lot 5 would occur within this area. Also with the proposed project Lot 4 would be located within both the horizontal and vertical setbacks from Tiburon Ridge. Despite the existing storage structure and the presence of unpaved utility roads, these ridgeline areas are predominantly undeveloped when compared to the scope of development proposed with the project. General Plan policies prohibit the development and construction of buildings and yard improvements associated with development, including landscaping and trees, within the 50 feet vertical setback (see Policy OSC-11).

Some of the proposed revisions included with *Alternative 4* address the project's inconsistency with these policies that are intended to prevent development from impeding ridgelines areas. These revisions include (L) the boundary line of Lot 4 is adjusted north outside of the 150 feet horizontal offset from the Tiburon Ridge, (L) the proposed roofline of Lot 4 has been lowered 17 feet, also (L) the lot line for Lot 5 adjusted outside the 50 feet vertical setback from Tiburon Ridge, and (M) the footprint of the proposed residence on Lot 5 moved northward two feet.

Response to Comment D-13

The commentor questions the EIR's determination that proposed Lot 4 would be inconsistent with Policy OSC-9. The house proposed on Lot 4 would encroach into the 50-foot vertical offset of Tiburon Ridge, notwithstanding the design measures proposed by the applicant to address visual exposure of the building. Encroachment into the required offset would be inconsistent with the Town's policy.

Response to Comment D-14

No response required, see Response to Comments D-12 and D-13.

Response to Comment D-15

Comments regarding *Tiburon General Plan* Policy OSC-12 are noted. The *Tiburon General Plan* does distinguish Significant Ridgelines apart from the more prominent Tiburon Ridge. Therefore the commentor is correct in that the 50 vertical feet setback standard is not the correct standard to use for evaluating the project's consistency with Policy OSC-12. To correct this the discussion of consistency issues for Policy OSC-12 is revised as follows:

Inconsistent – **Exhibit 4.0-2** shows the location of the Tiburon Ridge and Significant Ridgelines (5 and 6) on the project site. ~~As discussed above for Policy OSC-11 the project would include development within 50 vertical feet of the nearest peak elevation of the Tiburon Ridge.~~ As proposed, portions or all of the proposed houses on Lots 3, 4, 7-12, and 14 would approach the crests of Ridgelines 5 and 6. Furthermore, other lots may develop landscaping, fences, walls, and paved driveways that encroach into ridgeline areas. However, specific setbacks for Ridgelines 5 and 6 would be evaluated during the development review process.

Policy OSC-12 states that development shall be set back from Significant Ridgelines and that setbacks shall be based on an evaluation of the physical characteristics of the ridgelines. Setbacks would likely be established during the development review process.

Exhibit 4.0-2 indicates the proposed project would place development within the approximate location of both Significant Ridgelines that are located on site. "Development" includes the residential structures, roadway and infrastructure improvements, driveways, and yard improvements. Furthermore grading to accommodate development would alter the physical characteristics of these significant ridgelines. The following lists specific examples:

- Significant Ridgeline No. 5 (northern) intersects the eastern areas of Lots 9 and 10, where the proposed site plan (**Exhibit 3.0-7**) shows the location of residences on these lots.
- Significant Ridgeline No. 5 intersects roadway improvements and the driveway for Lot 11.

- Significant Ridgeline No. 5 intersects a significant portion of the western side of Lot 12, where front yard development would most likely result in driveway and landscaping.
- Significant Ridgeline No. 5 intersects Lot 14 in an area where portions of the residence would be located.
- Significant Ridgeline No. 6 intersects Lot 3 and Lot 8, where the proposed site plan shows residences would be located.

Response to Comment D-16

Existing roads and utilities located on the project site are identified in *Section 3.1 Site Location and Land Uses*. The proposed project would construct a 24-foot wide paved road with two feet wide shoulders as the primary access road along the alignment of the existing 12-foot wide unpaved fire road, and also construct a 24-foot wide paved road along the alignment of the existing access road for the Rabin property. These improvements would substantially change baseline conditions and must be evaluated for their impacts on the environment. These improvements would increase the visibility of roadways along significant ridgelines and exacerbate existing conditions that are not consistent with *Tiburon General Plan Policy OSC-13*.

Response to Comment D-17

The EIR preparers acknowledge the proposed project would preserve open space on the project site, and develop new trails to provide access to the project site that currently does not exist. However, using existing conditions as a baseline the proposed project would cause a significant change in the visual quality of views from Middle Ridge Open Space. Although the proposed project does include design elements to reduce the visual prominence of proposed residences, and mitigation measures would further reduce the visual presence of the proposed development, it would still result in a significant change to existing views of a popular open space area. It is the EIR preparers judgment that the proposed project is inconsistent with Policy OSC-30.

Response to Comment D-18

Chapter 4.0 Land Use and Planning presents an analysis of the proposed project's consistency with relevant public plans and policies. The analysis included in this chapter is the EIR preparers' best judgment (in consultation with Town staff) of policy consistency. The EIR, however, does not determine policy consistency. The formal policy consistency must be made by Town (Planning Commission and Town Council) decision-makers.

As implied in this comment, it is not within the purview of the Draft EIR to make final determinations of General Plan consistency. It will be the responsibility of the Town of Tiburon Planning Commission and Town Council to make the definitive decisions about policy consistency when the merits of the project considered. The decision-makers have the sole authority to determine whether and how relevant policies apply to a specific project.

Response to Comment D-19

Comment noted. No additional response is necessary.

Response to Comment D- 20

Comment noted. No additional response necessary.

Response to Comment D-21

The commentator notes that the Draft EIR incorrectly identifies a safety impact due to inadequate sight distance. To support this claim, the commentator, who also is a transportation planner, conducted speed surveys on Paradise Drive at the proposed project entrance road.

The sight distance calculations and requirements included in the Draft EIR were based on speed surveys conducted in 2007 for the *Sorokko Property Final EIR*. Fehr & Peers (the EIR traffic analysts) concur that more recent speed surveys conducted in 2009 by Robert L. Harrison reflect current roadway conditions and would be adequate to use to determine the appropriate sight distance requirements for the proposed access road. As indicated by the commentator, the proposed access road would have sufficient sight distance, based on more recent field measurements.

It should be noted that roadway speeds can vary by time of year, as well as other factors such as roadway conditions and weather. The 2009 speed surveys recorded speeds were three to seven percent lower than what was recorded in the *Sorokko Property Final EIR*.

Based on the updated information, Impact 5.1-4 is revised as follows:

Impact 5.1-4 ~~**Safety Impact Due to Inadequate Sight Distance Approaching the Unsignalized Intersection of Paradise Drive with the Project Entrance**~~
~~*Visibility for drivers approaching the intersection of Paradise Drive with the project entrance road would not meet the AASHTO standard for stopping sight distance and would, in the opinion of the EIR traffic analyst, result in a potentially unsafe condition. Based on the vehicle speeds measured in September 2009 and the existing sight distance, the sight distance at the intersection of Paradise Drive and the entrance road would meet the AASHTO standard for stopping sight distance. This would be a less-than-significant impact.*~~

Field observations conducted by Fehr & Peers show that the proposed entrance road (the Main Road) would be visible ~~for less than 220 feet~~ at 190 feet when approaching from the east on Paradise Drive. Based on the prevailing speed of vehicles traveling on Paradise Drive, the entrance road would be placed at a location that would ~~not~~ provide adequate stopping sight distance for westbound motorists. Approaching from the west, the entrance road would be visible for approximately ~~220~~ 210 feet, thus providing adequate sight distance for eastbound motorists.

“Sight distance” refers to the minimum distance that a driver traveling at “critical speeds” (the speed below which 85 percent of the vehicles are traveling) must have to see a vehicle entering the road from a side street or driveway and to be able to stop without colliding with the vehicle. **Exhibit 5.1-21** shows the minimum sight distance requirements according to vehicle speed and roadway grade, based on American Association of State Highway and Transportation Officials (AASHTO) design standards.⁶⁰

(Exhibit 5.1-21 omitted)

⁶⁰ A Policy on Geometric Design of Highways and Streets, Chapter III, Stopping Sight Distance, American Association of State Highway and Transportation Officials, 2004.

The measured critical speed for this section of Paradise Drive is ~~31 to 32 mph~~ 29 mph (westbound traffic) and 31 mph (eastbound traffic).⁶¹ Based on AASHTO standards, these vehicle speeds require a minimum stopping distance of approximately ~~220 feet~~ 190 feet and 210 feet, respectively.

Access to the project site would be provided by improving the existing fire access road that intersects Paradise Drive between Seafirth Road and Paradise Cove.⁶² The entrance road would intersect Paradise Drive at an approximate 90-degree angle. ~~Approaching the road from the west~~ The road would be visible from a distance of approximately 220 feet 190 feet from the east and 210 feet from the west, consistent with the ASHTO standard. ~~However, when approaching from the east due to the curvature of Paradise Drive, the road would not be visible until drivers would be within approximately 110 feet. Exhibit 5.1-22 shows the current extent of the sight distance approaching the entrance road in both directions.~~

~~Therefore, sight lines for drivers approaching the entrance road from the east on Paradise Drive would not meet minimum stopping sight distance requirements based on prevailing travel speeds. The curvature of the roadway and existing terrain on the project side of the roadway prevents greater visibility. Additional factors affecting movements in and out of the entrance road include the narrow shoulders on either side of the road that slope downward into a drainage ditch.~~

~~In the opinion of the EIR traffic analysts, this would be a significant impact due to potentially unsafe conditions at the unsignalized intersection of the entrance road and Paradise Drive.~~

Based on the vehicle speeds measured in September 2009 and the existing sight distance, the sight distance at the intersection of Paradise Drive and the entrance road would meet the AASHTO standard for stopping sight distance.

Mitigation Measure 5.1-4 No mitigation would be required ~~A minimum of 220 feet of sight distance shall be provided for vehicles approaching the entrance road traveling west on Paradise Drive. This could be achieved by cutting back a portion of the hillside east of the entrance road so that the entrance would be visible to westbound motorists from a distance of at least 220 feet. A retaining wall, approximately 90 feet in length and ranging in height up to eight feet would likely be required. Exhibit 5.1-23 shows the extent of the mitigation measure.~~

~~As an alternative to Mitigation Measure 5.1-4 the EIR analysts investigated potential alternative locations for access from Paradise Drive. However, due to the slope of the project site, it would not be possible to provide an adequate access road at an alternative location that would meet access requirements (particularly related to the required slope necessary for access by fire trucks and emergency vehicles) without extensive grading that would conflict with community goals related to the rural character of Paradise Drive. Therefore, in balancing the~~

⁶¹ *Sorokko Property Final Environmental Impact Report, op. cit.*, page 4.5-10: *Spot Speed Surveys*, Robert I. Harrison, September 19, 2009.

⁶² As described in *Chapter 3.0 Description of the Proposed Project*, site access would be provided by a new roadway from Paradise Drive. The intersection with Paradise Drive would be at the existing fire road access with Paradise Drive. This road is referred to as the Main Road.

~~interests of providing access to the site, while minimizing the need to substantially alter the project frontage, alternate access locations were determined to be infeasible.~~

~~**Significance After Mitigation** Implementation of this mitigation measure would provide adequate stopping sight distance for westbound motorists approaching the proposed entrance road, in compliance with the AASHTO recommended sight distance. Based on the prevailing speed of 31 to 32 miles per hour, a stopping sight distance of 220 feet is required in order to comply with the AASHTO standard. Implementation of Mitigation Measure 5.1-4 would reduce this impact to a less than significant level.~~

~~Mitigation Measure 5.1-4 also would allow motorists, bicyclists and pedestrians exiting the project entrance road to view motorists approaching the project entrance at a distance of 220 feet.~~

~~**Responsibility and Monitoring** The applicant would be responsible for design and installation of this measure in cooperation with Marin County and the Town of Tiburon. Marin County and the Town of Tiburon would be responsible for implementing and / or overseeing construction (as funded by the project applicant), and would also be responsible for maintenance upon completion of the improvements.~~

Response to Comment D-22

Comment noted. No additional response necessary.

Response to Comment D-23

Comment noted. No additional response necessary.

Response to Comment D-24

Comment noted. No additional response necessary.

Response to Comment D-25

Comment noted. No additional response necessary.

Response to Comment D-26

The analysis of project-generated construction noise levels considered the locations of the construction activities, the intervening ground cover and terrain conditions, the distances between the construction activity areas and the existing noise-sensitive residential receivers in the project's vicinity. The most affected receptors near each of the construction activity areas were specifically identified. The reference to construction noise levels being less where terrain shielding occurs was in regard to the more distant receptors located within the overall impact boundary. The impacts to most affected receptors considered topographical conditions. The basis for the anticipated construction activities, duration, and phasing are stated in *Impact 5.3-1 Construction Noise*. The construction noise analysis was thorough and complete. The effects of terrain shielding at distant receptors would not affect the findings.

Response to Comment D-27

Based on this comment, the applicant's Construction Management Plan shall be modified to include the following additional measures:

- Enforce optimum equipment operating standards by controlling the type, use and duration of mechanical equipment operations.
- Maintenance of equipment: the noise level of most equipment with continued use and natural wear and tear will increase over time if not regularly maintained. In addition to controlling the type, duration, and use of equipment onsite, the condition and maintenance schedules of equipment shall form part of the construction noise mitigation measures.
- In addition to the existing terrain shielding, where feasible, locate equipment behind temporary barriers to muffle noise. For example, pneumatic compressors can be contained behind a plywood box to reduce noise while in use.
- Worker radios shall be banned from site due to safety concerns.
- Increased use of offsite prefabricated components and assemblies shall be used to reduce and minimize onsite construction activity and corresponding environmental impacts. This would reduce the duration of construction time and result in a reduction of noise impact onsite. The proposed offsite prefabrication would reduce the corresponding noise, dust, and material handling and worker traffic to and from the site.
- All onsite heavy equipment used for grading and earth movement for subdivision improvements including road building, utility installation, and slide mitigation shall be limited to use for a maximum period of 6 months in any one year (from April 15 to October 25).
- A majority of personnel will be shuttled to and from the construction site to reduce the traffic and parking activities which shall also assist in the reduction of site noise.

Response to Comment D-28

Comment noted. No additional response necessary.

Response to Comment D-29

Comment noted. The commentor is correct regarding the various statuses of the species listed in **Exhibit 5.5-4**, and golden eagle was inadvertently listed twice. However, California red-legged frog remains a federally-listed threatened species and all of the bird species of concern continue to be protected under State Fish and Game Code as raptors, and / or the federal Migratory Bird Treaty Act. In response to the comment **Exhibit 5.5-4** of the Draft EIR has been revised, based on the most recent version of the CDFG list of Special Animals, dated July 2009. The revised **Exhibit 5.5-4** is provided on the following page.

**Exhibit 5.5-4
Special-Status Animals Considered to Potentially Occur in Site Vicinity**

Taxa Name	Status Federal/State	Habitat Characteristics (potential for occurrence on site)
<i>Invertebrates</i>		
<i>Microcina tiburona</i> Tiburon micro-blind harvestman	-/-	Occurs in serpentine grasslands and outcroppings under medium to large, undisturbed rocks (suitable habitat present).
<i>Amphibians</i>		
<i>Rana aurora draytoni</i> California red-legged frog	FT/CSC	Permanent ponds, pools, and streams (suitable breeding habitat absent. Potential for infrequent dispersal from known occurrence at Keil Cove considered highly unlikely given location of intervening residences and topography).
<i>Birds</i>		
<i>Accipiter cooperri</i> Cooper's hawk	-/CSC	Riparian woodlands and open forest (suitable foraging and nesting habitat present, but no nests detected during surveys).
<i>Accipiter striatus</i> Sharp-shinned hawk	-/CSC	Riparian woodlands and dense forest (marginally suitable foraging and nesting habitat present, but no nests detected during surveys).
<i>Aquila chrysaetos</i> Golden eagle	-/CSC, CP	Open mountains, foothills, and canyons (marginally suitable foraging habitat present but suitable nesting habitat absent).
<i>Asio flammeus</i> Short-eared owl	-/CSC	Marshlands, lowland meadows and grasslands, nesting on ground in marsh and grasslands (suitable foraging and marginal nesting habitat present, but no nests detected during surveys).
<i>Asio otus</i> Long-eared owl	-/CSC	Coniferous or mixed woodlands (suitable foraging and nesting habitat present, but no nests detected during surveys).
<i>Aquila chrysaetos</i> Golden eagle	-/CSC, FP	Grasslands, chaparral, and open woodlands (marginally suitable foraging habitat present but nesting habitat absent).
<i>Athene cucularia</i> Burrowing owl	-/CSC	Open grassland and fields, farms, and ruderal areas (suitable foraging habitat in grasslands but nesting habitat generally absent).
<i>Buteo regalis</i> Ferruginous hawk	-/CSC	Winters in open terrain in plains and foothills with abundant prey (suitable foraging habitat present but does not breed in California).
<i>Chaetura vauxi</i> Vaux's swift	-/CSC	Woodlands near lakes and rivers, nesting in cavities (marginally suitable foraging and nesting habitat, but no nests detected during surveys).
<i>Circus cyaneus</i> Northern harrier	-/CSC	Open grasslands, agricultural fields, and marshlands (suitable foraging and nesting habitat present, but no nests detected during surveys).
<i>Dendroica petechia brewsteri</i> California yellow warbler	-/CSC	Nests in deciduous riparian areas, and woodlands near streams (marginally suitable nesting habitat present).
<i>Elanus caeruleus</i> White-tailed kite	-/CP	Open foothills, marshes, and grassland (suitable foraging and nesting habitat present, but no nests detected during surveys).
<i>Eremophila alpestris actia</i> California horned lark	-/CSC	Open habitat with sparse cover (suitable foraging and nesting present in grasslands, but no nests detected).
<i>Falco columbarius</i> Merlin	-/CSC	Winters in open grasslands and woodlands (suitable foraging habitat present but does not breed in California).
<i>Falco mexicanus</i> Prairie falcon	-/CSC	Canyons, mountains, open grassland (marginal foraging habitat present, but nesting habitat absent).
<i>Falco peregrinus</i> Peregrine falcon	D FE /SE, CP	Canyons, mountains, open grassland (marginal foraging habitat present, but nesting habitat absent).
<i>Lanius ludovicianus</i> Loggerhead shrike	-/CSC	Open habitat with scattered trees, shrubs, and other perches (suitable foraging and nesting habitat present, but not detected during surveys).

Exhibit 5.5-4 Continued on Following Page

Exhibit 5.5-4 (continued)
Special-Status Animals Considered to Potentially Occur in Site Vicinity

Taxa Name	Status Federal/State	Habitat characteristics (potential for occurrence on site)
Mammals		
<i>Antrozous pallidus</i> Pallid bat	-/CSC	Roosts in caves, crevices, trees, unused structures (suitable roosting habitat generally absent).
<i>Corynorhinus townsendi townsendi</i> Townsend western big-eared bat	-/CSC	Cave, mines, and abandoned buildings (suitable roosting habitat absent).
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	-/CSC	Woodland, chaparral, and dense riparian areas (suitable foraging and nesting habitat present, and woodrat nests observed on-site).
<i>Myotis evotis</i> Long-eared myotis bat	-/-	Forest, shrubland, chaparral and agricultural fields (suitable roosting habitat generally absent).
<i>Myotis yumanensis</i> Yuma myotis	-/-	Forest and riparian areas, with colonial roosts in caves, tunnels and buildings (suitable roosting habitat generally absent).

Status Designations:

Federal:

- ~~DE~~ = ~~De~~listed as Endangered under the federal Endangered Species Act.
- FT = Listed as Threatened under the federal Endangered Species Act.
- PE = Proposed for federal listing as Endangered.
- C = A candidate species under review for federal listing. Category taxa include those for which the USFWS has sufficient biological information to support a proposal to list as endangered or threatened.

State:

- SE = Listed as Endangered under the California Endangered Species Act.
- ST = Listed as Threatened under the California Endangered Species Act.
- CP = California fully protected species; individual may not be possessed or taken at any time.
- CSC = California Special Concern species; species have no formal legal protection but nest sites and communal roosts are generally recognized as significant biotic features by CDFG.

Response to Comment D-30

Comment noted. Marin western flax was the common name used in all of the technical reports by the applicant's previous biological consultant referenced under Introduction and Methods of the Biological Resources section of the Draft EIR. As noted by the commentor, the common names Marin western flax and Marin dwarf flax are used interchangeably, and the scientific name is correctly identified in the Draft EIR as *Hesperolinon congestum*. The common name Marin western flax will continue to be used in this Final EIR to provide continuity with the technical reports prepared by the applicant's previous biological consultant.

Response to Comment D-31

Comment noted. The basic approach to mitigation recommended in Mitigation Measure 5.5-1(b) on page 258 of the Draft EIR is also avoidance of direct impacts to Marin western flax on the site.

Response to Comment D-32

A detailed discussion of the potential conflicts and risks associated with the repair of Landslide N and the occurrence of Marin western flax on proposed Lot 13 and Parcel B is provided on page 253 of the Draft EIR. The recommendation made in the first bullet of Mitigation Measure 5.5-1(b) on page 258 of the Draft EIR regarding the risks associated with Landslide N was to provide greater flexibility in the approach to landslide stabilization and to prevent future conflicts in the event that the proposed buttress, slope reconstruction, and dewatering is inadequate and further slope repair is necessary in the future. This minimum setback distance provides a more prudent approach to avoiding the occurrence of Marin western flax. As an annual species the actual footprint of this population varies every year and in all likelihood protecting the proposed residence on Lot 13 would take precedence over disturbance to the occurrence of Marin western flax, even if additional compensatory mitigation was required as part of any additional slope stabilization, if needed the future. No change to Mitigation Measure 5.5-1(b) is considered necessary in response to the comment.

Response to Comment D-33

The estimate for potential impacts on jurisdictional waters on page 264 of the Draft EIR was taken from the applicant's previous biological consultant. Estimates for potential impacts on jurisdictional waters has now increased based on further review by the applicant's current biological consultant and more conservative assumptions in the likely required landslide repair. Potential impacts on jurisdictional waters remains significant, as concluded on page 264 of the Draft EIR, but recommended mitigation would serve to reduce potential impacts to a level of less-than-significant. In response to the comment, the discussion of potential impacts to wetlands and drainages on page 264 of the Draft EIR has been revised as follows:

Impact 5.5-3 Wetlands and Drainages

The Alta Robles Residential Development would result in direct impacts to an estimated ~~0.30-07~~ acre of jurisdictional waters, could result in further loss of other on-site wetlands due to subdrain installation, and could degrade downstream drainages unless adequate erosion control measures are taken. This would be a significant impact.

Proposed grading and development would generally avoid most of the existing jurisdictional wetlands and drainages on the site, but some jurisdictional features would be eliminated by

grading activities, and others could be affected by changes associated with installation of the proposed subdrain system. According to the latest estimates from the applicant's consulting biologist *Mitigation Recommendations*, an estimated 0.59 ~~0.82~~ acre of jurisdictional waters would be avoided by retaining these areas in Common Open Space and undeveloped lands outside the residential use areas on private lots. However, an estimated total of approximately 0.3 ~~0.07~~ acre of jurisdictional waters would be disturbed or eliminated based on the assumed limits of grading associated with development and landslide stabilization. ~~According to the~~ *Mitigation Recommendations* ~~by the applicant's consultant,~~ These consist of an estimated 0.24 ~~0.05~~ acre of freshwater marsh, seeps, and sedge meadow, less than 0.01 acre (ten square feet) of seasonal wetlands, and approximately 0.06 ~~less than 0.01~~ acre of unvegetated other waters associated with ephemeral drainages. Grading for development and slope stabilization would eliminate existing wetland areas on Lots 1, 2, 7, 11, and Parcel A. Direct modification and fill of wetlands and waters would also result from installation of subdrain systems designed to dewater hillside slopes and reduce the potential for slope instability. Large subdrain systems would be installed in the swales and along ephemeral drainages in the proposed Common Open Space on Parcels A and B.

The assumptions in the *Mitigation Recommendations* appear to underestimate the extent of direct disturbance to drainages and wetlands required to install these systems, and do not address the indirect impacts of dewatering the drainages and wetlands. Additional areas of unvegetated "other waters" in the proposed Common Open Space on Parcels A and B could be impacted than the estimated 0.01 acre identified in the *Mitigation Recommendations*, but this would in part depend on effectiveness of construction-related controls. Depending on the effectiveness of these subdrain systems, additional areas of freshwater seeps and marsh could eventually be eliminated over time where subsurface water is effectively intercepted and then bypasses the wetland area as a result of the new drainage systems. The wetland vegetation can only survive if sufficient surface water is present during the growing season. It is difficult to predict the possible changes to wetland vegetation in the vicinity of drainage improvements, but it is likely that some additional loss of wetland habitat would occur as a result of their installation. Of greatest concern is the proposed subdrain system that would extend into the lower elevations of the largest complex of freshwater marsh and serpentine bunchgrass along the southeastern edge of the site, in the proposed Common Open Space of Parcel A, which is located upslope of the sharp turn to the existing driveway near its intersection with Paradise Drive. The revised estimates by the applicant's consulting biologist appear to be more accurate in predicting potential impacts on jurisdictional waters. Although the total acreage of jurisdictional waters affected by proposed development would be relatively low, these are regulated waters and sensitive natural community types, and their loss would be significant.

Response to Comment D-34

Based on this comment the fourth paragraph of the Site-Specific Landslide section on page 279 of the Draft EIR is revised as follows:

Of the landslides described above, several are located in open space or outside of building envelopes and according to the Town's Landslide Mitigation Policy would fall under the Risk Level B landslides that are required to be ~~repaired~~ improved or avoided. These Risk Level B landslides include: Landslides G, Q, P, C and D.

Response to Comment D-35

The Town of Tiburon Landslide Mitigation Policy requires that Risk Level A landslides be repaired to have a calculated factor of safety greater than 1.0 for pseudo-static (seismic) conditions. This does infer that the entire landslide would need to have a factor of safety greater than 1.0. If a variation to the Landslide Mitigation Policy is proposed it would be the Town's Engineer's responsibility to determine if the proposed repair would satisfy the Town's requirements.⁶³ If the Risk Level A landslide is not completely repaired to satisfy the Landslide Mitigation Policy or per the Town Engineer's recommendations then it would pose a high risk of causing damage to structures and improvements.

No repair or limiting repair of a landslide to avoid impacts to biological or hydrologic resources would result in some landslides not being repaired, improved, or mitigated to a level that would achieve total compliance with the standards set forth in the Town's Landslide Mitigation Policy. However, the Town Engineer has discretion to determine whether a proposed mitigation (or no mitigation) would be adequate under this policy or whether the strict application of the policy standards would result in excess environmental damage that would outweigh the potentially marginal benefit of the full repair.

Alternative 3 and the revised proposed project (*Alternative 4*) propose methods that would avoid or reduce impacts to biological and hydrologic resources. With these alternatives, in some cases a landslide would not be completely repaired or improved per the Landslide Mitigation Policy; however, the actual impacts from specific landslides would not be known until the site-specific geotechnical investigation is performed and then any proposed repair/non-repair would be reviewed as discussed above.

Response to Comment D-36

This comment is the same as Comment D-35. Please see Response to Comment D-35.

Response to Comment D-37

Please see Response to Comment D-35.

Response to Comment D-38

Please see Response to Comment D-35.

Response to Comment D-39

Based on this comment, Mitigation Measure 5.6-6 on page 295 of the Draft EIR is revised as follows:

Mitigation Measure 5.6-6 In order to comply with the Town's Landslide Mitigation Policy, landslide and slope stabilization would result in secondary impacts; however, implementation of Mitigation Measures discussed in *Section 5.5 Biological Resources* would reduce the secondary impacts of grading and subsurface drainage control on affected biotic resources to a less-than-significant level. Alternative slope stabilization measures should be considered that would reduce the secondary impacts to the biologic resources. Any alternative landslide

⁶³ As described in the policy, the Town Engineer has the sole discretion to determine (1) the risk level of any landslide or potential landslide; (2) whether a proposed project avoids on-site landslides and (3) *whether proposed mitigation is adequate under this policy (emphasis added)*.

stabilization plans shall be submitted to the Town of Tiburon and / or the Town's Geotechnical Consultant for review and conformation that the plans are in accordance with the Town's Landslide Mitigation Policy.

It should be noted the Revised Site Plan (*Alternative 3*) contains revisions to the proposed project that reduce the primary and secondary impacts of grading. These revisions and their effect on identified impacts are discussed in detail on pages 383 thru 385 of the Draft EIR (*Section 6.3 Alternative 3 - Revised Site Plan*). Furthermore, *Alternative 4* contains additional revisions that would decrease the amount of grading and secondary impacts caused by grading.

Response to Comment D-40

The commentor notes that he agrees with the determination that *Impacts 5.8-2* and *5.8-3* would be less-than-significant impacts but disagrees with the determination that *Impact 5.8-1* would be a significant unavoidable impact. Additional comments provide additional information as to why the commentor disagrees with the EIR determination for *Impact 5.8-1*. No additional response necessary.

Response to Comment D-41

Comment noted. No additional response necessary.

Response to Comment D-42

The commentor notes that Viewpoint Number 1 within the Middle Ridge Open Space provides opportunities for views in several directions, not only in the direction of the project site, and that these views include various landscape features, both natural and man-made. The Draft EIR recognizes that views in other directions from Viewpoint Number 1 would not be affected by the proposed project. The purpose of the visual impact assessment of the project from Viewpoint Number 1 is to consider its effect on the view looking toward (at) the project site. Looking toward the project site from Viewpoint Number 1, the Draft EIR correctly states that project features would appear as co-dominant elements of the scene. Due to the high sensitivity of Viewpoint Number 1, this would represent a significant and unavoidable visual impact.

Response to Comment D-43

The commentor states that the Draft EIR incorrectly states consistency with *Tiburon General Plan* Goal OSC-B. The visual impact of the project from Viewpoint Number 1 is assessed correctly in the Draft EIR. There is no need to revise the corresponding statement in the Draft EIR regarding consistency with the Goal OSC-B.

Response to Comment D-44

The commentor is correct that retaining walls would allow the proposed houses to be set into the hillside and therefore appear to have less mass than if they were at-grade. The houses would nonetheless appear co-dominant with other features of the landscape. However, as reported in the Draft EIR, Viewpoint Number 1 has a high level of sensitivity and changes brought on by the project would need to appear *subordinate* to the existing features in the viewpoint. The proposed project with mitigation measures would appear *co-dominant* in this viewpoint, resulting in a significant and unavoidable impact. As discussed in *Master Response 2 (Impact 5.8-1 View Looking North from Middle Ridge Open Space) Alternative 4* would also result in a significant and unavoidable impact to this viewpoint.

Response to Comment D-45

See Response to Comment D-27 where it is stated that the Construction Management Plan shall be modified to include this measure.

Response to Comment D-46

The commentor states that the EIR did not fully disclose nor take into consideration all project design mitigation elements. All information provided by the applicant regarding the proposed design of houses was considered as part of the visual impact assessment. The assessment concluded that the houses would appear co-dominant with other features of the landscape. Viewpoint Number 1 has a high level of sensitivity that would require any development be visually subordinate or not evident in order to avoid a significant impact. Visual design elements included in the proposed project along with proposed mitigation measures would render the visual change to a co-dominant level, which still results in a significant impact.

Response to Comment D-47

As discussed in *Impact 5.6-5 Grading*, on page 292 of the Draft EIR, the Draft EIR reports that the cut/fill quantities would be equal and would result in a net volume of zero cubic yards. However, this does not include grading for landslide remediation. The actual quantities of grading would vary because the methods/extent of landslide remediation may change due to information obtained when the design-level plans are prepared. And, even at that time, the quantities will be an approximation. The area of landslide repair is approximately known; however, as stated on page 292 of the Draft EIR: it is the depths that would be variable and makes it difficult to determine approximate volumes of material that would be excavated.

Response to Comment D-48

The commentor states that **Exhibit 3.0-13** regarding the retaining walls incorrectly characterizes the proposed retaining walls. The commentor is correct, some of the proposed retaining walls for site stabilization, as shown in **Exhibit 3.0-13**, would be integrated with the new houses, allowing them to serve as structural walls of the homes as well. The portions of retaining walls that also serve as structural walls of residences would not appear as retaining walls, even though they provide site stabilization. Instead they would appear as part of the residential structure they are integrated with. As discussed in Response to Comment D-4, **Exhibit 3.0-13** has been revised to incorporate additional information provided by the applicant's representative to more clearly characterize these circumstances.

LETTER E

TO: Nichols-Berman, EIR Consultant

CC: Diane Henderson, Tiburon Contract Planner
 Scott Anderson, Tiburon Planning Director

DATE: September 29, 2009

RE: Alta Robles DEIR Questions: [page #'s refer to Alta Robles DEIR, 8/09]

1

1. Explain how the alternatives analysis is adequate under CEQA. According to the DEIR (p. 357), “CEQA directs EIRs to analyze a reasonable range of alternatives [“alt”] to the project or project location which would feasibly attain most of the basic project objectives *but would avoid or substantially lessen any of the significant effects of the project...*” The DEIR has analyzed 2 no-project alts (which do not accomplish any of the project objectives), an infeasible off-site alt - and a project look-alike alt, which becomes the “environmentally superior alt, not by merit, but by default.

p. 361. The description of Alternate 2 removes all development from the upper Rabin parcel and assigns a maximum density of 8 units to the unincorporated SODA property, on which it bases its analyses. While this density is consistent with County zoning, it does not properly apply County policy for this parcel, which states that parcels in the designated Ridge and Upland Greenbelt (which SODA is), should be developed at the lowest end of the CWP density range, which is 1 unit per 10 acres. Application of policy would permit 2 units on this parcel, not the 8 evaluated. Alternatives are supposed to be feasible and realistic according to the DEIR, and this one misrepresents the number of units that would reasonably be built. This does not change the accuracy of the DEIR conclusion that this is a “no-project” alternative, but focuses on the appropriateness of having provided *two alternatives that are essentially identical* – no project.

Alt. 3, the “revised” project alt, requires all the mitigations applied to the project. It does *not* “avoid or substantially lessen any of the significant effects of the project” as required by CEQA. There is no quantifiable difference in impacts between Alt 3 and the proposed project. The DEIR states that changes proposed for Alt 3 would not reduce to LTS any of the project impacts, which include those on water quality (p. 378); special-status species (p. 378+); landslide risks (p. 386-6); grading impacts on groundwater, drainageways and wetland habitats (p. 386); expansive soils (p. 386) or view impacts (p. 389). Deficiencies in the Mitigation Recommendations by the applicant’s consulting biologist would remain (p. 379). Proposed fencing restrictions in this alt are inadequate (p. 381-2). Erosion of and degradation of wetland habitat and drainages remain a significant impact – both thru direct impacts and dewatering by subdrain systems (p. 381). Alt 3 continues project inconsistency with inadequate wetland/stream buffer setback requirements (p. 382). Tree removal continues to be inconsistent with Tiburon policies under this alt. Like the project, tree loss remains undercounted because of likely damage during construction and changes to drainage patterns (p. 382). The DEIR states that four of the 6 revisions to slide repair methods offered in this alt would not be consistent with Tiburon policy (p. 383) and in fact, “may reduce the stability of landslide repairs proposed for the project” and introduce new secondary impacts (p. 384). And, as with the project, the effectiveness of original and revised slide repair would not be truly

1 CONT'D

known until a geotechnical analysis is performed (after PDP approval) (p. 383). Alt 3 does not avoid or decrease any significant effects of the project.

According to CEQA (DEIR, p. 357) the alts evaluated should be sufficient to provide information to the public and its officials to make decisions about the project. Where is the information in any of these alts that enlightens us about the project? A feasible alternative, which generally satisfies project objectives **and avoids or reduces** the project's significant impacts, should be provided. I would suggest a mitigated project that additionally moves building envelopes/RUA's so that some areas that require extensive slide repair because of proximity to development are avoided. This may require envelope size reduction/relocation or possibly lot elimination.

2

2. Grading is excessive, a significant impact, and should be mitigated. Grading is not the result of Town policy, but of project layout, which should be modified to reduce the excessive grading. Avoidance, the preferred approach to areas of geologic hazard in development projects, should be analyzed and applied to produce a reduced grading alternative.

The Town's landslide repair policy is being used to justify digging up large portions of the site, including on and near its ridgelines, without finding significant grading impact. *Yet the Town's policy reduces its repair requirement, and associated grading, with decreasing proximity of slide areas to structures and roads.* Despite this, there is no apparent effort to cluster/size/reduce project development, so that areas now requiring grading can be downsized or avoided. The judgment that grading isn't excessive seems to be linked to absolute acceptance that all proposed slide repair is required by the Town, without consideration that it is *the plan that drives the repair*. The extent of the slide repair is a result of the project layout, not Town policy, and mitigation should be provided.

The DEIR finds no significant impact for proposed grading. It states that 24,600 cy cut and 24,600 cy fill is just that needed for rough grading of roads and building pads (p. 292). This is treated as within acceptable limits. No mitigation, no EIR discussion. Slide remediation is expected to disturb 192,258 sf and require 53,592 cubic yards of remedial grading (p. 292). No mitigation, no EIR discussion. The earth involved in the 24,600 cy of cut required just for roads and building pads would fill 2.3 football fields 6 feet high with soil. For this project, proposed cut and fill grading exceeds 102,000 cy. (It is not clear if there is overlap between house/lot and slide remediation grading amounts.) "Minor grading projects typically involve several hundred to 10,000 cubic yards of material while operations which involve 100,000 cubic yards of material or more generally are considered to constitute "mass grading." (p. 292) The DEIR says the project is "consistent" with GP policy OSC-35 (p. 90) to **keep grading to a minimum**, and consistent with aspects of 16-4.8.4(b) and (i) (p. 110-111) and 16.4.2.7(e) (p. 107) which deal with limiting grading.

3

General Plan Safety Element, SF-5 states: "The Town shall require physical improvements to landslides and to potential landslide areas in instances *where avoidance is not feasible...*" Avoidance is the preferred approach. The DEIR (p. 95) says the project is consistent with SF-5. Yet it provides no evaluation of avoidance to reduce significant slide repair. All these DEIR consistency assessments should be changed and

3 CONT'D

mitigations should be provided to reduce/limit grading. Plan reconfiguration/reduction to reduce excessive grading and its secondary impacts should be evaluated in the EIR and offered as mitigation and in an Alternatives analysis.

4

3. p. 26 Mit. 5.6-6 states that *secondary impacts from grading and use of subsurface drainage* on affected biotic resources has been reduced to LTS. Since the impact can only be calculated well after the fact, when the combined effects of grading (actual extent to be determined when shovel is put to soil), and dewatering by subdrains can be assessed, the feasibility of the replacement mitigations is speculative. Since the extent of the impact is unknown (except that it appears to be greater than described, i.e., p. 254: "the estimates of threats and loss to the occurrences of Marin western flax appear to be *greatly* underestimated"), how can mitigation reduce secondary impacts to LTS? This assessment should be changed.

5

4. **Provide a table** showing estimated sf of ground disturbance and cy grading for estimated slide repair and for development *within* (1) bldg envelopes and (2) RUA's. Providing only the whole lot grading information does not allow evaluation of which house locations are associated with the most grading. This information is necessary to assess whether relocation/resizing/removal of specific lots/RUA's/ building envelopes could reduce required grading and thereby reduce impacts to sensitive habitat areas.

6

5. p. 63, Ex. 3.0-13 provides **information on retaining walls** for house and lot development. Please provide similar data for retaining walls associated with slide repair, if any. Indicate their locations. This information is necessary to assess best locations for avoidance of the need for landslide repair.

7

6. The total **retaining wall** length indicated in Exhibit 3.0-13 (p. 63) is 10,159', equaling *1.92 miles*, after house construction. Based on the information in this Exhibit, it is not possible to assess length of wall by height with accuracy. The total length for retaining walls that rise to *more* than 6' in height (but may have sections that are lower) equals 4,939' (.94 mi.). The extent of retaining walls proposed is unprecedented. Tiburon GP Policy OSC-40 says "the visual impact of retaining walls... shall be reduced in size and scope to the maximum extent feasible by minimizing their use..." On p. 91, the DEIR says the project is "Consistent" with this policy. Its discussion says it appears "that the use of walls has been reduced in size and scope to the maximum extent feasible". A plan that proposes almost 2 miles of retaining walls for 13 houses is one that has not sited and/or reduced the number of units to achieve some reasonable use of retaining walls. The EIR should provide data on the extent to which retaining walls are associated with slide repair. As noted in Item # 2 above, the grading is a project impact and resulting retaining walls should be treated as secondary impacts, requiring mitigation.

Because the use of retaining walls used is so excessive (1.1 mi. for lot development and .91 mi for house construction), the EIR should provide mitigation to reduce them, including lot relocation/deletion. Since a meaningful portion of these walls is associated with infrastructure and whole lot development, visual impacts assessment and mitigation should not be left to the individual house Design Review stage, as indicated. Besides the obvious reduction in ht/length of walls, requirements for dark coloring and dark rock facing should be included as mitigation for adverse visual impacts.

8. Despite information in the DEIR, sight distance at the proposed new project entry appears inadequate in both directions. Please remeasure and reassess. Provide the grading amounts, if any, associated with cutting back hillside along Paradise Dr. in one or both directions, as needed, to achieve adequate sight distance. Describe the height, length and location of any needed retaining walls along the Paradise Dr. frontage, and mitigations to ensure that the visual rural character of the area is retained.
9. p. 23. Mit. 5.5-3(a) requires **replacement of lost wetlands** at a 2:1 ratio and provides for performance criteria with a 5-year monitoring period. It identifies the Common Open Space onsite for replacement wetlands. According to the DEIR (p.69), extensive required slide repair work on Slides B, D, E, H & R would occur on Common Open Space Parcel A. On Common OS Parcel B, a significant portion of Slide M would be repaired. This massive slide repair and dewatering by subdrains (about a third of a mile of subdrains are associated with these specific slide repairs, p. 57-61) will radically affect site hydrology. The likelihood of wetland replacement success is speculative at best and would not be known for years. The LTS designation for this impact is unwarranted and should be changed to significant, unmitigable.
10. On p. 230, Mit. 5.4-3 refers to mitigations in Section 5.5 calling for **offsite replacement of wetlands**, in apparent contradiction to Mit. 5.5-3(a) (p. 265, 2nd bullet) which says they will be onsite in Common OS. This should be clarified. Offsite replacement is speculative because the size of the area to be replaced is unknown and no feasible offsite replacement locations have been identified.
11. Portions or all of 8 of 13 new houses and associated development (on lots 3, 4, 7-12 and 14) would approach the crests of **significant ridgelines** (p. 87, OSC-12), project roads run along and across ridgelines and development on Lots 4 & 5 (OSC-11, p. 87) is inside the required setbacks for the Tiburon Ridge. The policy analysis on p. 87 says that “specific setbacks for Ridgelines 5 and 6 would be evaluated during the development review process. Relocating structures as a result of requiring new ridgeline setbacks is likely to create unevaluated environmental impacts, including grading and visual impacts. When a project is so completely and clearly out of line with policy, zoning and Code (see General Plan, p. 3-6+ and 14-7.7, 16-4.2.7(e), 16-4.8.4 (b), (e) and (f)), and changes to comply with policy are likely to have significant environmental impacts, the DEIR should evaluate impacts of achieving policy consistency and offer mitigation. Please offer mitigations, or an alternative, that **moves development away from ridgelines**.
12. p. 23 Mit. 5.5-2, 2nd bullet. This mitigation seems to allow for a residence within 30’ of native serpentine bunchgrass on each of lots 5 and 6. How was 30’ determined to be an **adequate buffer**? The likelihood of damage during construction and residential use with this minimal setback is great. Further increase setback or provide additional protections for these grasslands.
13. The existing house is treated as part of the project. Since there is already project access via the existing road, the project is actually introducing a **second access point along Paradise Dr.** at the fire road, which is not consistent with Tiburon’s GP (Policy C-19, p. 95) and the Paradise Visioning Goal II-1 (p. 126) to minimize the number of roadways/driveways onto Paradise Dr. for new development. The DEIR consistency designations should be changed.

- 14 | 13. Tiburon's GP Goal C-E (p. 94) is to *improve circulation* system for pedestrians and bicyclists, *including* safety enhancements. The DEIR (p. 137) states that grade and sight distances of the existing driveway are substandard. What are the sight distances from Lot 1's existing driveway and along Paradise Dr. to it? What is its grade? Discuss this access's consistency with Goal C-E. Discuss how elimination of this driveway might increase safety along Paradise Dr., for vehicles as well as pedestrians and cyclists.
- 15 | 14. If the *existing driveway to Lot 1* were eliminated (as suggested in Mit. 5.5-1(b) (2nd bullet, p. 258) as an access to Paradise Dr., quantify the potential reduction, if any, in slide repair grading and associated biological/ hydrological and other impacts that could result.
- 16 | 15. The tree mitigation, 5.5-5(a) does not reduce the significance of tree loss to LTS and this designation should be changed. 261 trees will be removed, including 107 "protected" trees of which 97 are coast live oaks. The 107 trees have been on the site for many decades and are very large trees. The visual and habitat loss impacts associated with the removal of so many trees is acknowledged as significant. The mitigation offers no information on the size of replacement trees. In this area of Paradise Dr., previous mitigation has allowed for seedlings or slightly larger, but still very small, replacement plantings. This is because native trees, such as coast live oak, have greater success potential when planted as seedlings. However, the ability of small plants (especially of slow-growing species such as coast live oak) to provide even a modicum of the visual and habitat value of the removed trees is many decades in the future. The mitigation fails to reduce the impact significance.

RESPONSE TO LETTER E – RANDY GREENBERG (SEPTEMBER 29, 2009)

Response to Comment E-1

During the public review period of the Draft EIR several members of the public and the Tiburon Planning Commission expressed the concern for the need to evaluate an additional alternative. Specifically it was requested that the EIR discuss an additional project alternative that would reduce project grading, reduce the need for retaining walls, and reduce environmental impacts in the areas of biological resources, geology and soils, hydrology, and visual quality.

In response to the Draft EIR findings as well as the comments received on the Draft EIR, the applicant's development team developed a Revised Proposed Project (*Alternative 4*).⁶⁴ The Revised Proposed Project builds on the revised site plan (see *Section 6.3 Alternative 3 – Revised Site Plan*) evaluated in the Draft EIR (see pages 367 to 390 of the Draft EIR). The previous site revisions (A through J) plus landslide stabilization and grading revisions (1 through 6) incorporated into *Alternative 3* are included in the Revised Proposed Project.

The project applicant has committed in writing to the Town of Tiburon to adopt this new alternative (*Alternative 4*) as the proposed project.

Please see *Master Response 2* for an analysis of the Revised Proposed Project.

Response to Comment E-2

The commentor states that "Avoidance, the preferred approach to areas of geologic hazard in development projects, should be analyzed and applied to produce a reduced grading alternative." Although this may be an ideal circumstance in some situations, avoidance of existing landslides would not only put some of the proposed lots at risk it would put offsite properties and roadways at risk. Improvement/repair of several landslides would reduce potential impacts to Paradise Drive and adjacent property. The extent of a slide repair is not a result of the project layout, but is controlled by the physical parameters of the landslide itself. These physical parameters dictate the extent and type of repair that would be needed to reduce the landslide hazard to a level that satisfies the Town's Landslide Mitigation Policy. The grading quantities reported in the Precise Development Plan are based on the rough grading of roads and building pads, which does not include landslide remediation. The slide remediation quantities are based on the approximate grading quantities needed to repair the landslides.

Response to Comment E-3

The commentor states the EIR's consistency determination for *Tiburon General Plan Policy SE-5* provides no evaluation of landslide avoidance to reduce the amount landslide repair. In addition to landslides there are several development constraints that limit the range of feasible alternative subdivision designs that would increase avoidance of landslides. Furthermore, the natural occurrence of landslides when soils are saturated during prolonged rainstorms and when ground shaking occurs during an earthquake could expose developments designed to avoid landslides, but still located near landslides, to very hazardous conditions if located within the path of debris flow. Therefore while

⁶⁴ *Alta Robles Precise Development Plan DEIR Review and Comments*, CSW/Stuber-Stroeh Engineering Group, Inc., February, 2010.

avoidance may be ideal in some circumstances, it could also result in unmitigated safety risks to the proposed residences, roadways and offsite properties.

The commentor continues to state that a plan reconfiguration/reduction to reduce excessive grading and its secondary impacts should be evaluated in the EIR and offered as mitigation in an alternative analysis. In response to this comment it should be noted the Revised Site Plan (*Alternative 3*) contains revisions to the proposed project that reduce the primary and secondary impacts of grading. These revisions and their effect on identified impacts are discussed in detail on pages 383 thru 385 of the Draft EIR (*Section 6.3 Alternative 3 - Revised Site Plan*). Furthermore, *Alternative 4* contains additional revisions that would decrease the amount of grading and secondary impacts caused by grading. These revisions include (no. 8) moving landslide mitigation retaining walls further away from the occurrence of Marin dwarf flax in private open space; (no.'s 9, 10, 12, and 15) revisions to subdrains in order to reduce secondary impacts to biological resources, (no. 11) revised buttress grading to include wetland to benefit biological resources in the vicinity; (no. 13) reduces grading and retaining walls needed for the proposed main road by incorporating a bridge into the road design; and (no. 16) modification of grading at the eastern portion of the project site avoid impacts to serpentine bunchgrass.

Response to Comment E-4

The extent of the secondary impacts from grading and use of subsurface drainage are not unknown. An approximation of the extent of grading and landslide stabilization is provided in the *Chapter 3.0 Description of the Proposed Project*. The impacts and mitigation measures in *Section 5.5 Biological Resources* acknowledges and addresses the secondary impacts from grading and subsurface drainage and are discussed in that section. The Mitigation Measures 5.5-1(a) through 5.5-1(e) would reduce adverse effects to special-status species to a less-than-significant level. Mitigation Measure 5.5-2 would minimize disturbance to the sensitive serpentine bunchgrass grasslands to a less-than-significant level.

The commentor cites a portion of a sentence on page 254 of the Draft EIR as follows “the estimates of threats and loss to the occurrences of Marin western flax appear to be greatly underestimated”. It should be noted that this is referring to the applicant’s proposed *Mitigation Recommendations* and not the Draft EIR’s analysis. Due to concerns with the applicant’s *Mitigation Recommendations* Mitigation Measure 5.5-1(c) requires preparation of a *Mitigation and Monitoring Program for Special-Status Species and Other Sensitive Resources*. As discussed in the Response to Comment D-33, estimates for potential impacts on jurisdictional waters have been revised based on more conservative assumptions by the applicant’s biological consultant regarding landslide repair and required dewatering. These assumptions appear to be more reasonable, and address the uncertainty raised in the discussion on page 264 of the Draft EIR. Performance standards included in each of the relevant mitigation measures in the Draft EIR would ensure that adequate compensatory mitigation would be provided where potential impacts are unavoidable. Future review and authorization by the resource agencies would provide additional oversight as part of their respective authorizations where sensitive biological and wetland resources would be affected.

Response to Comment E-5

The Estimated Earthwork Summary for the lots and road work are shown in **Exhibit 3.0-12**. A description of the square footage of ground disturbance and the cubic yards of grading from estimated slide repair are described in detail in the Landslide Repair section (pages 54 through 60) in *Chapter 3.0 Description of the Proposed Project*. The areal limits of the proposed landslide stabilization

methods are shown in **Exhibit 3.0-10** and provide a visual perspective of the most significant extent of grading disturbance for landslide repair.

The proposed residential use areas's (RUA's) and the building envelopes are generally not located in areas that directly impact sensitive habitat areas. The RUA's and building envelopes were deliberately designed to generally avoid sensitive habitat areas, including the occurrences of special-status plant species, highest quality stands of native grasslands, and most of the jurisdictional waters on the site.

Response to Comment E-6

The landslide repair retaining walls are discussed in the Landslide Repair section (pages 54 through 60 of the Draft EIR) in *Chapter 3.0 Description of the Proposed Project*. The locations of the proposed retaining structures are shown in **Exhibit 3.0-10**. A retaining structure is proposed for remediation of Landslide M (Lots 13 and 14). A retaining structure is proposed for remediation of Landslides B and D in Lot A. A typical proposed below-grade retaining structure is shown in **Exhibit 3.0-11**.

Response to Comment E-7

Exhibit 3.0-13 has been revised to better explain the purpose of each of the proposed walls and whether the individual walls would be visible from either the road or the surrounding area. As indicated in the revised **Exhibit 3.0-13** the main purpose of a significant number of the walls is directly related to development of the individual lots and generally would serve as retaining walls along the adjacent road. However, as indicated in **Exhibit 3.0-13** a large number of the walls would serve as structural walls integrated into the construction of the individual homes. For the most part, these walls would not be visible from either the road or the surrounding area.

Response to Comment E-8

As discussed in Response to Comment D-21, based on the vehicle speeds measured in September 2009 and the existing sight distance, the sight distance at the intersection of Paradise Drive and the entrance road would meet the AASHTO standard for stopping sight distance. Therefore, the retaining wall discussed in the comment would not be necessary.

Response to Comment E-9

Comment noted. As discussed in the Response to Comment D-33, estimates for potential impacts on jurisdictional waters have been revised based on more conservative assumptions by the applicant's biological consultant regarding landslide repair and required dewatering. These assumptions appear to be more reasonable, and address the uncertainty raised in the discussion on page 264 of the Draft EIR, including the affects of dewatering on long-term viability of wetland replacement habitat. Performance standards included in Mitigation Measure 5.5.3(a) on page 265 of the Draft EIR would ensure that adequate compensatory mitigation would be provided where potential impacts are unavoidable. Future review and authorization by the resource agencies would provide additional oversight as part of their respective authorizations where sensitive wetland resources would be affected. Contingency measures are required as part of any agency authorizations and if success criteria are not met after the five years of monitoring and maintenance, the compensatory mitigation would have to be refined and the monitoring and maintenance program expanded until the success criteria are met and adequate mitigation is provided. Because of these requirements, the conclusion that the significant impacts on jurisdictional waters would be mitigated to a less-than-significant level remains correct.

Response to Comment E-10

Based on this comment Mitigation Measure 5.4-3 on page 230 of the Draft EIR is revised as follows:

Mitigation Measure 5.4-3 In order to comply with the Town's Landslide Mitigation Policy, landslide and slope stabilization, with their associated subsurface drainage measures, would result in localized, secondary impacts on both groundwater levels and soil moisture availability for on-site hydrophilic plant communities. Implementation of Mitigation Measures discussed in Section 5.5 **Biological Resources**, including ~~off~~on-site replacement of freshwater wetland and seep habitats, where avoidance is infeasible, would reduce the secondary impacts of grading and subsurface drainage control on affected biotic resources to a less-than-significant level.

Response to Comment E-11

Comment noted. Specific setbacks for these ridgelines would be established by decision makers during the development review process. It would be speculative to assume any specific setback requirements and evaluate potential impacts for relocating structures.

The commentor suggests the EIR should evaluate environmental impacts that would occur if the project were revised to achieve consistency with public plans and policies. **Chapter 4.0 Land Use and Planning** contains the EIR preparers best judgment of how the proposed project compares with public plans and policies. Final consistency determinations would be made by the Town of Tiburon's decision making bodies. At this time the EIR preparer cannot speculate what these final consistency determinations would be. However, it is unlikely that any required revisions to the proposed project would create new environmental impacts that have not been identified in the EIR. Therefore existing mitigation measures (see **Exhibit 2.0-1 Summary of Impacts and Mitigation Measures**) could be revised as conditions of approval to address any increases to environmental impacts.

Response to Comment E-12

A discussion of the potential for land use conflicts between protecting the native grasslands and future residential use on proposed Lots 5 and 6 is provided on page 262 of the Draft EIR. The minimum 30 foot setback distance to the edge of the building envelope recommended in Mitigation Measure 5.5-2 is considered sufficient to allow for routine fire clearing and prevent shading by ornamental plantings and the future residences, while still allowing the proposed residential use in the vicinity. This would allow for improved fire safety clearance around the perimeter of the buildings and fencing without adversely affecting the native grasslands as part of routine fuel reduction and maintenance. The area within this setback distance could be restored, enhanced and managed as native grassland habitat, but would most likely be subject to routine cutting of the grassland cover.

Response to Comment E-13

Tiburon General Plan Policy C-19 and *Paradise Drive Visioning Plan* Goal II-1 do not prohibit new roads and driveways along Paradise Drive but rather urge that new development should minimize such roads and driveways. Site access to the proposed 13 new single-family homes would be provided by a single new roadway from Paradise Drive. The new project entrance would provide access consistent with the General Plan and the Paradise Drive Visioning Plan. As noted in Response to Comment D-18 it will be the responsibility of the Town of Tiburon Planning Commission and Town Council to make the definitive decisions about policy consistency when the merits of the project considered. The decision-makers have the sole authority to determine whether and how relevant policies apply to a specific project.

Response to Comment E-14

As noted by the commentor, *Tiburon General Plan* Goal C-E is to improve the circulation system for pedestrians and bicyclists, including safety enhancements. Additionally, Policy C-19 indicates that new driveways and roadways intersecting Paradise Drive shall be kept to the minimum number possible; including serving multiple residences by a single access point onto Paradise drive where feasible, and be situated in safe locations.

The proposed project could eliminate the existing driveway serving the Rabin residence by connecting the existing private driveway with the main access road of the proposed project. Consolidation of this driveway with the Main Road would be consistent with *Tiburon General Plan* Policy C-19 and the Marin County Development Code, which both encourage minimizing the number driveways serving multiple residences. As discussed in *Impact 5.1-9 Project Impacts Related to Site Access* and *Impact 5.1-10 Project Impacts Related to Emergency Access and Internal Circulation* the proposed on-site roads way would be constructed according to current County roadway standards.

The existing driveway is currently located at an apex of a curve, with limited sight distance from the east. The new driveway would have adequate sight distance and would have adequate capacity to serve all residences. Additionally, eliminating one driveway would reduce the number of conflicts bicyclists experience on Paradise Drive.

Response to Comment E-15

The removal of the existing driveway would not make a significant change to the proposed remediation of the repair of Landslides B and D at this location. The landslides would need to be repaired to reduce the potential impacts to Paradise Drive to a less-than-significant level. The proposed remediation is primarily a below-grade retaining structure, which would not involve a significant amount of ground disturbance. No significant lot grading is proposed at the location of the existing driveway.

It is possible that the repair to Landslide C would not be required. The repair to Landslide C primarily would consist of installation of subdrains and involve about 50 cubic yards of grading.

Response to Comment E-16

As called for in Mitigation Measure 5.5-5(b), the proposed project shall comply with the Tiburon Tree Ordinance (Title IV, chapter 15A of the Tiburon Municipal code). As noted in the mitigation measure, Section 15A-7 of the town's tree ordinance calls for a replacement ratio of up to 3:1 for trees removed. However, flexibility with this standard shall preferably be considered by the Town for this project given the importance of protecting grassland resources on the site and the high density of indigenous and planted trees on the site, the majority of which would be preserved as part of the project. A detailed discussion of the potential impacts of the project on tree resources is provided on pages 268 and 269 of the Draft EIR. While some of the trees proposed for removal are over 20 years old, both native and non-native trees are spreading into areas that were previously native grasslands, and most of the native trees proposed for removal are relatively small in size. Balancing the need to provide for adequate replacement plantings with the importance of protecting the remaining grasslands on the site and not overplanting simply to meet a required replacement ratio must be considered in evaluating compliance with the Tiburon Tree Ordinance. Given the challenges of "fitting" the replacement tree plantings on the site, consideration should be given to requiring the applicant to provide at least a partial in-lieu fee in achieving adequate mitigation for anticipated tree loss. In

response to the comment, and to include consideration of a partial in-lieu fee, Mitigation Measure 5.5-5(b) on page 270 of the Draft EIR has been revised as follows.

Mitigation Measure 5.5-5(b) The proposed project shall comply with the Tiburon Tree Ordinance (Title IV, Chapter 15A of the Tiburon Municipal Code). The *Mitigation Program* called for in Mitigation Measure 5.5-1(c) shall include provisions that provide for the protection and replacement of “protected trees” affected by proposed development. Details of the *Mitigation Program* shall include the following:

- Project shall comply with the Tiburon Tree Ordinance. Section 15A-7 calls for a replacement ratio of up to 3:1 for trees removed. However, flexibility with this standard shall preferably be considered by the Town of Tiburon for this project given the importance of protecting grassland resources on the site and the high density of indigenous and planted trees on the site, the majority of which would be preserved as part of the project. In achieving an adequate replacement ratio to mitigate the anticipated loss of protected trees, consideration shall be given to allowing the applicant to pay a partial in-lieu fee or provide a program for partial off-site mitigation if installing all of the replacement tree plantings on-site would compromise the remaining stands of native grasslands to be protected.
- Adhere to the Tree Preservation Guidelines specified in the *2005 Tree Survey*. Any provisions for replacement of “protected trees” must be balanced with the importance of maintaining the remaining grassland habitat on the site, which also provides important habitat for wildlife.
- Refine the Grading Plan to clearly show the location of all trees to be protected, trees at the limits of grading that shall be preserved if determined feasible during site grading and landslide remediation according to the Tree Preservation Guidelines, and those trees recommended for removal. The tree replacement program shall address all trees designated or considered to possibly require removal as a result of site development and landslide remediation.
- Refine the revised Preliminary Planting Plan to clearly indicate the location of replacement tree plantings on the site. Replacement tree plantings shall emphasize the use of native tree species and shall be designed to complement the existing oak woodland habitat without compromising the important native grasslands on the site.

LETTER F

Scott Anderson

From: Judith Thompson [jat@thompsonbrooks.com]
Sent: Thursday, October 01, 2009 12:26 PM
To: Scott Anderson
Cc: Cynthia Brooks
Subject: Alta Robles Project

OCT - 1 2009

Dear Mr. Anderson:

I am writing to enter into record my opinion on the environmental impact of the above mentioned project. As the only neighbor directly abutting the project, I believe that the report has overlooked the impact of the proposed walking path. If the path is installed as drawn, it will invite strangers to hike directly adjacent to my property and my home. In order to avoid people being able to look directly into my shower and bathroom, I will no longer be able to open the windows in the bathroom. I will hear noise and lose privacy from people walking down the path. People will be walking about 10' from my bathroom, bedroom, family room, living room and office.

I really do not understand why, when there are almost 60 acres on this new development, the path has to be pushed completely over to the property line next to my house. Why not next to the Rabin house? Why not next to the open space on the other side? It could be put on the further towards the development, rather than right next to the property line. Why would you destroy someone's privacy and quality of life, and devalue their property, when you could easily move the path towards the development (but still within the designated open space) and have no impact on the neighbors? I have written numerous times, have attended two meetings and brought up this subject, and still I see no concessions and no mention of this in the EIR. As far as I am concerned this one specific aspect of the project has enormous impact on my property and my property rights, and is placed where it is for no logical reason other than someone thought the squiggly line looked pretty on paper.

In addition to the path running alongside my house, as you know, they have put public access to the other "walking path" in a place where it is impossible to access unless you walk across my property. I feel like my property will be on a little island surrounded by Tiburon's new Public Walking Paths! Please move the walking paths and the entry to the path towards the open space off my property line and further towards Gilmartin. Surely there is another solution besides the first one that they have proposed.

Judith Thompson

139 Hacienda Drive

Tiburon, CA 94920

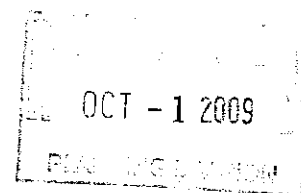
10/1/2009

#4

LETTER F CONTINUED

Scott Anderson

From: Judith Thompson [jat@thompsonbrooks.com]
Sent: Thursday, October 01, 2009 12:38 PM
To: Dan Watrous
Cc: cindybrooks139@comcast.net; Scott Anderson
Subject: RE: Alta Robles Residential Project



2

Dear Dan. Please see the letter below from you. This letter was supposed to be entered into the record for EIR consultants. I do not see anything about this path on the EIR report. Was my previous letter sent to the consultants? If not, please consider this and the letter I wrote today, as comments on the EIR and placed into record.

My best, Judith

Judith Thompson,
139 Hacienda Drive
Tiburon, CA 94920

From: Dan Watrous [mailto:dwatrous@ci.tiburon.ca.us]
Sent: Monday, August 20, 2007 9:42 AM
To: Judith Thompson
Cc: cindybrooks139@comcast.net
Subject: RE: Alta Robles Residential Project

Dear Ms. Thompson and Ms. Brooks,

Thank you for your letter regarding the Alta Robles project. We will place your letter in the record for the project and pass along your concerns to the EIR consultants.

Sincerely,

Dan Watrous

Daniel M. Watrous
Planning Manager
Town of Tiburon
 (415) 435-7393

-----Original Message-----

From: Judith Thompson [mailto:jat@thompsonbrooks.com]
Sent: Sunday, August 19, 2007 12:12 PM
To: Dan Watrous
Cc: cindybrooks139@comcast.net
Subject: RE: Alta Robles Residential Project

Dear Mr. Watrous: I would also like to enter into the record that, according to a survey that we had done, the portion of hacienda that runs directly in front of my house is actually on our property. Apparently in the 50's the road slipped down the hill and a new road was put uphill of the old one and located on our property. At the time, as far as I can discern, easements were not given or recorded for addresses beyond 140 to drive over our property. I believe that technically the people driving beyond our house are doing so with our permission. Obviously, we would not give permission for any traffic from this development to drive across our property. I am also wondering if this new project has a

10/1/2009

fire-truck turn around and a secondary fire road, or if that is what Mr. Rabin is intending for the new trail and the road to nowhere.

Judith Thompson, CEO
Thompson Brooks, Inc.
375 Rhode Island Street
San Francisco, Ca 94103
415-581-2600
www.thompsonbrooks.com

From: Judith Thompson
Sent: Sat 8/18/2007 9:38 AM
To: dwatrous@ci.tiburon.ca.us
Cc: cindybrooks139@comcast.net
Subject: Alta Robles Residential Project

Dear Mr. Watrous: I apologize for missing the meeting about this project, as I would out of the country for three weeks. However, after reviewing the plans for the Alta Robles project at 3825 Paradise, I would like to enter comments into the record.

We own and live at 139 Hacienda, which is directly adjacent to the South West property line of the subject property. Two things in the plan are troubling to us, and without these changes we will do whatever is in our power to stop this plan from going through. In the plan, there is a "public walking trail" that begins on Hacienda at our property line, runs along our entire property line, and terminates quite near the "fire" road that Mr. Rabin installed at Paradise Drive a couple of years back (it is my understanding that this road was installed without permit or permission from the Town). The view from that path will be only of our home and will look down, from close proximity, into the windows of our master bedroom, bath, dressing room, guest bedroom and our young daughter's bedroom, as well as family room, living room, and office and our entire back yard and deck. It would destroy our privacy.

Secondly, I see on the plans a paved road that goes to "Lot C". It forks off the main road of the proposed housing development, runs along and above Hacienda and terminates very near the corner of our property, where access to Hacienda is possible. This road does not go to any proposed house, or serve any purpose that I can see. It just goes along and above Hacienda and stops. However, if you added a short extension to this to this proposed road to nowhere, Voila! You would have a road off Hacienda into the development and down to Paradise. What would justify the expense of putting in a very long and expensive paved road in this location that goes nowhere? Coincidentally, if you follow the walking path down to Paradise Drive, where it intersects the "fire road", you would have a road linking Paradise to Hacienda. A road running adjacent to the entire length of our property from Hacienda to Paradise would completely change the character of our home, drastically reduce our property values and eliminate our privacy.

Several neighbors have told us to "watch out" for Mr. Rabin and commented that for 20 years Mr. Rabin has tried in many ways to connect his property to Hacienda. If indeed, Mr. Rabin has installed a road up from Paradise without a permit, what will stop him from putting a road where the "walking trail" has been approved? And how will a road affect the environment and character of our neighborhood? I also have a concern about this access road being used for construction of 14 new homes for several years directly adjacent to my home. If I see one construction vehicle entering this property from Hacienda, next to my property, I will initiate a lawsuit and a stop work injunction.

At the last public meeting, we voiced our concern about the path and it's proximity to our property. We questioned why a path needed to go right next to our house, when the development has 52 acres to find a place for a path without running directly and entirely past our house. We wonder why the path doesn't go on the South-east property line, which is adjacent to the open space between Hacienda and Gilmartin, where there are expansive views and walking trails. Mr. Rabin and the Architects have not given us an answer. I believe there is no other justifiable answer other than Mr. Rabin is trying to put in the road that he has tried for 20 years to get onto this property. I'm not sure why. I know it will make construction much easier. I know it will enhance his property values.

We wrote to the Architect recently to ask if they had moved the trail, and did not receive a reply. After examining the plans, I see that not only is the path still here, but there is a paved road running along Hacienda, connecting to the main proposed access road in the development and terminating very close to Hacienda at our property line, where the access to Hacienda is achievable because of the terrain. This is a very thinly disguised attempt to get access to Hacienda, and I will fight it. I will also make sure that all residents on Hacienda Drive are aware of the threat of access to Hacienda from Paradise and the new development, since I know that neighbors on Hacienda do not want to increase traffic on our private road, in our small neighborhood, and not in the least the construction traffic generated by 14 new houses.

I am taking this aggressive tactic, because we already told Mr. Rabin and the Architects that we would fight this project if the path remained on the plans as it was drawn, and it is still there. This tells me for some reason it is very important to the developers to keep the path where it is, instead of on the other side of the property where it actually makes sense. Of course on the other side of the property the "public trail" would allow the the hikers (if any hikers actually found their way to this trail) to walk directly past Mr. Rabin's new houses, instead of ours. It would also not afford access to Hacienda.

As I said to Mr. Rabin and the Architects, I believe he has a right to develop his property. I'm not happy about seeing 14 homes built right next to my house, but I understand that this happens. However, I cannot accept a "trail" running right alongside my house and a new unjustified road terminating within feet of Hacienda and my front door.

Mr. Watrous, will you please reply to this e-mail message and let me know that this letter has been entered into the record on this issue? Thank you in advance.

Sincerely,

Judith Thompson
Cindy Brooks
139 Hacienda Drive
Tiburon, Ca 94920
415-435-4177

RESPONSE TO LETTER F – JUDITH THOMPSON AND CINDY BROOKS (OCTOBER 1, 2009)

Response to Comment F-1

The commentor owns property at 139 Hacienda immediately adjacent to the southwest boundary of the project site and fronting on Hacienda Drive. The commentor is concerned with impacts of the proposed trails within the project site. Potential impacts of the proposed trails are discussed in the EIR. For example, *Section 5.5 Biological Resources* discusses the potential impact of the proposed trail along the western boundary of the site on the single occurrence of north coast semaphore grass located on the site. Mitigation Measure 5.5-1(b) recommends elimination of the proposed trail along the western boundary of the site. Furthermore, in *Alternative 3* the portion of the proposed trail that would travel along the project site's western boundary has been removed to help prevent incidental impacts (see **Exhibits 6.0-3** and **6.0-5**). The trail also has been eliminated in the revised proposed project (*Alternative 4*).

The Town staff has discussed the possible relocation of the proposed trail along the south side of the property parallel to Hacienda Drive.⁶⁵ The design of the entry to the trail would occur during the Planning Commission's and Town Council's review of the merits of the Precise Development Plan.

Response to Comment F-2

The commentor provided copies of correspondence dated August 19, 2007 and August 18, 2007 submitted to the Town of Tiburon. These correspondence raised concerns about the public trail along the south and west boundaries of the project site and the connection to Hacienda Drive. This correspondence was submitted to the Town in response to the Town's scoping process for this EIR (described in *Section 1.1 EIR Requirement of the EIR*). Concerns expressed in this correspondence were taken into account during the preparation of the scope of the EIR. As discussed in Response to Comment F-1 these issues are discussed in the EIR.

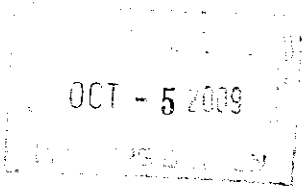
⁶⁵ Letter to Irving Rabin from Scott Anderson, Director of Community Development, Town of Tiburon, May 9, 2008.

#6

LETTER G

Re: Alta Robles DEIR
October 2, 2009

TO: Scott Anderson
Tiburon Planning Department
By email



FM: Sandra Swanson
2 Seafirth Lane
Tiburon, CA 94920

1. (5-84 p. 331) Viewpoints: The DEIR View Impact Analysis is deficient. The Alta Robles story poles can clearly be seen from homes in Seafirth, from Paradise Drive homes above Seafirth, and from the homes on lower Ring Mountain.

1

p. 331 and following. Once the woodland has been cut down, the Alta Robles houses will be even more visible to these neighborhoods.

Please provide viewpoints looking to Seafirth and beyond, showing Lot placement. Please project the viewpoints once the trees proposed to be cut have been removed. Please analyze the neighborhoods affected for project obtrusiveness, noise, air quality, outdoor lighting, etc.

3. p. 330 **Trees:** 261 trees are proposed to be removed, mostly for grading purposes. Tiburon lists 107 of the trees as "protected" – mostly the larger native live oaks. (p. 275) But 261 is just the starting number for tree loss. (p. 274) The DEIR reveals that much of the well-developed oak woodland outside the limits of the grading could be removed for fire management, and defensible space. (pgs. 268-275) Several situations are cited for additional tree loss, including "inadvertent" tree wounding that would result in "long-term tree decline." (p. 274) Additionally, "field adjustments" may be required during excavation and slope reconstruction that could lead to even more tree loss.

2

Yet, the DEIR does not state how many **more** trees are potentially **at risk**, and how many of these are protected trees. Please include this information.

p. 244. Please also cite the number of trees to be removed **for each Lot**. Lots 9 and 10, particularly, require removal of a large part of woodland.

3

4. **Noise:** the Community Noise Equivalent Levels do not include a decibel level for chain saws, which is 110 decibels, or for tree root-drilling augers, also 110 decibels, or for wood chippers, which produce 120-125 decibels.

4

Presumably, the hundreds of trees slated to be destroyed will be cut by chain saws, the roots drilled out, and some chipping would be involved. Please add this significant noise into the estimate of noise levels from busy construction activity.

4 CONT'D

The CNEL is also missing the decibel level for truck back-up alarms: 87-112 dBA. Please also enter these truck noise effects into the the estimate of noise levels from busy construction activity.

5

p. 212 "Construction noise would be a significant impact if: The noise level would exceed 60 dBA Leq and the existing ambient level by at least 5 dBA Leq, and the noise would be generated regularly for a 12-month period or longer."

6

p. 215 "Existing homes located along Seafirth Road (36, 40, 50, and 60 Seafirth Road) are located approximately 250 feet from proposed residences on Lots 13 and 14. Hourly average noise levels at homes located 250 feet from busy construction activity would be approximately 67 to 74 dBA. The next nearest proposed residential lot is Lot 12, located approximately 550 feet from existing houses on Seafirth Road."

The DEIR has ignored several other Seafirth homes in the immediate proximity: 4030 Paradise Drive and 10 Seafirth Road look directly at the project (now story poles). Homes that directly front – or back – Paradise Drive in the immediate vicinity: #2 and #3 Seafirth Lane, #17, #36, #40, #60, #70, and #80 Seafirth Road, #7 and #9 Seafirth Place, and #4000, #4020 and #4030 Paradise will all be directly affected by construction and construction traffic noise. Please add these homes to the data.

FIFTEEN Seafirth homes will be regularly and significantly affected by the 12-house project noise for a 12-month period or longer.

The CNEL is also missing decibel level for Truck back-up alarms: **87-112 dBA** and for hand-held hammers **85 DBA**, such as those used for framing and shingling.

7

Please include the truck, truck back-up alarm and hand-held hammers' noise components into the DEIR analysis. Please relate these additional noise effects to Seafirth.

For this project and, cumulatively, for the other three large proposed parcel development (Martha, Sorokko and Swahn) please calculate how many total cumulative, and most likely, simultaneous truck trips will be necessary for infrastructure and building supplies, workers, heavy equipment, for carting dirt, gravel and other infills, for offloading the hundreds of trees to be cut by the Rabin project, the 600-800 trees to be cut by the Sorokko project across Paradise

8

Drive from Alta Robles, and the as-yet undetermined number of Martha and Swahn trees to be cut – including the number of truck trips that will be required to prepare the land, put in infrastructure, construct the proposed new homes and pave the roads.

8

p. 209 "**Large truck pass by at 15 meters (49 feet) = 90 dBA.**" Please assess the cumulative construction truck and other traffic sound impacts on residents of the 15 Seafirth properties within 50 feet of Paradise Drive, some of them – #10 Seafirth Road, #2 and #3 Seafirth Lane, 4000 Paradise Drive, #7 and #9 Seafirth Place – with houses 30 feet and less from Paradise Drive.

9

5. Air Quality/Health. p. 200. "Trucks traveling near residences would have the most notable air quality impact, since much of the project activity would be a considerable distance from residences. The project Construction Management Plan includes traffic control measures to reduce traffic congestion that would minimize congestion and truck idling times on roadways near residences.

10

"Truck travel and construction equipment exhaust may result in elevated levels of DPM for short time periods. However, these activities would occur for a relatively short period that the increased cancer risk would be so small that it would for all intents and purposes be immeasurable at any one particular residence."

Please define "near" as in "Trucks traveling near residences." Assess the cumulative air quality impact for all residents whose properties abut Paradise Drive for "trucks traveling near residences (that) would have the most notable air quality impact." Assess in view of the cumulative and simultaneous number of trucks that will use Paradise Drive during construction of the three developments. If the impact is higher for children, please analyze the effect on the children (currently 16 children under the age of 12) who live in these homes.

6. Health & Safety. Please assess the cumulative impact on the existing local roads' ability to safely accommodate all of this cumulative new traffic, calculating emergency response times for potential truck traffic jams, and assessing wear and tear on the local roads, providing realistic, accomplishable mitigation measures.

11

7. Mitigations. (Mitigation Measure 5.5-5) The mitigation that replants trees on the site, "would **ensure** that there would be no net loss of trees."

12

First, 261 trees, plus-plus would be gone forever. Second, regardless of the planting ratio, it is not possible to **ensure** that the saplings planted will replace the loss of the 261-plus-plus mature trees. We have drought, we have flooding, we have SOD disease. There will be exhaust and dust pollution on the site for

many years to come while houses are being built. These are not ideal growing conditions. There is also the danger of fire. Please consider rethinking and removing the words, "would ensure" or have an arborist justify this assurance.

12
CONT'D

(Impact 5.6-5 Grading) Numerous events in the DEIR are supposedly made "less than significant" by mitigations. One example is the excavation of 24,600 cubic yards of soil just for road and lot development. And a "guesstimate" of 54 thousand cubic yards and 192 thousand-plus square feet of remedial landslide grading. These are significant impacts that cannot be made less than significant and in no way can they be characterized as "not excessive." Please define "excessive" in Tiburon Land Use terms, perhaps in a ratio: size of properties and amount and dimensions of grading.

13

7. **Project Alternative.** Please create a new alternate project design that avoids geologic hazards, places the houses away from the forest, with fewer houses, smaller houses, smaller building envelopes and closer clustering.

14

8. p.173 cites two previous studies on Paradise Drive that identified "unsafe" conditions for bicyclists on Paradise Drive that would be exacerbated by even minor increases in vehicle traffic: This would be a significant cumulative impact and the proposed project would make a cumulatively considerable contribution to this cumulative impact. What mitigations will be used to insure the safety to vehicle, bicycles and walkers along Paradise Drive from the increased traffic as well as continued deterioration of the Paradise roadway from this project?

15

9. p. 69 states that a temporary access road would likely be needed to bring in equipment to permit installation of a retaining structure for Lot 14. Please note the potential location, length, width and any grading or retaining walls associated with such a road and if it impacts any special status plants or habitat.

16

10. p. 90 & 91. Tiburon GP policies OSC-35 & OSC-36 call for retention of natural landforms, specifically knolls, to the greatest extent feasible and avoidance of grading not required for landslide repair. Yet, Lot 12 grading would involve leveling a knoll to provide for a level building pad (p. 69). In the discussion of policy consistency for OSC-36, the DEIR states: "Development would result in grading required to create accessible and relatively level building envelopes." Does the plan propose substantial leveling of building envelopes on this hillside site? Please provide grading amounts associated with leveling of building envelopes and pads. How does this approach comply with the Hillside Guidelines, which promote stepping a house with the natural grade, rather than cutting out a flat building pad?

17

11. p. 17. Mit. 5.1-7 addresses the creation of a 4-6' wide shoulder for bikes. How much grading, if any, is required to achieve this? Will retaining walls be necessary? If so, please describe locations, length, height and visual impacts. If grading is required, are the amounts included in Ex. 3.0-12 (p. 62), the estimated earthwork summary? If applicable, please include.

18

12. p. 66 and 63, Exhibit 3.0-13 (p. 63) provide a summary of retaining walls by lot. Do these figures include retaining walls for Paradise Drive frontage? Also, Exhibit 3.0-14(c) (p.66) indicates a retaining wall at "Road 1", but this does not appear on Exhibit. 3.0-13. Please revise the Exhibit to include all retaining walls proposed.

19

13. p. 16 Mit. 5.1-4. This mitigation addresses a 90' long x 8' high retaining wall on Paradise Drive. Please indicate how much grading is involved and if any associated grading amount is included in the Earthwork Summary. Exhibit. 3.0-12 (p. 62). Please discuss the visual impacts of such a wall and its consistency with applicable policies, such as Tiburon's OSC-40 and the Visioning Plan's call to retain the "rural character of the area." Offer mitigation to reduce the impacts of this wall.

20

14. p. 57-69. The DEIR states the height of debris catchment fences (one of which is 16' high) but, with one exception, not their lengths. Please provide estimated lengths of such fences, and assess potential view impacts, if any.

21

15. p. 30, 224. The DEIR talks about "proposed cistern installations" and their function. More information is needed to evaluate a variety of possible impacts. Where would the cisterns be located, i.e. within bldg footprint, inside the RUA, etc.? Are there any siting guidelines? What are their proposed dimensions? If they are to be undergrounded, at what depth would they be installed? How much grading or digging, if any, is associated with cistern installation and, is this included in DEIR grading calculations? Are there any secondary impacts associated with such installations? If mitigations are necessary for any impacts, please provide them.

22

16. p. 30, 224. Explain how the proposed cisterns would function. Even assuming they are empty before a big storm event, how do you prevent them from filling up immediately when it first starts raining? How is the overflow handled? How do you control the measured (presumably) later discharge from the cisterns? Provide real-world examples of this technology actually being installed and used over a long enough period of time in a sufficiently similar climate and geographical setting so that there is some evidence that these cisterns could actually regulate project runoff during a major storm event.

23

9. In assessing visual impact, the most important viewpoint was not evaluated. The Bay is the largest area of public Open Space serving the largest number of people in the project area. It serves both as a public road and recreational area. I note that assessing views from the Bay was an important source in determining Tiburon's significant secondary ridgelines where the whole site, including the Tiburon Ridge, is visible. The dismissal of view impacts to these ridgelines as Less Than Significant partly results from the fact that, from the viewpoints chosen for analysis, only portions of these ridgelines can be seen and their value as defining site landforms is thus diminished. The placement of houses and roads on these ridges would be most impactful from the Bay, causing the visual loss of the natural geography of the site. A view analysis from this major public Open Space, an analysis that shows the site without the Sorokko trees, which currently hide the property and which are slated to be removed, is the obvious viewpoint from which to assess impacts. Please provide an evaluation of view impacts from the Bay, including the extent to which views of the Tiburon Ridge and significant secondary ridgelines are obscured or overlain by development features, including roads, retaining walls, fencing and structures. Offer mitigation as appropriate.

24

10. p. 72 shows 5 phases of construction. Is there a time frame associated with each phase or is it open-ended? Please explain.

25

11. P. 272 As indicated in the Preliminary Planting Plan, the proposed deer fencing would form a near continuous barrier across the site with the exception of the private roadways. Fencing would extend to the street frontages and surround the entire Residential Use Area shown in the Preliminary Grading and Drainage Plan. The Common Open Space between Lots 8 and 11 would be bordered to the south by deer fencing, forcing wildlife to access the area either directly on the Main Road between Lots 10 and 11 or Lots 3 and 7, or along the lower elevations of the site along Paradise Drive. The deer fencing would separate the larger area of woodland habitat in the private open space area on Lot 1 from the larger areas of grassland habitat to be retained in Common Open Space on Parcel A. The potential impacts of the project on wildlife habitat and movement opportunities would be significant, particularly for larger terrestrial species.

26

Deer fencing is specifically addressed in the DEIR. Please indicate, by lot, the square footage permitted to be fenced. What are the guidelines for locating such fencing – must it stay at or within the RUA line or can it go outside it, etc.? Is fencing other than the described "deer" fencing allowed on site? If "yes", please specify, by lot, permissible locations, fenceable area and maximum heights. Assess view impacts of any fencing.

12. p. 52 It appears that much of the storm drain system will be installed above-ground. What are the lengths and locations of these drains? Evaluate visual impacts and offer mitigations, such as dark color liner material, dark rock facing, etc.

27

13. p. 53 Does the conceptual landscape plan address how the proposed tree plan, at maturity, will affect views of the ridgelines – the Tiburon Ridge and the significant secondary ridges? If not, provide a mitigation that requires that the final landscape plan make such assessment and avoid tree placement that will obscure the site's ridgelines over time. Such an assessment should include views from the Bay, the open space from which the site is most visible.

28

14. p. 124-5. The Paradise Visioning Plan's Goals 1-3 seek to maintain the "rural character of the Paradise Drive area." specifically including the rural visual character of the hillsides and limiting the bulk and mass of new residential structures. The DEIR says the project is "consistent" with this goal. As a participant in the Visioning process, I can assure you that 13 new structures of 6900 sf to over 8500 sf (inconsistent with and considerably larger than the neighborhood standard) on the grassy, exposed hillsides was *not* what we envisioned as "rural" or "limited in mass and bulk." How does the DEIR justify a "consistent" designation? Please explain.

29

15. Please provide a composite site plan showing lots/RUA's/building envelopes overlain by significant ridgelines and special status plant species, wetlands and streams. While some (but not all) of this has been provided, Exhibits are at different scales, making evaluation of impacts unclear. This "snapshot" of project features is essential for the public to be able to assess impacts. Consider reproducing it in fold-out size so that it will be readable.

30

16. What is allowed within the common and private open space in terms of development, landscaping and activities? Please specify for both types of open space. For instance, on p. 49, the DEIR states that outside RUA's lots would generally remain as undeveloped open space and retained in a natural condition. What does "generally" allow in this context?

31

17. p. 13. Common Open Space A, B and C would be offered for dedication as open space. To whom would the dedication be offered? Has the likelihood that these areas would be accepted been assessed? If not, please provide such an assessment. If not accepted, how would this Open Space be managed, and by whom?

32

18. p.27. p. 305. Cumulative Fire Service Impact. Mit. 5.7-3 offered seems unrelated to fire services.

33

RESPONSE TO LETTER G – SANDRA SWANSON (OCTOBER 2, 2009)

Response to Comment G-1

The Visual Quality section in the EIR contains an analysis of the project's impacts on three representative viewpoints that were chosen by the Town of Tiburon staff and the EIR consultants after reviewing photo documentation of the project site and surrounding areas. The three viewpoints chosen (see **Exhibit 5.8-1**) were selected because they represent typical views of the project site from nearby public locations.

The commentator implies the visual analysis is deficient because it does not address the amount of visibility the project would have when viewed from adjacent developments. The *Tiburon General Plan* and *Tiburon Municipal Code* allow residential development on the project site. Therefore, the baseline for the visual analysis includes an expectation that residential development will occur on the project site. It would be inappropriate to categorize visual impacts based on the visibility of the proposed development alone. The methodology used in the visual analysis is adequate because it characterizes the sensitivity of each viewpoint based on the landscape cover, prominence of the view, surrounding land uses, and the expectation of development for the project site. With the views sensitivity as the baseline, the project's impacts can then be measured by weighing the visual dominance of the project's elements against the sensitivity of the view (see **Exhibit 5.8-2**). Photosimulations show both the existing conditions and post development conditions for each viewpoint. The post-development conditions do visually represent anticipated tree removals to accommodate the project, as well as proposed landscaping which is shown at five to seven years maturity.

As discussed above **Section 5.8 Visual Quality** contains an analysis of the project's impacts on three viewpoints selected because they represent typical views of the project site from nearby public locations. **Master Response 1** provides additional analysis of the project's visual impacts as viewed from San Francisco Bay (see **Exhibits 9.0-1** and **9.0-2**). **Section 5.3 Noise** contains an analysis of the impacts construction noise would have on adjacent neighborhoods (see *Impact 5.3-1 Construction Noise*). **Section 5.2 Air Quality** includes an analysis of construction-period air pollutant emissions (*Impact 5.2-1*), generation of airborne asbestos (*Impact 5.2-2*), and greenhouse gas emission (*Impact 5.2-3*). **Section 5.8 Visual Quality** contains an analysis of light pollution (*Impact 5.8-4*).

As discussed in **Section 5.5 Biological Resources** native woodland vegetation occupies approximately 6.8 acres of the project site. Approximately 261 trees would be removed to accommodate the proposed development (see **Exhibit 5.5-6**). Photosimulations of Viewpoint 1 through Viewpoint 3 (see **Exhibits 5.8-4** through **5.8-9**) do project the visual affect tree removal would have on these viewpoints. However it should be noted that Mitigation Measure 5.8-1 calls for planting of native trees to screen proposed buildings so that each visible façade would have no more than 30 percent of its surface visible. However as noted in **Section 5.8 Visual Quality**, even with mitigation *Impact 5.8-1* would remain a significant unavoidable impact.

Response to Comment G-2

Comment noted. Please see Response to Comment E-16. As discussed under *Impact 5.5-5*, the total number of trees to be removed to accommodate proposed development is an estimate. There is some uncertainty with regard to required tree removal in landslide areas where the extent of grading is not completely known, but conservative assumptions were used in developing the anticipated limits of

grading and the associated tree loss. Similarly, there would be opportunities to preserve many of the trees identified for removal at the limits of grading, which could further reduce the total estimated number of trees to be removed as part of the project. Mitigation Measure 5.5-5(b) on page 270 of the Draft EIR addresses this uncertainty, and calls for preserving trees at the limits of grading if determined feasible during site grading and landslide remediation.

Response to Comment G-3

As shown in **Exhibit 5.5-6** the total number of trees removed for the project is estimated to be 261. 185 trees would be removed for roadways and lot development and 76 trees would be removed for landslide repair. Pending field adjustment related to landslide repair and vegetation management for wildland urban interface requirements make it difficult to know the exact number of trees that would be removed/preserved on the project site. However an approximate analysis of trees that would be removed for driveway and building footprint construction is as follows:

- Lot 1 - zero
- Lot 2 – five trees
- Lot 3 - ten trees
- Lot 4 - eight trees
- Lot 5 - nine trees
- Lot 6 - six trees
- Lot 7 - two trees
- Lot 8 - four trees
- Lot 9 - three trees
- Lot 10 - zero
- Lot 11 - zero
- Lot 12 - zero
- Lot 13 - six trees
- Lot 14 - zero

Fifty three (53) of the 261 trees anticipated for removal would be removed to accommodate room for the proposed building envelopes and driveways. The remaining 208 trees would be removed to make room for roadway construction and landslide repair. It should be noted that *Alternative 4* includes revisions to landslide repair and grading that would reduce tree impacts.

Response to Comment G-4

Hourly average construction noise levels used in the analysis and shown in **Exhibit 5.3-3** assume all pertinent equipment is present and operating at the construction site during each phase of construction.

Response to Comment G-5

See Response to Comment G-4.

Response to Comment G-6

The construction noise assessment focused on the most affected receptors. The significance of impacts is not based upon the number of receptors affected, but rather whether or not receptors would be exposed to noise levels that exceed the significance thresholds. As stated in **Section 5.3 Noise** (see page 210 of the Draft EIR) “noise sensitive receptors located within approximately 1,200 feet of busy construction activity could potentially experience noise levels of about 60 dBA at times. The increase

would be less where terrain shielding occurs. Levels of 60 dBA would be at least ten dBA above the existing levels that were measured at or near the project site.”

Response to Comment G-7

See Response to Comment G-4.

Response to Comment G-8

CEQA requires a discussion of cumulative impacts, which is when two or more projects each create an effect that increases or compounds other environmental impacts. The EIR preparers rely upon the *Tiburon 2020 General Plan Draft EIR* for identified cumulative impacts that are known to be an issue in the general area where the Alta Robles project is located. The EIR does not identify construction vehicles trips as a cumulative impact in the area. Construction traffic impacts are discussed in **Section 5.1 Transportation** (see *Impact 5.1-12*) and found to be less-than-significant.

Unfortunately there is not enough information available to estimate the number of construction vehicle trips that would be required for other development projects in the area. Construction time frames can change due to economic factors and the weather and although an EIR can estimate the amount of time it would take to construct a project, it would be speculation to assume the start and finish dates for the referenced projects. In any case it is unlikely that the three projects mentioned in this comment (Martha Company – up to 43 houses, Sorokko – five houses, and Swahn – one house) would all be under construction at the same time.

Response to Comment G-9

Construction truck traffic would vary throughout the construction period depending upon construction activities occurring at any given time. Noise levels would be elevated and noticeable as trucks pass by. Hourly average noise levels would fall within the range of existing levels and the overall 24-hour average noise level would not measurably increase.

Response to Comment G-10

Truck traffic during construction would be mostly a short-term nuisance air quality impact. Truck traffic is an air pollution concern locally, because trucks emit diesel particulate matter (DPM) that has been identified as a toxic air contaminant. The California Air Resources Board has identified sources of DPM land use planners should be aware. These include freeways and high volumes roads with truck traffic, distribution centers, train rail yards, and shipping ports. Paradise Drive is a low volume road that, even with construction, will continue to have a relatively low volume of truck traffic when compared with city roadways or highways.

The Draft EIR air quality analysis considers “near” as typical setbacks along Paradise Drive or other local roadways that are about 30 to 100 feet from the roadway.

The Bay Area Air Quality Management District (BAAQMD) uses their health risk policy to evaluate the impacts of air pollution sources on existing receptors. These are typically applied to new sources of industrial air pollution. As discussed on page 194 of the Draft EIR, “The increased health risk from these types of emissions (i.e., increased cancer risk) is calculated over a 70-year continuous exposure period at locations of sensitive receptors or residences.” The 70-year period is conservative in that it calculates the health risk over the entire lifetime, including childhood years. Because construction truck traffic would be relatively infrequent and occur for a relatively short period, when compared to a continuous lifetime exposure, the impact was considered to be well below significance levels. The

BAAQMD has recently released Draft CEQA Air Quality Guidelines⁶⁶ that include specific thresholds for evaluating “community risk” from diesel emissions sources. The criteria include a cancer risk threshold of ten excess cancer cases per million people during a 70-year exposure period for existing residential receptors. This is a project-level threshold and the cumulative threshold is 100 in one million. The draft guidelines also identified significance thresholds for PM 2.5 at 0.3 micrograms per cubic meter for annual exposures for a project and 0.8 micrograms per cubic meter annual exposures for cumulative impacts. The BAAQMD’s draft thresholds for cumulative impacts include only the sources within 1,000 feet of a receptor.

Air quality analysts know from experience that a project this size would have impacts well below these thresholds recently proposed by BAAQMD. An average of ten trucks per day for the next ten years would not cause air quality impacts to even approach these thresholds at 30 to 100 feet of a residence along a roadway like Paradise Drive.

Response to Comment G-11

As discussed in Response to Comment G-8 the EIR preparers rely upon the *Tiburon 2020 General Plan Draft EIR* for identified cumulative impacts that are known to be an issue in the general area where the Alta Robles project is located. The EIR does not identify construction vehicles trips as a cumulative impact in the area. Construction traffic impacts are discussed in **Section 5.1 Transportation** (see *Impact 5.1-12*) and found to be less-than-significant.

It is unlikely that each of the three cumulative projects mentioned by the commentor (Martha, Sorokko, and Swahn) would all be under construction at the same time. It is, therefore, unlikely that cumulative construction traffic would have a significant impact on emergency vehicle response times. In regard to construction traffic wear and tear on Paradise Drive and other local roads, typical conditions of approval for similar projects by the Town of Tiburon and Marin County require that any road damage by construction vehicles be repaired, based on a before- and after-evaluation.

Response to Comment G-12

Comment noted. Please see Responses to Comment E-16 and G-2.

Response to Comment G-13

The 53,592 cubic yards of remedial grading to stabilize landslides would be considered necessary to reduce the impacts of landsliding to a less-than-significant level. Based on the discussion of grading amounts on page 292 of the Draft EIR the amount of proposed grading is less than what is commonly considered mass grading and not excessive with respect to providing remediation of existing landslides. The majority of the grading would involve removal and replacement within the limits of the existing landslides.

Response to Comment G-14

The commentor requests a new development alternative that avoids geologic hazards, places houses away from the forest, with fewer houses, smaller houses, smaller building envelopes and closer clustering. In response to requests from members of the public and the Tiburon Planning Commission the applicant’s development team has submitted another project alternative (*Alternative 4 - Revised*

⁶⁶ CEQA Guidelines Update – Proposed Thresholds of Significance, Bay Area Air Quality Management District, December 2009.

Proposed Project) which builds upon revisions included in *Alternative 3 (Revised Site Plan)* to further decrease grading impacts and impacts to biological resources. These revisions proposed with *Alternative 3* are discussed in detail on pages 383 and 384 of the Draft EIR (**Section 6.3 Alternative 3 - Revised Site Plan**). Revisions proposed with *Alternative 4* include measures that reduce secondary impacts to biological resources and reduce the need for grading and retaining walls. Please see **Master Response 2** for the description and analysis of *Alternative 4*.

Response to Comment G-15

The commentor raises questions regarding safety along Paradise Drive and construction related impacts to Paradise Drive. Mitigation Measure 5.1-7 specifically addresses the need for improvements along Paradise Drive to mitigate cumulative impacts on bicycle facilities and / or safety. The intent of the mitigation measure is to be consistent with similar conditions of approval imposed by Marin County for the development of the Sorrokko property. **Exhibit 5.1-24** illustrates proposed bicycle mitigation measures for both the *Alta Robles Residential Project* and the adjacent Sorrokko project. *Impact 5.1-12* discusses construction traffic impacts. As stated in this discussion, the Construction Management Plan states that any damage to Paradise drive would be repaired based on a before-and-after evaluation.

Response to Comment G-16

Grading and disturbance associated with the installation of both the subsurface drainage and the retaining wall in the vicinity of proposed Lot 14 was considered in the evaluation of potential impacts in the Biological Resources section of the Draft EIR. No jurisdictional wetlands or special-status plant species occur within the limits of proposed Lot 14. Stands of native grassland do occur in the vicinity and could be affected, which was evaluated as part of the assessment in *Impact 5.5-2* in the Draft EIR.

Response to Comment G-17

The proposed project utilizes two residential building strategies. The Earthen Building Strategy involves placing structures into existing land contours. Some shaping of the terrain would occur but generally the design concept is intended to preserve the natural topography to the greatest extent possible. The Terraced Building Strategy involves a stepped building composition with materials and colors that would help the residence blend in with the hillside. Both of these design strategies are consistent with the Tiburon Hillside Design Guidelines, which promote both terraced buildings and buildings cut into the hillside (see **Exhibit 4.0-5**).

Response to Comment G-18

Based on comments received on the Draft EIR Mitigation Measure 5.1-7 has been revised (See Response to Comment B-11). As stated in Response to Comment B-11 a preliminary review of the proposed road section indicates that to accommodate the requested widths it would be necessary to grade into the hillside along a majority of Paradise Drive. In addition, four separate retaining walls (ranging in height from one to seven feet for a total length of approximately 750 feet) likely would be required. Furthermore, the drainage swale that exists along the road would need to be evaluated and alternative drainage options (including the need for a storm drain pipe) would need to be evaluated.

Response to Comment G-19

The commentor raises questions regarding the retaining wall that would be required to provide adequate sight distance and the location of the retaining wall referred to as Road 1.

As discussed in Response to Comment D-21, based on the vehicle speeds measured in September 2009 and the existing sight distance, the sight distance at the intersection of Paradise Drive and the entrance road would meet the AASHTO standard for stopping sight distance. Therefore, the retaining wall to provide adequate sight distance would not be necessary.

The retaining wall identified as Road 1 is included in **Exhibit 3.0-13**. It is included in the descriptions of the proposed retaining walls for Lot 7.

Response to Comment G-20

As discussed in Response to Comment D-21, based on the vehicle speeds measured in September 2009 and the existing sight distance, the sight distance at the intersection of Paradise Drive and the entrance road would meet the AASHTO standard for stopping sight distance. Therefore, the retaining wall discussed in the comment would not be necessary.

Response to Comment G-21

The commentor expressed concern regarding the length and visibility of the proposed debris catchment fences.

Based on **Exhibit 3.0-10**, the approximate length of the proposed debris catchment fences can be estimated. For Landslides A, E, and H the debris catchment fence would be about 50 feet in length. The fence for Landslide Q would have a length of about 100 feet.

The areas where the debris fences would be installed are densely vegetated with trees and shrubs. Each of the debris fences would be set back 50 feet or more from Paradise Drive. Since the project site slopes up from Paradise Drive, the base of debris fences would be at least ten to 20 feet above the elevation of Paradise Drive and not within the normal line-of-sight of passing motorists or cyclists. The fences would be mostly unseen due to these circumstances and would not impact views.

Response to Comment G-22

While no exact locations were specified in the applicant's Precise Development Plan, the cisterns would likely be located within the development footprint, since this would minimize the cost of piping and any related slope grading for the property owner. Dimensions were detailed in the applicant's Preliminary Hydrology Report.⁶⁷ The cistern storage requirement for mitigation of lot impervious area increases was computed to be 78 cubic feet. A more detailed description of the cistern design and performance assessment has been added to the EIR text under *Impact 5.4-1* (see Response to Comment B-17). The depth of cistern placement would complement the depth and alignment of the local storm drain system components. Typically, the storm drains lie a few feet below the finished road bed. Thus, the cisterns would likely be set slightly higher. The location (and depth) of the cisterns would be selected to enable gravity drainage both to the cistern from the impervious surfaces generating the runoff and from the cistern to the storm drain connection. Mitigation Measure 5.4-2 has been revised stipulating that the ultimate location for each lot cistern should occur within the designated lot grading envelope. Furthermore, a provision for the modeling of a lower recurrence interval rainstorm (i.e. two-year design storm) has been added to the same mitigation measure to minimize the potential for receiving drainageway scour/destabilization. See Response to Comment B-

⁶⁷ Preliminary Hydrology Report for Alta Robles Development, Tiburon, Marin County, California, CSW/Stuber-Stroeh Engineering Group, Inc., January 2006.

17 for the revised Mitigation Measure 5.4-2. With this added condition, there should be no secondary impacts associated with the construction of the units.

Response to Comment G-23

Comment noted. See Response to Comment B-17.

Response to Comment G-24

In response to this and similar comments a visual simulation accurately illustrating the proposed Alta Robles project from the San Francisco Bay has been prepared. Please see the visual analysis of Viewpoint 4 (Looking southwest from San Francisco Bay) in *Section 9.3 Master Responses*.

Response to Comment G-25

The commentor asks about the timing for site construction. At this time there is no time frame associated with each phase of construction.

Response to Comment G-26

As discussed in *Chapter 3.0 Description of the Proposed Project* a six-foot high deer fence would be installed around each of the new residences. An example of the deer fence is shown on sheet L2.0 of the landscape exhibits. A detailed discussion of the proposed deer fencing is provided on page 266 of the Draft EIR. Fencing would extend to the street frontages and surround the entire Residential Use Area shown in the Preliminary Grading and Drainage Plan. The Common Open Space between Lots 8 and 11 would be bordered to the south by deer fencing, forcing wildlife to access the area either directly on the Main Road between Lots 10 and 11 or Lots 3 and 7, or along the lower elevations of the site along Paradise Drive. The deer fencing would separate the larger area of woodland habitat in the private open space area on Lot 1 from the larger areas of grassland habitat to be retained in Common Open Space on Parcel A. The potential impacts of the project on wildlife habitat and movement opportunities would be significant, particularly for larger terrestrial species. Mitigation Measure 5.5-4 on page 267 of the Draft EIR was recommended to address potential impacts on wildlife resources, including adjustment and restrictions on the limits of proposed deer fencing to improve connectivity across the site and between the designated open space areas. All fencing locations, materials and design would be subject to Town of Tiburon Design Review.

Alternative 3 includes revisions to reduce the disruption the proposed deer fence around each of the new residences would have on wildlife movement opportunities under the proposed project. The effectiveness of the revised fencing locations is discussed on pages 381 and 382 of the Draft EIR.

Response to Comment G-27

The combined length of the proposed above ground storm drain segments, two traversing Lot 2 and two traversing Parcel A, would total approximately 970 feet. These storm drains are typically black HDPE flexible pipe and would be visible, yet of a color in concert with the dark color scheme suggested by the commentor.

Response to Comment G-28

Comment noted. The project's conceptual landscape plan is designed to respect the views available to surrounding residents and to users of the public open space. The location and species type of new landscaping would be regulated by the Property Owners' Association to help ensure that existing

scenic views are preserved. The species types and location of plantings would be such that, at maximum height, landscaping would not block scenic views of significant natural features such as Tiburon Ridge and San Francisco Bay.

Response to Comment G-29

Although the proposed residences are large they feature design elements that reduce structure mass and the prominence of the residences on the hillside. As proposed the project would be consistent with the pattern of low density development in the area. The project also proposes to dedicate 18.29 acres of common open space and preserves view of the Bay from the project site. The project's low density and open space areas are characteristics that are consistent with the rural vision of the Paradise Drive Visioning Plan.

Response to Comment G-30

As discussed in *Chapter 1.0 Introduction* as a part of the project application the applicant submitted a significant amount of information to the Town of Tiburon. Included in this information is the *Alta Robles Precise Development Plan*, March 1, 2007. Included in this submittal are Sheets SP-25 and SP-26 which show the proposed site layout overlain existing environmental constraints. These two exhibits provide most, if not all, of the information requested by the commentor. This document is available for review at the Town of Tiburon Planning Division.

Response to Comment G-31

Private open space would be voluntarily offered for permanent protection in scenic and resource conservation easements. Restrictions placed on private open space would be included with the Covenants, Conditions, and Restrictions (CC&Rs) placed on property deeds (these restrictions have not been prepared yet). Passive recreational uses would be permitted and encouraged, provided that sensitive native plants would be protected. Recreational uses that require significant tree removal and vegetation removal, grading, structures, or paving would not be permitted.

Response to Comment G-32

The applicant intends to grant an open space easement to the Town of Tiburon for the 18.29 acres of common open space located on the project site. It is not within the purview of the EIR to determine the likelihood this offer to the Town of Tiburon would be accepted, although Town staff has indicated that such offers are routinely accepted.

Response to Comment G-33

The commentor states that Mitigation Measure 5.7-3 seems unrelated to fire services. As discussed in *Impact 5.7-3* cumulative development within the Tiburon Fire Protection District may require additional personnel and equipment to maintain current performance standards. Expansion of existing facilities may be required to accommodate the additional equipment. Without an identified site and a design analysis of potential impacts of an expansion of existing facilities would be speculative. The point of Mitigation Measure 5.7-3 is that application of identified *Tiburon General Plan* policies and programs related to construction projects would reduce impacts related to the expansion of fire facilities to a less-than-significant level.

LETTER H

Subject: FW: Alta Robles DEIR
From: "Scott Anderson" <sanderson@ci.tiburon.ca.us>
Date: Wed, 7 Oct 2009 10:12:12 -0700
To: "Bob Berman" <bob@nicholsberman.com>
CC: "Diane Henderson" <dmhplanner@sbcglobal.net>

Bob,

While this is obviously late as a written comment and need not be responded to in writing, I think we should check on the premise and see if she has a point or is simply misreading the document or some data. If she is correct, we should address the point in the Final, assuming there is one.

Scott

From: SSWAN200@aol.com [mailto:SSWAN200@aol.com]
Sent: Wednesday, October 07, 2009 10:08 AM
To: Scott Anderson
Subject: Alta Robles DEIR

Re: Alta Robles DEIR
October 7, 2009

TO: Scott Anderson
Tiburon Planning Department
By email

FM: Sandra Swanson
2 Seafirth Lane
Tiburon, CA 94920

Scott,

Page 143:

Paradise Drive at the fire access road has existing two-way motor vehicle traffic volumes of about 80 vehicles per hour (vph) during the weekday AM and PM peak hours, and 125 vph during the weekend peak hour. Paradise Drive near its intersection with Trestle Glen Boulevard has two-way traffic volumes of approximately 455 vph during the AM and PM peak hour. Weekend peak hour traffic volumes at this intersection are approximately 310 vph. **Tiburon Boulevard near its intersection with Trestle Glen Boulevard has two-way traffic volumes of approximately 2,650 vph during the weekday AM peak hour and approximately 2,200 during the weekday PM peak hour.** Weekend peak hour traffic volumes at this intersection are approximately 2,100 vph.

1

Scott: Attached is the Cal Trans data on this intersection, showing Tiburon Boulevard (Route 131) traffic at **22,500 vph** west of Trestle Glen and **21,500 vph** east of Trestle Glen. That would make **two-way traffic volumes of 44,000 vph**. Should we assume that the other traffic figures should be checked for accuracy? This data should be changed in the DEIR and the consequent numbers should be discussed for impacts.

Thanks much. SJS

Hello Sandra,

Here is the info you requested:

(Embedded image moved to file: pic31989.jpg)

— Forwarded by Ron Kyutoku/D04/Caltrans/CAGov on 10/07/2009 08:41 AM

Carl Weingarten
Caltrans District 4
Web Development

AADT ON ROUTE 131 , EAST OF JCT. RTE. 101 IS 29000 VEHICLES
AADT ON ROUTE 131 , WEST OF STRAWBERRY DRIVE (BELVEDERE DRIVE) IS 26500 VEHICLES
AADT ON ROUTE 131 , EAST OF STRAWBERRY DRIVE (BELVEDERE DRIVE) IS 26500 VEHICLES
AADT ON ROUTE 131 , WEST OF TIBURON, TRESTLE GLEN DRIVE IS 22500 VEHICLES
AADT ON ROUTE 131 , EAST OF TIBURON, TRESTLE GLEN DRIVE IS 21500 VEHICLES
AADT ON ROUTE 131 , WEST OF TIBURON, SAN RAFAEL AVENUE IS 16800 VEHICLES
AADT ON ROUTE 131 , EAST OF TIBURON, SAN RAFAEL AVENUE IS 13400 VEHICLES
AADT ON ROUTE 131 , WEST OF MAIN STREET IS 6100 VEHICLES

Content-Description: tib.bl.traffic.jpg
tib.bl.traffic.jpg Content-Type: image/jpeg
Content-Encoding: base64

LETTER H CONTINUED

Subject: FW: alta robes traffic figures

From: "Scott Anderson" <sanderson@ci.tiburon.ca.us>

Date: Wed, 7 Oct 2009 12:08:31 -0700

To: "Bob Berman" <bob@nicholsberman.com>, "Diane Henderson" <dmhplanner@sbcglobal.net>

More from Sandra Swanson. FYI.

From: SSWAN200@aol.com [mailto:SSWAN200@aol.com]

Sent: Wednesday, October 07, 2009 12:01 PM

To: Scott Anderson

Subject: alta robes traffic figures

Comment No. 1 continued

sorry, 44,000 is the annual average daily traffic on Tib B. at Trestle Glen.

If the number was divided by 24 (hours) it would be 1833 vph. So, how to extrapolate for the peak times? Their figure of peak two-way traffic @ 2,650 vph still seems low. Thanks. SJS

Best,

Sandra J. Swanson

RESPONSE TO LETTER H – SANDRA SWANSON (OCTOBER 7, 2009)

Response to Comment H-1

The commentor notes that average daily traffic on Tiburon Boulevard at Trestle Glen Boulevard is approximately 44,000 vehicles per day, based on data received from Caltrans District 4. The commentor also attempts to extrapolate peak hour volumes by dividing the average daily observed volume by 24 hours. Although average daily observed volumes can be helpful, roadway volumes typically vary throughout the day, and higher volumes are typically recorded during the morning and evening commute (AM and PM peak hours). Based on engineering experience, peak hour volumes are typically between five and ten percent of the daily roadway volume.

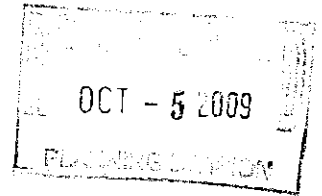
Peak period (7:00 AM – 9:00 AM and 4:00 PM – 6:00 PM) intersection turning movement counts were conducted on September 25 and 26, 2007. The counts were used to determine the peak hour turning movement volumes for the study intersections. At Trestle Glen Boulevard/Tiburon Boulevard, the recorded AM peak hour volumes were about six percent of the average daily volumes the commentor received from Caltrans, and PM peak hour volumes were about five percent of the average daily volumes obtained from Caltrans. These fall within the expect range for peak hour counts; therefore, Fehr & Peers (the EIR traffic analysts) believe that the recent counts adequately represent typically peak hour roadway conditions in the area.

California Native Plant Society

LETTER I

October 2, 2009

Scott Anderson
Town of Tiburon
1505 Tiburon Boulevard
Tiburon, CA 94920



Dear Mr. Anderson,

The following comments are submitted on behalf of the Marin Chapter of the California Native Plant Society (CNPS) regarding the Draft Environmental Impact Report (DEIR) for the *Alta Robles Residential Development* project.

It is CNPS's opinion that the DEIR is comprehensive and well-researched and we agree to a large extent with the impacts and mitigation analyses put forth by the authors. However, we find that the DEIR inadequately addresses impacts/potential impacts to and mitigation for 1) sensitive natural communities; 2) special-status plant species; and 3) wetlands and drainages. We contend that some of the impacts cannot be mitigated to a less-than-significant level.

The project site is located partly within and partly adjacent to one of the most sensitive plant communities in California, namely *serpentine grassland with bedrock outcrops*. The project is known to support populations of federally- and State-listed plants, as well as rare and endangered plants that are included on lists maintained by CNPS. The site has a potential to support additional special-status species (plants and animals).

Inadequate mapping of Native Serpentine Grassland (Serpentine Bunchgrass Grassland) and other Plant Communities

1

- The extent of Native Serpentine Grassland on the SODA property is not accurately mapped;
- A vegetation map showing all the plant communities currently present is not available.

Exhibit 5.5-1 shows the extent of Sensitive Natural Communities and Special-status Species as mapped by the applicant and verified by the EIR consultants. This map is inadequate in its mapping of native grassland. Based on personal knowledge of the undersigned, most of the SODA property is dominated by native grasses, including purple needlegrass (*Nassella pulchra*), june grass (*Koeleria macrantha*), melic grass (*Melica californica*), and blue wildrye (*Elymus glaucus*). Outside of the southern portion of this parcel, only two small areas of native grassland are mapped (Exhibit 5.5-1). Non-



Dedicated to the preservation of California native flora



native species are invading the grassland near the access road, which was installed without prior surveys (and permits?) some years ago, but the percentage of native grasses still qualifies it as native serpentine grassland. Furthermore, the grasses within the coastal scrub, the latter plant community not mapped at all, are also native grasses. Serpentine grassland is considered a *sensitive natural community* by the California Department of Fish and Game (CDFG), County of Marin (COM), and likely the Town of Tiburon. Although it has no legal protective status, CDFG monitors the occurrence of native grassland throughout California; COM requires mitigation for the removal of grasslands with 15-20 percent cover by native grasses (MCOSSD).

1 CONT'D

As most of the northernmost portion of the SODA parcel will be graded and dewatered, CNPS contends that significant impacts to the serpentine grassland will occur. As a result of not mapping the native grassland properly, the acreage for the two parcels cited as 6.8 acres with disturbance to 0.4 acre (p. 262) is not accurate. Adequate mitigation is not included in the DEIR for the extensive impacts to the grassland. (It bears pointing out that the area supporting Marin dwarf flax (*Hesperolinon congestum*), a plant restricted to serpentine substrates and a federally- and State-listed threatened species, is *not* mapped as serpentine grassland on Lot 13.)

CNPS maintains that the native grassland mapped within the private open space on lots 5 and 6 will most likely be destroyed unless the property owners are prevailed upon to not negatively impact the areas supporting native grasses (the flat portions).

Inadequate Surveys for Special-status Plant Species

- Surveys results are not current, *i.e.*, 4-5 years old on the Rabin parcel; 5-6 years old on the SODA parcel. (Current surveys are especially necessary on lands known to support special-status species.);
- Extent of habitat (serpentine grassland) for the special-status species documented from the SODA parcel is not mapped;
- Additional colonies of rare species might be present.

2

The DEIR relies mainly on biological and special-status plant species surveys conducted by the applicant's consultant, Sycamore Associates (Sycamore). It is not evident that the DEIR biologist peer-reviewing Sycamore's reports performed anything other than reconnaissance-level surveys.

The focused surveys by Sycamore were performed on the Rabin property in 2004 (preliminary survey) and 2005 (rare plants); however, the SODA property was surveyed over the course of four (4) years: in April and July, 2002, in late August, 2002 (DEIR states "for a summer-season focused survey"), in May and June, 2004, and in March, 2005. CNPS finds this type of

survey, *i.e.*, field visits in various months in various years, to be an inappropriate survey protocol, as climatic and other conditions, including land use, greatly influence the occurrence of plants in different years. Complete surveys for rare plants within one season are desirable. CNPS also maintains that it is too late to survey for rare serpentine species on the Tiburon peninsula in August. For listed annual plants such as Marin dwarf flax and Tiburon buckwheat, whose populations fluctuate depending mainly on rainfall, the USFWS, the CDFG, or other lead agencies often require two years of surveys. CNPS concurs with this requirement.

2 continued

CNPS considers 5 to 6-year old surveys out of date and additional surveys should be conducted to map the present extent of the subpopulations of rare species on the sites. This is especially pertinent as the *habitat* for the rare and endangered species with occurrences on the site – and on the adjacent Tiburon Middle Ridge Open Space – is not mapped properly. Other rare species present on the Tiburon Open Space to the east have a potential to occur on the project site, *i.e.*, Tiburon jewel-flower (*Streptanthus niger*) and Tiburon paintbrush (*Castilleja affinis* ssp. *neglecta*) – both federally and State-listed as threatened [(CDFG, California Natural Diversity Data Base (CNDDDB 2009)].

Extensive grading and subdrain installation in the vicinity of Lot 13 and in the proposed Common Open Space of Parcel A, as well as east and southeast of Lot 8, would result in the loss of individuals of Marin dwarf flax and Tiburon buckwheat as well as alteration of soil conditions that are necessary to support these species. Furthermore, the population of Marin dwarf flax at Lot 13 would be located within private open space and no satisfactory control measures on management and longterm protection are provided in the DEIR. CNPS agrees with Mitigation Measure 5.5-1 that restrictions on remedial grading and subdrain installation proposed to stabilize portions of the site be implemented, and that adjustments to proposed residential use of an area and lot lines are necessary to protect essential habitat for special-status species. Otherwise, it is highly likely that colonies of Marin dwarf flax and Tiburon buckwheat will become extirpated on the property.

3

As restoration of serpentine grassland is extremely difficult and prone to failure, CNPS recommends that the size of the proposed lots and houses be reduced in square-footage to match those of the neighborhood in order to reduce the extensive remedial grading and installation of subdrains proposed for the project. Lots 10, 11, and 12 should be minimized to protect native grassland, rare plants and their habitat; Lots 8 and 13 should be eliminated from the project to save the large population of Marin dwarf flax directly adjacent to their boundaries.

4

Impacts on Jurisdictional Wetlands from Alteration of Existing Drainage Patterns through Grading and Dewatering

- Loss of biologically functioning wetlands;
- Potential impacts on wetland supporting North Coast Semaphore Grass near proposed public trail.

5

Jurisdictional wetlands (delineation verified by the US Corps of Engineers in 2005) are sensitive natural resources protected under the Clean Water Act. Such wetlands are located throughout the property. As shown in Exhibit 5.5-3 – Wetland Resources and Buffer Zones - grading and subdrain installation are proposed within the buffer zones at Lots 1, 2, 3, 7, 11, and 13, and Lots A and B. CNPS believes that buffer zones are devised to buffer sensitive resources; therefore no disturbance should occur within these zones. Furthermore, the largest wetlands are located within or adjacent to private open space at Lots 5 and 6.

CNPS maintains that it is highly likely that many of the wetlands and drainages on the property will no longer be biologically functional, if the direct and/or indirect disturbances to these features are carried out as proposed. Sensitive resources within private open space are rarely managed in a way to preserve such resources.

6

Furthermore, it appears that a wetland (seep) directly east of Lot 7 is already being dewatered. A pipe from the wetland to the edge of the property is clearly visible from the abutting Tiburon Open Space. This “pipe” is mapped as “unvegetated waters” in Exhibit 5.5-3. When was the pipe installed?

7

North Coast semaphore grass (*Pleuropogon hooverianus*) was documented by Sycamore in a small wetland at the western edge of the property. This species, State-listed as threatened and on CNPS’ List 1B, is known from about six occurrences in three north-bay counties, with only one known remaining population in San Geronimo in Marin County (Doreen Smith, CNPS Rare Plant Coordinator). Use of the public trail proposed to extend along the west edge of the property could impact the population of North Coast semaphore grass. CNPS suggests that this trail be moved eastward and away from the wetland to avoid potential impacts to this very rare grass.

8

Conclusion

CNPS would strongly disagree with the Town of Tiburon’s approval of a project that needs to implement extensive remedial grading, installation of nearly two miles of retaining walls, and wide-ranging dewatering, as proposed in the DEIR (approx. 75 percent of the SODA parcel) in order to comply with the Town’s Landslide Mitigation Policy, as well as other policies and restrictions.

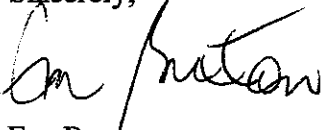
The proposed project sites support native serpentine grassland and are habitat for special-status plant species. At a minimum, Lots 10, 11 and 12 should be reduced in size to minimize remedial grading and the obliteration of native grassland; Lots 8 and 13 should be eliminated from the project.

Conservation of serpentine grassland is to be preferred, as restoration of this type of plant community is extremely difficult - if at all possible. The project poses a great threat to rare plants restricted to serpentine soils and wetlands. Wetlands and adjacent areas are proposed to be dewatered, changing soil conditions for woody vegetation, native grasses and broad-leaved plants.

CNPS contends that impacts from the project as proposed (including alternatives) to serpentine grassland, rare plants, and wetlands present on the site cannot be mitigated to a less-than-significant level.

Thank you for the opportunity to comment on the DEIR for the Alta Robles Residential Development project.

Sincerely,

A handwritten signature in black ink, appearing to read "Eva Buxton", written in a cursive style.

Eva Buxton
Conservation Chair

cc: Greg Suba, Conservation Program Director, CNPS, Sacramento
Matt Sagues, Natural Resources Specialist, Marin County Open Space District
Tiburon Ridge Association

RESPONSE TO LETTER I – EVA BUXTON, CONSERVATION CHAIR, CALIFORNIA NATIVE PLANT SOCIETY (OCTOBER 2, 2009)

Response to Comment I-1

Comment noted. Please see Master Response 3.

Response to Comment I-2

Comment noted. Please see Master Response 3.

Response to Comment I-3

Comment noted. Please see **Master Response 3**. Mitigation Measure 5.5-1(b) includes recommendations for substantial avoidance of essential habitat for special-status plant species on the site, including Marin western flax and Tiburon buckwheat. With appropriate long-term management required as part of the *Mitigation and Monitoring Program for Special-Status Species and Other Sensitive Resources (Mitigation Program)* called for in Mitigation Measure 5.5-1(c), extirpation of the occurrences of special-status plant species on the site should not occur.

Response to Comment I-4

Comment noted. Please see Master Response 3. Eliminating lots as suggested by the commentor is not considered necessary to provide adequate mitigation for potential impacts on sensitive resources.

Response to Comment I-5

Comment noted. A discussion of the regulatory environment related to protection of jurisdictional waters is provided on page 242 of the Draft EIR. An analysis of the potential impacts on jurisdictional waters is provided under *Impact 5.5-3* of the Draft EIR, as revised in the Response to Comment D-33. As acknowledged under *Impact 5.5-5* on page 269 of the Draft EIR, the proposed project would be inconsistent with the development setback distances from wetlands and streams specified in the *Tiburon General Plan*. These call for a buffer of at least 100 feet on each side of the top of bank for perennial, intermittent, and ephemeral streams, and a buffer of at least 100 feet from wetland areas. Proposed incursion into the wetland / stream buffer zone would occur in a number of locations, but some of these areas already support existing roadways. Incursion into the buffer would occur along the Main Road and rear of Lots 2 and 3, along the Main Road and Lot 1, and along the Main Road and Lot 13. Based on estimates contained in the *Mitigation Recommendations*, proposed development would extend an estimated 1.39 acres into the recommended wetland / stream buffer zone in various locations across the site. The *Mitigation Recommendations* by the applicant's previous biological consultant include a recommendation for a Mitigation and Monitoring Plan to minimize construction related disturbance within the buffer zone and to restore wetlands habitat to their pre-construction state to the maximum extent feasible. This pertains largely to installation of the subdrain systems for landslide stabilization, and the feasibility of restoring wetlands in these locations is highly unlikely given the dewatering that would occur as part of the drainage system. The wetland replacement and enhancement provisions proposed as part of the project and recommended in Mitigation Measure 5.5-3 would address the loss of wetlands within the buffer zone. However, further avoidance of the buffer zone would require considerable redesign of the proposed project given the widespread distribution of ephemeral drainages and wetland features on the site. From a biological standpoint, the potential impacts on jurisdictional waters can be successfully mitigated to a less-than-significant level.

Response to Comment I-6

Comment noted. As discussed in the Response to Comment D-33, estimates for potential impacts on jurisdictional waters have been revised based on more conservative assumptions by the applicant's biological consultant regarding landslide repair and required dewatering. These assumptions appear to be more reasonable, and address the uncertainty raised in the discussion on page 264 of the Draft EIR, including the affects of dewatering on long-term viability of wetland replacement habitat. Performance standards included in Mitigation Measure 5.5.3(a) on page 265 of the Draft EIR would ensure that adequate compensatory mitigation is provided where potential impacts are unavoidable, and future review and authorization by the resource agencies would provide additional oversight as part of their respective authorizations where sensitive wetland resources would be affected. Contingency measures are required as part of any agency authorizations and if success criteria are not met after the five years of monitoring and maintenance, the compensatory mitigation would have to be refined and the monitoring and maintenance program expanded until the success criteria are met and adequate mitigation is provided. Because of these requirements, the conclusion that the significant impacts on jurisdictional waters would be mitigated to a less-than-significant level remains correct.

Response to Comment I-7

It is unknown when the pipes along the uphill side of the existing driveway onto the site was installed, but they appear to be quite old and were presumably installed as part of an earlier surface water collection system rather than a subdrain intended to drain the hillside above the roadway. The pipe and surrounding hillside are part of an active seep that qualifies as a jurisdictional water, as indicated in **Exhibit 5.5-3** and pointed out by the commentor. Mitigation Measure 5.5-1(b) calls for minimizing or avoiding potential direct impacts associated with installation of a subdrain in the vicinity of the pipes in question. Preferably the subdrain would be completely eliminated from this vicinity, but it is unclear whether the existing pipes and water collection system would remain.

Response to Comment I-8

Comment noted. The occurrence of north coast semaphore grass has not been found again on the site in subsequent surveys since it was detected by the applicant's previous biological consultant. The subsequent surveys include the survey work performed by the applicant's biological consultant in 2010, as discussed in Master Response 3. Mitigation Measure 5.5-1(b) on page 258 of the Draft EIR calls for improved protection of the population of north coast semaphore grass along the western edge of the site through adjustments of the proposed boundaries to Lot 1 so that the occurrence is contained within Common Open Space rather than the Private Open Space on Lot 1 and elimination of the proposed trail along the western boundary of the site, as recommended by the commentor. This would avoid entrusting future management (as described in Mitigation Measure 5.5-1(c)) of this occurrence of north coast semaphore grass to an individual private property owner and would prevent possible inadvertent loss or damage to the occurrence from trail users.

#8

LETTER J

Tiburon, October 2, 2009

OCT - 5 2009
PLANT SOCIETY

Mr. Scott Anderson
Town of Tiburon
1505 Tiburon Boulevard
Tiburon, CA 94920

Re: Alta Robles Residential Development Project

Dear Scott,

It is disconcerting to me that an extraordinary amount of native vegetation will be removed if the Alta Robles project, as proposed, is approved. This concern remains even if either of Alternatives 2 or 3 is approved. Not only will irreplaceable serpentine grassland be obliterated from many acres, especially on the SODA parcel (unincorporated), and federally- and State-listed plant species negatively impacted (see California native Plant Society's comment letter), but the native tree cover on the project site will be greatly reduced.

The DEIR impact analysis for trees on the sites is comprehensive. In addition to eucalyptus trees and acacias, the Rabin property supports a large number of non-indigenous or introduced coniferous trees such as Monterey pine, bishop pine, Coulter pine, coast redwood, cypresses, Doug-fir, and other unidentified species – all weedy species. (The DEIR erroneously states that Doug-fir is native to the Tiburon peninsula.) As you know, some of the coniferous species have spread to the Tiburon Middle Ridge Open Space, where many of the trees belong to the group “unidentified species.”

Two hundred sixty-one (261) trees are proposed for removal. One hundred seventy-five (175) native live oaks, 97 of which are “protected trees” under the Tiburon Tree Ordinance, as well as California bay, toyon, madrone, and California buckeye, will be removed for the lot grading and preparation of building envelopes and roads. The DEIR further states that “there is a possibility that additional tree removal may be required to accommodate proposed improvements, particularly grading associated with landslide stabilization where field adjustments may be required during excavation and slope reconstruction.” It appears, therefore, that it is not clear how many trees will be removed and/or severely damaged during construction.

1

Oak woodland is an extremely valuable habitat for many organisms. The destruction of large oaks and other native trees is a hugely negative impact that will affect many aspects

considered in the DEIR, including air and visual qualities, as well as biological, geological, and hydrological resources.

As discussed in the DEIR, the replacement tree ratio of 2:1 may not be desirable, as it is important to maintain enough area on the sites as open grassland – and – because the successful establishment of serpentine grassland in graded and dewatered areas is highly doubtful. I would like to suggest that, as part of the mitigation for the removal of at least 175 coast live oaks, plus other native trees (unknown number), and the destruction of native serpentine grassland on the proposed project sites, an **off-site mitigation** measure is included that would provide funding for:

- Removal of coniferous trees on the Tiburon Middle Ridge Open Space
 - below the escarpment;
 - near the southern edge of the Rabin property;
 - west of the fire road up from Gilmartin and south of the trail to the Hippie Tree from that fire road; and,
- Removal of non-native grasses (weeding for wild oats for two seasons) in the serpentine outcrops supporting Tiburon jewelflower (*Streptanthus niger*) (federally- and State-listed as endangered) on the same Open Space
 - at the “escarpment;”
 - in the serpentine outcrop next to the fire road between the north end of the Hacienda fire road and the trail to the Hippie Tree.

Also, it is important that the term “emergency vehicles” be clearly defined. The DEIR states that “secondary (i.e. emergency) access to the project site would be provided via a gated entrance on the Town’s Middle Ridge Open Space...that would connect to an existing fire road located on the Town-owned Middle Ridge Open Space.” It is imperative that the Town enforces this measure, so that NO vehicles associated with the construction of the project are allowed to use the fire road across the Open Space. Few incidental impacts are more detrimental to native vegetation, in this case fragile serpentine-endemic species along the fire road, than construction trucks of various kinds, even if there is an existing road.

Sincerely,



Eva Buxton
111 Hacienda Drive
Tiburon, CA 94920
435-2745

cc: CNPS Board of Directors, Marin Chapter
Matt Sagues, Natural Resources Specialist, Marin County Open Space District
Tiburon Ridge Association

RESPONSE TO LETTER J – EVA BUXTON (OCTOBER 2, 2009)

Response to Comment J-1

Comment noted. Please see Responses to Comments E-16 and G-2.

Response to Comment J-2

Comment noted. Please see Response to Comment E-16. The suggestion by the commentator that the applicant be required to provide funding for removal of non-native grasses in off-site serpentine outcrops does not address tree resources and the need to provide consistency with the Tiburon Tree Ordinance.

Response to Comment J-3

Comment noted. The emergency vehicle access through Middle Ridge Open space is discussed on page 50 of the Draft EIR, where it specifies that emergency vehicles such as fire and police would be allowed to utilize this access. There is no indication from the project applicant of any intention to utilize this route for construction traffic. As there is no public access available from this route it would be infeasible to accommodate such a request.

01/15/2019

Diane Henderson
Contract Planner
1505 Tiburon Boulevard
Tiburon, CA 94920

Subject: Written Comments on Alta Robles (Rabin/S.O.D.A) Residential Project.

Diane,

I spoke at the recent Tiburon Planning Commission review on this Draft EIR. But after talking with my neighbors and giving this some additional thought, I felt a clear statement in writing might be more helpful than just my verbal comments. Specifically, these are our concerns:

- 1 • The proposed development heavily impairs our view of the bay across a secondary ridge line with homes on lots 9, 10, 12, 13 & 14 appearing in our view of the bay above the ridgeline.
- 2 • These homes are very large, 50% larger than our subdivision on average and are tall. They are out of keeping with surrounding property. This makes the view impairment worse. The homes on lots 9, 10, 12, 13, & 14 within our ridgeline view average 6180 square feet, are all three stories tall and average 25 feet in height.
- 3 • The proposed lot layout exacerbates view impairment by placement of open space and calling for a large lot for the Rabin residence preventing use of most of the land for the proposed additional thirteen lots. Outside of the open space, 44% of the lot space is given to the Rabin residence alone and 56% to the other thirteen lots in total (4.3% each). The Rabin residence lot adjoins all of the private and most of the common open space which in total comprise 39% of the entire development. This relegates the other 13 residences to less favorable locations such as the five on the secondary ridgeline that forms our bay view.
- 4 • The alternatives presented maintain this favorable land allocation to the Rabin residence and increase our visual impairment so do not address our concerns.
- 5 • 766 trees are planned for removal, 256 of which are protected heritage trees. This tree removal will likely make our view impairment worse by exposing these houses on the ridge.
- 6 • Cut and fill for grading at the site totals 49,200 cubic yards due to the existing 18 landslides. This is a very large amount. 37% of this fill will be on lots 9, 10, 12, 13 & 14 on the secondary ridge. Serpentine soil is widely believed to create carcinogenic conditions and this large amount of cut and fill will be quite dusty.
- 7 • Retaining walls are proposed to deal with the eighteen landslides and total two miles in length. More than three quarters of a mile (4294 feet) is located on lots 9, 10, 12, 13, & 14.
- 8 • Biological impact on the protected serpentine grass on the ridgeline near lots 10, 11 & 12 seems to have been omitted from the Draft EIR.

Thanks for your consideration.



Jan L. Gullett

RESPONSE TO LETTER K – JAN GULLETT (OCTOBER 5, 2009)

Response to Comment K-1

Comment noted. *Section 5-8 Visual Quality* includes a viewpoint looking east from Acacia Drive (viewpoint No. 3). As discussed in *Impact 5.8-3 View Looking East from Acacia Drive* from this viewpoint houses on Lots 9, 10, 12, 13, and 14 would be visible. The EIR concludes that this impact would be less-than-significant. Town policy recognizes that views across a vacant lot are often considered to be a “borrowed” view. In discussing borrowed views the Town’s Hillside Design Guidelines states that “a borrowed view is one which is temporary in nature and which can reasonably be expected to change upon development”. The view from Acacia Drive across the project site would be considered a borrowed view.

Response to Comment K-2

Comment noted. The EIR in *Chapter 4.0 Land Use and Planning* acknowledges that the proposed houses would be somewhat larger in terms of square feet than existing homes in the vicinity, including the Acacia Drive subdivision.

Response to Comment K-3

Comment noted. This comment pertains to the proposed lot layout and the merits of the proposed project, rather than the adequacy of the EIR. No additional response necessary.

Response to Comment K-4

Comment noted. No additional response necessary.

Response to Comment K-5

Comment noted. The photosimulations prepared for the proposed project do take into account the project’s proposed conceptual landscape plan which identifies project tree removal. Proposed landscaping is also shown in the photosimulations. The proposed landscaping is shown at five to seven years’ maturity.

Response to Comment K-6

Comment noted. *Impact 5.2-1 Construction-Period Air Pollutant Emissions* states that air pollutants emitted during construction could expose nearby neighbors to unhealthy levels of particulate matter (dust). Measurement measures are provided to reduce this impact to a less-than-significant level. *Impact 5.2-2 Generation of Airborne Asbestos* states that grading of the project site may disturb soils containing serpentine, possibly releasing asbestos fibers into the air. This impact is determined to be less-than-significant.

Response to Comment K-7

This comment is noted as it addresses one of the merit issues related to the project rather than the adequacy of the EIR. No additional response necessary.

Response to Comment K-8

Comment noted. Please see Master Response 3.

LETTER L

= 10

Scott Anderson

From: MCL [mcl@marinconservationleague.org]
Sent: Monday, October 05, 2009 11:38 AM
To: Scott Anderson
Cc: MCL; nbdennis@sbcglobal.net
Subject: Re: "Alta Robles" Draft Environmental Impact Report

OCT - 5 2009

Chair, Planning Commission
 c/o Scott Anderson, Planning Director
 Town of Tiburon
 1505 Tiburon Blvd.
 Tiburon, CA 94920

Re: "Alta Robles" Draft Environmental Impact Report

- 1 | Marin Conservation League (MCL) wishes to submit the following brief comments on the adequacy of the Draft Environmental Impact Report (DEIR) for the subject project. The 52 acre Rabin/SODA property is proposed to be developed into a 14 unit residential planned development ("Alta Robles") between Hacienda and Paradise. The property contains aesthetic and biological values of county-side significance and is constrained by numerous geologic and hydrologic conditions. MCL is deeply concerned that the DEIR describes the sensitivity of the site but fails to acknowledge fully the impacts of the project as significant. Further, it does not include an alternative that would lessen the significance of impacts.
- 2 | As currently conceived, the project has focused major attention on "fixing" these existing conditions in order to accommodate the project as described in the Objectives section of the DEIR. A total of 18 landslides require repair, including almost two cumulative miles of retaining walls and numerous sub-drains to accommodate the 13 new residences. In several instances, all or portions of residences are located within Significant Ridgeline setbacks. As a result, the project is aesthetically, biologically, and physically intrusive on the landscape, and mitigation measures fail to lessen the fundamental issues.
- 3 | The project begins with the assumption that, in order to meet the applicant's objectives, 13 new residences ranging in size from roughly 6,500 s.f. to just under 8,000 s.f. must be accommodated, even though existing homes in the neighborhood (with the exception of the Rabin home) range downward from a maximum of 6,272 s.f. This has been allowed to frame the analysis, and any alternative that does not meet this objective is dismissed as infeasible.
- 4 | The project is consistent with numerous Tiburon General Plan 2020 policies and Zoning Ordinance provisions only after extensive mitigation. The applicants have gone to great design lengths to avoid sensitive plant populations, but in the process of reengineering and sub-draining substantial portions of the site, have potentially compromised the long term survival of the same resources they have tried to protect. Further, measures are speculative in that they depend on further consultation with regulatory agencies. Restoration of repaired landslides with native species is also speculative and must be monitored (by whom?) for up to ten years to determine effectiveness.
- 5 | In numerous respects, the project fails to comply with basic principles contained in Section

10/5/2009

5 continued

4.08.04 of the Tiburon Zoning Ordinance (Precise Development Plan) relating to visual quality of the environment: "Preservation of the natural features of the land through minimization of grading and sensitive site design." The quantity of excavation and cumulative length and height of retaining walls alone are indication of the inability of the project to be consistent with this principle.

6

In summary, the Town of Tiburon should instruct the DEIR consultant to provide a new Reduced Project Alternative that examines fewer units, reduced dwelling size, and smaller building envelopes – all of which would reduce excavation, retaining walls, encroachment into ridgelines setbacks, and threat to wetlands, serpentine bunch-grasslands, and other special status species. This new alternative will require that the DEIR be recirculated.

Sincerely,
Nona Dennis
President
Marin Conservation League
1623A Fifth Avenue, San Rafael CA 94901
tel(415)485-6257 fax (415)485-6259

10/5/2009

RESPONSE TO LETTER L – NONA DENNIS, MARIN CONSERVATION LEAGUE (OCTOBER 5, 2009)

Response to Comment L-1

The commentor states that the EIR fails to fully acknowledge the impacts of the project as significant. The analysis contained in the EIR identifies 24 significant impacts (see **Exhibit 2.0-1**). 21 of the significant impacts would be reduced to less-than-significant levels with implementation of mitigation measures. Three of the significant impacts would remain significant and unavoidable after implementation of mitigation measures. The impact analyses contained in the EIR is consistent with CEQA requirements.

The commentor also states the EIR does not include an alternative that would lessen the significance of impacts. As discussed in **Section 6.5 Environmentally Superior Alternative Alternative 2** would result with fewer environmental impacts than the proposed project. However since *Alternative 2* does not include the development of the Rabin property it does not meet project objectives and is dismissed as a no-build alternative. It is noted that while *Alternative 3*, the remaining environmentally superior alternative does substantially reduce the environmental effects of the proposed project, it does not reduce the level of significance of these environmental impacts as weighed against CEQA significance thresholds (see **Exhibit 6.0-8**). CEQA requires that alternatives to the proposed project avoid or substantially lessen the significant effects of the project. The commentor is correct in that *Alternative 3* does not avoid any of the significant impacts that would result from the proposed project. However, as discussed in the impact analysis of *Alternative 3* contained in **Section 6.3 Alternative 3 - Revised Site Plan**, *Alternative 3* would substantially lessen the significant effects of the proposed project. Furthermore, revisions included in *Alternative 4 (Revised Proposed Project)* would further reduce the significant effects of the proposed project.

Response to Comment L-2

The commentor states that “mitigation measures fail to lessen the fundamental issues” of the project’s impacts on aesthetics, biological resources, and the physical characteristics of the hillside. This EIR use criteria from the *State CEQA Guidelines* (primarily Appendix G) to establish significance criteria for environmental impacts. The environmental impacts discussed in this report are not a measure of the project’s merits, but rather the project direct or indirect effect on a particular resource or service. The EIR discusses significant impacts the proposed project would have that are reduced to less-than-significant levels by mitigation measures that meet the standards established by CEQA.

Response to Comment L-3

Comment noted. The Draft EIR contains an analysis of three on-site project alternatives including *Alternative 1* (No Project / No Build Alternative), *Alternative 2* (No Project / Reasonably Foreseeable Development Alternative), and *Alternative 3* (Revised Site Plan). Among other requirements, CEQA requires the range of alternatives include those that accomplish most of the basic objectives. The range of alternatives analyzed in the Draft EIR has accomplished this. *Alternative’s 1* and *2* are no project alternatives that would not meet the applicant’s objectives for the project site. It should be noted that *Alternative 4* (see **Master Response 2**) contains revisions that reduce the square footage of some residences.

Response to Comment L-4

The secondary effects of grading for building pads, roads, landslide stabilization and subdrain installation are identified in the Draft EIR (*Impact 5.6-6 Secondary Effects of Grading*). As noted in the response to comment D-39, the text of Mitigation Measure 5.6-6 has been revised to encourage consideration of alternative slope stabilization measures that would reduce secondary impacts to biologic resources. Implementation of mitigation measures proposed in **Section 5.5 Biological Resources** would reduce secondary impacts on grading to less-than-significant levels. In regards to impacts on special status plant species (*Impact 5.5-1 Special-Status Species*) and sensitive plant communities (*Impact 5.5-2 Sensitive Natural Communities*), proposed mitigation measures require obtaining necessary permits from regulatory agencies for compliance with State and federal laws (Mitigation Measure 5.5-1(a)). The informal consultation with regulatory agencies during the Tentative Map review process, as required by Mitigation Measure 5.5-1, would facilitate the sharing of information and regulatory oversight in order to guide the applicant toward effectively mitigating impacts and obtaining necessary permits early in the development review process. Furthermore evidence of regulatory authorization would be required prior to issuance of development permits (Mitigation Measure 5.5-1(a)).

Mitigation Measure 5.5-1(c) requires preparation of a *Mitigation Program* that would include defined revegetation methods, details on maintenance and monitoring methods, performance standards for plant re-establishment, a description of long-term vegetation management goals with methods to achieve them, and contingency measures if success criteria is not met. With proposed mitigation measures these impacts would be reduced to less-than-significant levels.

Response to Comment L-5

The commentor states the proposed project is inconsistent with the principles of Section 4.08.04 of the Tiburon Zoning Ordinance. It should be noted that on April 16, 2010 the Town of Tiburon adopted a revised Zoning Ordinance, and the text that was Section 4.08.04 of the former Zoning Ordinance is now located in Section 16-52.060(E)(2) Precise Development Plan - Principles of the revised Zoning Ordinance. The consistency determinations contained in **Section 4.2 Zoning** are the EIR preparers best judgment of the proposed project's consistency with the Town of Tiburon Zoning Ordinance that was in effect at the time the Draft EIR was released. It is not intended to serve as the Town's formal consistency determination, which would be done by the Town of Tiburon Planning Commission and the Town Council.

The General Plan and Zoning designations for the project site allow for residential development. This establishes an expectation for some development on the project site. Therefore as it is stated in the zoning principle "preservation of the natural features of the land shall be achieved to the maximum extent feasible through minimization of grading and sensitive site design" it is expected that there would be some change permitted to accommodate development. As proposed the project is inconsistent with the principles pointed out by the commentor that call for the preservation of natural features of land to the maximum extent feasible through minimization of grading and sensitive site design. However mitigation measures identified in the EIR would increase preservation of the sites natural features, bringing the project into compliance with the principles of the section of the Town of Tiburon Zoning Ordinance.

Furthermore the proposed project would result with 18.29 acres of common open space (35 percent of project site) and 19.06 acres of private open space (36.5 percent of the project site). The applicant intends to invoke Covenants, Conditions, and Restrictions (CC&Rs) that would place restrictions on the use of private open space so that it would generally remain undeveloped and be retained in a

natural condition. According to the *Alta Robles - Project Narrative* it is intended that the private space on Lot 1 (Rabin Property) be maintained with a voluntary natural resource protection, scenic view preservation easement be offered for dedication to Marin County or the Town of Tiburon. It also states in the Project Narrative (page 3) that private open space would be voluntarily offered for permanent protection in scenic and resource conservation easements.

Response to Comment L-6

Members of the public and the Tiburon Planning Commission have requested another project alternative that would reduce project grading, reduce the need for retaining walls, and reduce environmental impacts in the areas of biological resources, geology and soils, hydrology and visual quality. In response to this the applicant's development team has developed a new project alternative (*Alternative 4 - Revised Proposed Project*), which builds upon the revisions contained in *Alternative 3 (Section 9.3 Alternative 4 - Revised Proposed Project)*.

RESPONSE TO PUBLIC HEARING COMMENTS

This section includes a copy of the minutes from the September 23, 2009 Tiburon Planning Commission meeting and responses to the comments contained within the minutes. Each comment was numbered. Some responses refer readers to other comment responses in Section 9.4 or to the pages in the Draft EIR where specific topics are discussed.

PUBLIC HEARING COMMENTS

PLANNING COMMISSION
MINUTES NO. 988
September 23, 2009
Regular Meeting
Town of Tiburon Council Chambers
1505 Tiburon Boulevard, Tiburon, California

CALL TO ORDER AND ROLL CALL:

Chair Kunzweiler called the meeting to order at 7:30 p.m.

Present: Chair Kunzweiler, Vice Chair Fraser, and Commissioners Corcoran and Frymier

Absent: Commissioner O'Donnell

Staff Present: Director of Community Development Anderson, Consulting Planner Henderson, Environmental Consultant Berman, and Minutes Clerk Levison

ORAL COMMUNICATIONS: None

COMMISSION AND STAFF BRIEFING:

Director of Community Development Anderson reported that the Town Council will again discuss the Martha Company project at its October 7th meeting. He reported on future agenda items and stated that the Parente Vista hearing has been continued once again and will not be discussed on October 14.

PUBLIC HEARING:

- 1. ACCEPT PUBLIC COMMENT ON THE DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE PROPOSED ALTA ROBLES RESIDENTIAL PROJECT IN THE VICINITY OF 3825 PARADISE DRIVE; FILE #30701; Rabin/Soda LLC, Owners and Applicants; Assessor Parcel Numbers 039-021-13 and 039-301-10**

Director Anderson introduced Diane Henderson, Planning Consultant, and Bob Berman, EIR Consultant, and stated that Ms. Henderson would present the staff report.

Ms. Henderson stated that the purpose of the hearing is to receive public comment on the Draft EIR (DEIR) for a proposed project encompassing approximately 52 acres in the vicinity of 3825 Paradise Drive. The proposed development, known as the Alta Robles Project, involves a proposal for the ultimate subdivision of two parcels. Approximately 20.95 acres (SODA) of the site are located within an unincorporated portion of Marin County, within the Town of Tiburon's Sphere of Influence, and approximately 31.26 acres (Rabin) of the site are located within the Town. The project would also entail eventual annexation of the SODA property into the Town.

Ms. Henderson said that the property owner has submitted applications for the Precise Development Plan, annexation, and rezoning. She noted that actual annexation would be acted on by Marin LAFCO who will use the EIR that the Town certifies. Tonight's goal is to receive comments on the DEIR pertaining to its focus, identification of potential project impacts, mitigation development, and identification of project alternatives.

Ms. Henderson summarized the findings of the DEIR, which concentrated on the following areas of potential impact: land use and planning, transportation, air quality, noise, hydrology and water quality, biological resources, geology and soils, public services and utilities, visual quality, and cultural resources. The DEIR identified two areas of significant unavoidable impacts of the project that could not be eliminated or reduced to a less than significant level through the identified mitigation measures. These are 1) that project construction would temporarily increase ambient noise levels in the site vicinity; and 2) that the project as proposed would cause a significant change in the visual quality of the site when viewed from Tiburon's Middle Ridge Open Space. The DEIR also examined the cumulative impacts of this project and several other residential development projects on the Tiburon Peninsula that are in various stages of construction or are under review. Five potentially significant and unavoidable cumulative impacts were identified and relate to traffic on Highway 101 and at the intersection of Tiburon Boulevard and Trestle Glen Boulevard, construction noise, views, and wildlife habitat and connectivity.

Ms. Henderson stated that CEQA requires the EIR to identify alternatives to the project which both reduce potential impacts and meet the project applicant's goals. These alternatives include two, on-site No Project alternatives, potential off-site project locations, and an on-site development alternative which would retain the existing Rabin residence and allow the lower 20.95 acre (SODA) parcel to be developed with 8 residential units under the County's current zoning standards. She said that aside from the No Project/No Build Alternative, the DEIR has identified the on-site development alternative as environmentally superior. Although the significant impacts associated with this alternative would be similar to the proposed project, the inclusion of the proposed revisions would reduce the degree of certain impacts; however, such impacts would remain significant and in need of mitigation measures. She noted that the EIR outlines relatively few project alternatives and attributed this to the extensive surveys and work already put in by the applicant, prior to submitting applications.

Mr. Berman discussed the project's consistency with relevant public plans and policies. He noted that the project is inconsistent with General Plan Goal LU-1 and Policy LU-15 in terms of the project's size and scale relative to existing dwellings in the surrounding area. Homes in the proposed development would range in size from 6,300 to 7,980 square feet, or 1.5 to 2 times the size of existing homes along Hacienda Drive and Acacia Drive. He also noted that the proposed development on lots 4 and 5 would fall within a 50-foot vertical setback from Tiburon Ridge and is, therefore, inconsistent with Policy OSC-11.

Mr. Berman reviewed the DEIR's hydrology analysis, concluding that the project's design capacity could be met by the proposed storm water runoff cisterns and would not adversely affect peak flows to existing culverts under Paradise Drive. He cited 4 special status plant species

identified on the project site, with the impacts to Marin Western Flax and Tiburon Buckwheat being of particular concern; however, the proposed mitigations would reduce those impacts to less than significant levels. Of the 261 trees slated for removal for the purpose of grading or erosion repair, 107 qualify as a protected tree under the Town's Tree Ordinance, and that while much of the site's developed existing oak woodland would remain intact, it could be indirectly impacted by future requirements in terms of fire management practices and the creation of defensible space. He noted discrepancies between the applicant's tree replacement recommendation, the preliminary planting plan, and the preliminary planting plan that was submitted with the recommendation. He also noted that the biologist recommends that any goal to replace trees which are removed through site development should be balanced with the importance of maintaining the open grassland habitat.

Mr. Berman discussed the visual impacts identified by the DEIR, which were evaluated from three viewpoints: looking north from Middle Ridge Open Space, looking west from Paradise Drive, and looking east from Acacia Drive. The DEIR concluded that new homes would be visible on 12 of the 13 proposed lots from the Middle Ridge Open Space Viewpoint and that its close proximity to houses on Lots 3, 4, 5, and 6, which have a mostly exposed exterior surface, would be a significant and unavoidable impact.

Mr. Berman stated that the proposed site contains 18 mapped landslides, for which the applicant's geologist has proposed 4 different methods of stabilization: use of compacted filled buttresses, subsurface drainage, retaining structures, and debris fences. He said that these methods, as proposed, are consistent with the Town's Landslide Mitigation Policy.

Mr. Berman closed in stating that he believes the DEIR complies with CEQA requirements and offers decision makers the latitude to select, from the proposed application and identified alternatives, a project that is feasible and achieves the objectives of the applicant.

Ms. Henderson reiterated that the purpose of this hearing is to receive comments which will be addressed in the Final EIR. She advised that comments should focus only on the sufficiency of the DEIR in discussing possible impacts, ways in which these impacts might be minimized and feasible alternatives to the project that would reduce these impacts; comments regarding the merits of the project itself would be inappropriate at this time.

Chair Kunzweiler opened the public hearing for comments on the Draft EIR.

Public Comments:

1

Judith Thompson said her property abuts the proposed project site. She said that one proposed walking path is situated at the property line and gives way to concerns for her privacy. She said that the other public path can only be accessed through her property, noting that she has granted no easement. She requested that the locations of both paths be reconsidered, out of consideration of impacts to her privacy, light and air.

2 | Eva Buxton said she is a biologist, specializing in botany, and objected to the analysis of impacts on biological resources, specifically the loss of serpentine grass, located within the northern portion of the SODA parcel. She requested that the extreme loss of vegetation be listed as the third significant unavoidable impact. She said that the applicant's surveys were incorrectly timed, incomplete, and failed to accurately map serpentine grassland populations across the site. She noted that Marin Dwarf Flax is categorized as threatened under both state and federal endangered species acts and can be found near Lot 13. She said that when soil disturbance is experienced to the extent that is outlined in the DEIR, the restoration of obliterated native grasslands would be considered extremely costly and ultimately improbable. She expressed concern that surveys were performed over 4 years ago and that surveys should not be performed in August. She requested that additional biological surveys be required, that serpentine grasslands should be accurately mapped on the SODA parcel, that grading boundaries on Lots 10, 11, and 12 are modified to protect more of the native grassland, and that Lot 13 be eliminated from the proposed project to avoid extrication of a large population of Marin Dwarf Flax.

3 | Jan Gullett expressed concern about the extensive grading proposed on Lots 10 through 14. He said all residents on Acacia Drive and many on Hacienda Drive look across the ridge to the bay, a view that would be significantly impacted by the proposed project and the proposed alternatives. He believed that the disparity in lot sizes throughout the project (particularly Lot 1) places the bulk of development in an environmentally precarious location and further increases impacts and it is disingenuous to consider the project in terms of total number of lots relative to total parcel size.

4 | Sandra Swanson four several photographs with the Commission, stating that the DEIR does not contain view photos indicating the proposed project's Middle Ridge view impacts to homes on Seafirth Drive. She requested that the EIR project these viewpoints once the trees have been removed and analyze the data as it pertains to obtrusiveness, noise, air quality, and other impacts. She believes that Lot 14 is missing from the photo. She also asked that the EIR identify the number of trees at risk for indirect removal or decline and provide a breakdown of tree removals per lot. She indicated more trees could be removed for fire mitigation. She said that the calculated community noise equivalent does not account for decibel levels created by chainsaws, augers, and wood chippers and asked that it be recalculated. She read from the DEIR pertaining to mitigation measures for tree loss and erosion repair, said that these impacts cannot be made less than significant, and requested additional project alternatives that relocate home sites further from woodland areas, decrease the number of lots, decrease building envelopes, and increase clustering to minimize all impacts.

5 | Doug Woodram echoed Ms. Swanson's comments. He suggested a project alternative that allows for fewer total homes, develops both parcels, and increases tree mitigation measures. He said there is opportunity for a middle ground solution that meets the goals of the applicant while reducing unavoidable significant impacts.

6 | Norman Traeger said he lives directly below the Rabin parcel, cited several neighboring properties in various stages of development planning, and said he will feel the impacts of each one every time he leaves his home. He reviewed the identified impacts, stating that each is temporary and unavoidable or a product of progress and therefore, unavoidable. Several

6 continued

incredibly large homes have already been built on the ridgeline and these are the product of poor planning in years past; however, he said this proposal is thoughtful and carefully designed to minimize impacts.

7

Jahan Sedaghatfar, licensed architect and planner, said he has watched this beautiful town follow a poorly developed path of progress, he requested a third party review of the DEIR and asked that the number and size of homes be further limited. He said that mitigation is an academic word and urged a design that creates fewer impacts.

8

Robert Swanson complimented Mr. Berman on a comprehensive and scholarly DEIR. He cited "progress" within the Town which has, in his opinion, diminished the quality of life for residents. While this project does not significantly add to the cumulative effect, those impacts have not been addressed to his satisfaction. He said that the majority of proposed home sites encroach upon significant ridgelines. He acknowledged the DEIR analysis of those impacts from certain vantage points, but requested that it do the same from the position of San Francisco Bay, as well. He also asked the EIR to account for the visual impacts of proposed retaining walls and loss of trees on the Sorokko site, which screen the entire area. He advised that all EIRs should provide better mitigation definition, a more comprehensive approach towards cumulative impacts, and better resolution of significant unavoidable impacts.

9

Anne Norman requested that quality of life impacts, which are significant, be discussed in the EIR.

10

Kenneth Marks stated that building his own home on Paradise Drive cost him 11 years, several lawsuits, and considerable money and he said this applicant seems to be in a similar situation. He indicated that the only way to develop here is with significant costs and Tiburon has grown into a town that he does not like anymore.

11

Randy Greenberg discussed the proposed project's excavation, stating that the DEIR lacks discussion and mitigation measures in this area. She said that the document appears to accept extensive grading as a given and operates on the assumption that this grading is a Town requirement and is therefore, not an impact. She asked that this be rectified. She said that the extensive grading requirements are the result of too many units and poor placement relative to the entire project site. She requested that the EIR provide mitigation in the form of reduced grading for landslide repair, as well as an alternative which avoids at least a portion of the sites requiring this repair. She questioned the adequacy of the proposed alternatives, noting that the preferred Alternative 3 requires all of the same mitigation measures required by the proposed project and does not lessen any of the impacts. She asked that the EIR provide a reduced density alternative and argued that Alternative 2 relies on County zoning standards that do not apply to this parcel.

Chair Kunzweiler closed the public comment period.

12

Vice-Chair Fraser said that when he first visited the project site, he saw a beautiful piece of land with excellent views and the opportunity for development. The DEIR, which was well crafted, has left him disappointed with the project's impacts on the site itself and the surrounding area.

12 continued

He questioned the lack of alternatives provided by the DEIR and concurred with Ms. Greenberg that the assumption of the high end use of County zoning density for Alternative 2 is unrealistic. He struggled with the concept that all identified mitigations are based on a project which encroaches upon ridgelines and significantly impacts existing landscape, vegetation, and hydrology. He shared particular concern that the identified mitigations would be insufficient to restore land that has been so significantly disrupted. The project should be also designed to protect open space.

Vice-Chair Fraser requested more depth and research on possible mitigations. He noted that miscellaneous site issues with respect to slope, grading, and slides are left up to the individual who purchases the site and therefore are not accurately accounted for in the cumulative impacts. He disagreed with the DEIR findings which determined land use issues, as they relate to the General Plan, were mitigated to less than significant levels. He said the DEIR is flawed and fails to identify appropriate means and mitigation measures for developing a property with significant natural resources, numerous ridgelines, and 18 landslides. He disagreed with the DEIR findings regarding consistency with the General Plan in both land use and open space issues.

13

Commissioner Corcoran said that many of the identified issues directly relate to the proposed size of the homes. He said that the DEIR could be helpful in suggesting alternative lot placements, particularly for Lots 4-6 and 12-14, which would decrease certain impacts on views and the ridgeline. He suggested a fourth alternative that combines Alternatives 2 and 3 by reducing the number of homes, relocating and/or removing specific problem lots, and clustering lots. He also asked that the alternative reduce the number of homes (perhaps to 11) and the square footage of proposed homes as well as the number of trees removed.

14

Vice-Chair Fraser discussed neighborhood harmony, noting that the proposed homes are nearly double the size of those on Hacienda Drive and at least 36% larger than homes on Acacia Drive.

15

Commissioner Frymier said she visited the project site and attempted to envision it relative to the Town 20 years ago when new development was taking place throughout the peninsula. She acknowledged the comments shared by the public but advised that any new project in this community is almost considered guilty until proven innocent. She said that she found the maps difficult to read and cumbersome, especially with respect to the proposed alternatives. She believes the DEIR should better articulate how entryways ended up where they are. She is concerned with fences and retaining walls. She believes that the alternatives seem to present their own environmental threat, the entire document lacks perspective from inbound water views, and that the cumulative impacts on transportation were not well covered. She voiced concern over ridgeline encroachment and requested that the comments of Ms. Buxton be incorporated into the report. She closed by stating that the construction schedule should be more specific and that ultimately, the homes feel too large for the project.

16

Chair Kunzweiler echoed the comments of Vice-Chair Fraser, stating that the project began with a well-developed assumption of 13 new homes on a relatively large parcel and has been significantly challenged by features such as ridgelines, landslides, and protected species. He acknowledged that the Town has strict landslide management guidelines but said that they are relevant to the impact in and around proposed houses and only require remediation to the extent

16
continued

that is dictated by structure placement. He requested one or two project alternatives that would provide a better understanding of the differences, pros, and cons between each alternative. He advised that these alternatives should include different schematics in terms of site location, road placement, home size, and grading and should focus on what will best suit the property rather than a set number of homes.

Chair Kunzweiler said that the property's entrance could be better considered as he is confused as to the design of the road and voiced concern with its placement on what is now the fire road. He also voiced concern with the potential for a 120-foot long retaining wall fronting Paradise Drive and said it makes the argument for neighborhood compatibility challenging. He also requested more specificity regarding the project's construction time, cited a backlog of approved, large scale projects and stated that the County and Town need to have better understanding of the related cumulative construction impacts. Also, the mitigation measure for road degradation was vague and meaningless. He also cited several mitigation measures which were almost contradictory to what was being mitigated. He also expressed concern with views as well as sight lines along Paradise Drive.

Chair Kunzweiler said that the DEIR's fundamental challenge relates to consistency with the Town's General Plan. He noted that the document determined the project to be remarkably consistent with the plan's Land Use Element and he disagrees with approximately 80% of those findings, stating that they operate on a flawed assumption. He explained that a project's features cannot be considered consistent if they are optional. He advised against determining that mitigations are acceptable simply by virtue of being required, concurred with Commissioner Frymier's assessment of the maps, he feels they are too small, the angles are inconsistent and not all walls are shown. He encouraged visual analysis from other viewpoints, including from Seafirth and upper areas.

2. INTRODUCTION AND OVERVIEW OF COMPREHENSIVE REFORMATTING AND TEXT AMENDMENTS TO THE TIBURON ZONING ORDINANCE; FILE #MCA 2008-09; CONTINUED FROM SEPTEMBER 9, 2009

ACTION: It was M/S (Fraser/Corcoran) to continue the hearing without discussion to October 14, 2009. Motion carried: 4-0.

MINUTES:

3. PLANNING COMMISSION MINUTES – Regular Meeting of September 9, 2009

ACTION: It was M/S (Corcoran/Fraser) to approve the minutes of September 9, 2009 as submitted. Motion carried: 4-0.

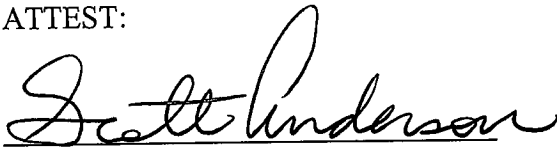
ADJOURNMENT:

The Planning Commission adjourned the meeting at 9:23 p.m.

/s/ John Kunzweiler

JOHN KUNZWEILER, CHAIRMAN

ATTEST:



SCOTT ANDERSON, SECRETARY

Response to Public Hearing Comment 1

Please see Response to Comment F-1.

Response to Public Hearing Comment 2

Please see *Master Response 3* for information regarding updated biological surveys and mapping done by LSA Associates. The commentor states restoration of disturbed native grasslands would be “costly and ultimately improbable”. As discussed in the response to comment L-4, mitigation measures contained in *Section 5.5 Biological Resources* require avoidance of most of the high quality native grasslands, and performance standards for the revegetation of disturbed native grassland, contingency measures if success criteria is not met, and funding mechanisms for the long-term maintenance and management (Mitigation Measure 5.5-1(c)). With implementation of these mitigation measures impacts to Special Status Species and Sensitive Natural Communities would be reduced to less-than-significant levels.

Response to Public Hearing Comment 3

Please see Response to Comments K-2, K-3, and K-6

Response to Public Hearing Comment 4

Please see Response to Comment G-1, G-2, G-3, G-4

For comment regarding tree impacts please see Response to Comment E-16, for erosion impacts please see Response to Comments G-21 and G-22.

Response to Public Hearing Comment 5

In response to comments received on the Draft EIR the applicant’s development team developed a Revised Proposed Project (*Alternative 4*).⁶⁸ The Revised Proposed Project builds on the revised site plan (see *Section 6.3 Alternative 3 – Revised Site Plan*) evaluated in the Draft EIR (see pages 367 to 390 of the Draft EIR). Please see Master Response No. 2 *New Development Alternative*.

Response to Public Hearing Comment 6

Comment noted. For clarification the EIR identifies 51 impacts with varying levels of significance. Taking into account the change of *Impact 5.1-4 Safety Impact Due to Inadequate Sight Distance Approaching the Unsignalized Intersection of Paradise Drive with the Project Entrance* to a less-than-significant level, there are 23 significant impacts identified and all but three would be reduced to a less-than-significant level. The project would result with three significant unavoidable impacts. *Impact 5.1-5 Impact on Regional Roadways* would be an off-site significant and unavoidable cumulative impact related to the project contribution of vehicle trips to U.S. 101, which the *Tiburon General Plan 2020 EIR* identified as subject to significant and unavoidable cumulative impacts from regional growth. *Impact 5.3-1 Construction Noise* would be temporary. And *Impact 5.8-1 View Looking North from Middle Ridge Open Space (Viewpoint No. 1)* would be the only on-site and permanent significant unavoidable impact.

⁶⁸ *Alta Robles Precise Development Plan DEIR Review and Comments*, CSW/Stuber-Stroeh Engineering Group, Inc., February, 2010.

Response to Public Hearing Comment 7

The Town of Tiburon has complied with CEQA Guidelines Section 15086 (*Consultation Concerning Draft EIR*). Please see Master Response No. 2 for the analysis of the new development alternative (*Alternative 4*).

Response to Public Hearing Comment 8

Comments noted. Please see Responses to Comment D-12, D-13, and D-15 and **Master Response 1**.

Response to Public Hearing Comment 9

The commentor request that quality of life impacts be discussed in the EIR. This is not within the purview of CEQA requirements and it would be speculative to conduct such an analysis. Please see **Chapter 5.0 Environmental Setting, Impacts, and Mitigation Measures** for the analysis of impact topics required by CEQA.

Response to Public Hearing Comment 10

Comment noted. No response is necessary.

Response to Public Hearing Comment 11

Comments noted. Please see Response to Comment E-2 for discussion of similar comments regarding grading impacts. *Alternative 4* includes revisions to the project that reduce grading for landslide repair.

Response to Public Hearing Comment 12

Comment noted. Please see **Master Response 2** for the analysis of the new development alternative created in response to comments received on the Draft EIR. Comment regarding mitigation measures is noted.

The commentor states the Draft EIR is flawed and fails to identify appropriate mitigation measures. The mitigation measures contained in the Draft EIR are consistent with the requirements of CEQA. They are feasible measures that can be enforced as conditions of approval. The mitigation measures of the Draft EIR reduce the level of impacts for the adverse environmental effects they are applied to. It should be noted the effectiveness of mitigation measures is based upon the significance criteria for each environmental resource. Mitigation measures are not required to increase the merits of a project.

Other comments noted are based on the merits of the project or express the commentor's opinion, therefore no additional response is necessary.

Response to Public Hearing Comment 13

Comment noted. Please see **Master Response 2** for a new project alternative (*Alternative 4*). Unfortunately development constraints located on the project site limit the number of alternatives for analysis that would be both reasonable and feasible.

Response to Public Hearing Comment 14

Comment noted. No response is necessary.

Response to Public Hearing Comment 15

Comments noted. Please see Response to Comment B-9 for response to a similar comment regarding alternative entryways. Please see Master Response No. 1 *Visual Impacts* for analysis of inboard views from San Francisco Bay.

The analysis of cumulative transportation impacts is consistent with the requirements of CEQA. No additional response is necessary.

Response to Public Hearing Comment 16

CEQA directs that EIRs describe a range of reasonable alternatives which would feasibly attain most of the basic project objectives. Unfortunately this project site features several development constraints that limit the range of reasonable alternatives. For example, please see the Response to Comment B-9 where it is explained that site topography and the location of biological resources limit potential locations for access routes. The requirement for an alternative to attain most of the basic project objectives also limits the range of alternatives that can be discussed. As referred to in this comment, *Alternative 3* and *Alternative 4* match the number of homes proposed in the originally proposed development. Please keep in mind CEQA requires an EIR's discussion of project alternatives foster informed decision making and public participation. The range of alternatives discussed in this EIR include a variety of measures that reduce the environmental impacts a residential project of this size would have on the property. While the development alternatives do not reduce the number of units proposed, they do show diligence at exploring measures that could reduce the projects environmental impacts while allowing for the applicant desired objectives.

Impact 5.1-12 Construction Traffic Impacts discusses measures contained in the Construction Management Plan ⁶⁹ requiring the repair of any damage to Paradise Drive from construction vehicles. Pavement on Paradise Drive currently shows evidence of cracking and deterioration. The construction management plan requires any damage to Paradise Drive would be repaired, based on a before-and-after evaluation of the road conditions by County Public Works Staff. The establishment of this measure in the construction management plan negates any need for further mitigation measures.

Comment on the EIR's discussion of the project consistency with the *Tiburon General Plan* is noted. As stated earlier the EIR's discussion of the projects consistency with public plans represents the EIR preparers judgment and is not a final determination.

Comment regarding visual analysis from other viewpoints is noted. Please see *Master Response 1* for a new visual analysis from San Francisco Bay.

⁶⁹ *Construction Management Plan, Precise Development Plan, CSW/ST2, March 6, 2007.*

EIR ERRATA

Page 205 of the Draft EIR includes a discussion of the allowable hours of construction contained in the Town's Municipal Code. The hours listed are incorrect. Based on Town Ordinance No. 514 N.S. page 205 of the Draft EIR is revised as follows:

Allowable hours of construction are contained in the Town's Municipal Code. Chapter 13, Section 13-6 of the Municipal Code states the following:

- ~~All work covered by a permit issued under this chapter shall be confined to the hours from 7:00 AM to 5:00 PM Monday through Friday and 9:30 AM to 4:00 PM on Saturday. Only quiet work is allowed to be performed on Saturdays, such that noise from any source associated with the permitted work, including but not limited to construction activity, amplified sound, and worker's voices, shall not be plainly audible beyond the property line.~~
- ~~No work shall be performed on Sunday or holidays recognized by the Town.~~
- ~~Arrival or departure of heavy equipment (such as graders and backhoes) and delivery of heavy construction material (such as lumber and concrete) to a work site shall occur only between the hours stated above.~~
- ~~Hours to operate, maintain, and service heavy equipment shall be limited to 8:00 AM to 5:00 PM Monday through Friday.~~
- ~~Heavy equipment already located on site may begin warming up at 7:30 AM.~~
- Generally, all work covered by a permit issued under this chapter shall be performed only between the hours of 7:00 AM to 5:00 PM, Monday through Friday, and 9:30 AM to 4:00 PM on Saturday. Only quiet work is allowed to be performed on Saturdays, such that noise from any source associated with the permitted work, including but not limited to construction activity, amplified sound, and worker's voices, shall not be plainly audible beyond the property line.
- Work covered by a permit shall not be performed on Sunday or on holidays observed by the Town of Tiburon. These holidays are New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.
- For work covered by a permit, the arrival or departure of heavy equipment (including but not limited to concrete trucks, graders and backhoes) and / or the delivery of heavy items or materials (including but not limited to lumber, concrete, debris boxes, and portable restrooms) to a work site shall occur only on Monday through Friday between the hours of seven a.m. to five p.m. Hours of operation, maintenance, and servicing of heavy equipment shall be limited to eight a.m. to five p.m., Monday through Friday. Heavy equipment may begin engine warm up, but not actual operation, at seven-thirty a.m.
- Exceptions. The limitations in sections 13-6(a) through (c) shall not apply in the following instances:

(1) When prior to the commencement of any work covered by a permit issued under this chapter, the town manager grants written permission to perform work outside of the prescribed hours;

(2) When work is necessary in an emergency situation to remedy or prevent damage to persons or property.

The purpose articulated in the Town of Tiburon's previous ordinance regarding hours of construction (Ordinance No. 374 N.S.) was to:

- Balance the benefits of maintaining a quiet community with the necessity for construction and repair of buildings and structures in the Town. The Town Council has determined that reasonable regulation of hours of construction, as well as regulation of the arrival and operation of heavy equipment and the delivery of construction materials, is necessary to protect the health and safety of persons, promote the general welfare of the community, and maintain the quality of life in the Town of Tiburon.

Based on the above, Mitigation Measure 5.3-1 is revised as follows:

Mitigation Measure 5.3-1 The applicant shall mitigate construction noise impacts by implementing the Construction Management Plan as set forth in the Precise Development Plan and as modified as follows:

- ~~Modify the Construction Management Plan to limit construction hours, including hours for truck deliveries and arrival or departure of heavy equipment, to between 7:00 AM and 5:00 PM Monday through Friday and 9:30 AM to 4:00 PM on Saturday, per Hours of construction shall be limited to those specified in Chapter 13 of the Town of Tiburon Municipal Code.~~
- Modify Construction Management Plan to include restriction on idling of construction equipment and trucks.
- Modify Construction Management Plan to include limits for noise from construction workers radios, so as not to be audible off the site.
- At all times during grading and construction, stationary noise-generating equipment shall be located as far as practical from sensitive receptors and placed so that emitted noise is directed away from residences.
- Notify neighbors within 500 feet of the construction site of the construction schedule in writing.

APPENDIX A – MITIGATION MONITORING PROGRAM

MITIGATION MONITORING PROGRAM ALTA ROBLES RESIDENTIAL DEVELOPMENT

INTRODUCTION

The California Environmental Quality Act (CEQA) requires a public agency to adopt a reporting or monitoring program when approving a project or changes to a project, in order to mitigate or avoid significant effects on the environment (Public Resources Code section 21081.6). The program is based on the findings and the required mitigation measures presented in an Environmental Impact Report (EIR) that has been prepared on the project and certified by the lead agency. The reporting or monitoring program must be designed to ensure compliance during project implementation.

Pursuant to the CEQA Guidelines, a Mitigation Monitoring or Reporting Program (MMRP) must cover the following:

- The MMRP must identify the entity that is responsible for each monitoring and reporting task, be it the Town of Tiburon (as lead agency), other agency (responsible or trustee agency), or a private entity (i.e., the project sponsor).
- The MMRP must be based on the project description and the required mitigation measures presented in the environmental document prepared for the project and certified by the lead agency.
- The MMRP must be approved by the lead agency at the same time of project entitlement action or approvals.

MMRP's are typically designed in chart and checklist format for ease of monitoring and reporting.

LOCATION AND CUSTODIAN OF DOCUMENTS

Consistent with the California Environmental Quality Act, an EIR was prepared to address the impacts of the proposed Alta Robles Residential Development. This document, entitled *Alta Robles Residential Development EIR* consists of two volumes (Draft EIR dated August 2009, and Response to Comments to the Draft Environmental Impact Report dated December, 2010), and is on file with the Town of Tiburon Community Development Department, along with all the other documents which constitute the record of proceedings.

PURPOSE AND USE OF THE MONITORING PROGRAM

The purpose of the monitoring program is to provide the Town of Tiburon with a simple guideline of procedures to ensure that the mitigation measures required under the Final EIR are implemented properly.

Since each required mitigation measure must be implemented, a monitoring chart was created, which is attached to this report. This chart provides the following information and direction for use.

- 1) The required mitigation measures are listed in the first column, corresponding to the list of measures provided in the Final EIR.
- 2) The second column lists the agency or entity responsible for implementing the mitigation measure.
- 3) The third column lists the timing as to when the mitigation measure is to be implemented.
- 4) The fourth column provides guidance on monitoring to ensure that implementation procedures are followed.
- 5) The fifth column provides a location for Town staff to verify that the mitigation has been implemented and the date of the verification.

The Town's requirements for mitigation monitoring programs are set forth in the Town's Environmental Review Guidelines.¹ Section E.2.c states that "the Town's efforts shall focus on monitoring, not reporting. A memorandum shall be prepared by the case planner, upon completion of the implementation of all mitigation measures, for inclusion in the project file to document satisfactory completion of the Mitigation Monitoring Plan."

¹ *Town of Tiburon Environmental Review Guidelines*, Town Council resolution No. 62-2002.

MITIGATION MONITORING PROGRAM - Alta Robles Residential Development

<i>Mitigation Measure</i>	<i>Implemented By</i>	<i>When Implemented</i>	<i>Monitored By</i>	<i>Verified By Date</i>
TRANSPORTATION				
<p><i>Mitigation Measure 5.1-2 Cumulative-plus-Project Impact on Signalized Intersections.</i></p> <p>Installation of a second through lane in the eastbound direction at the Tiburon Boulevard / Trestle Glen Boulevard intersection (in addition to the planned lane in the westbound direction).</p>	Town of Tiburon and Caltrans.	Town of Tiburon to study feasibility. Timing based on feasibility and when funding available.	Town of Tiburon shall monitor operation of intersection. Mitigation would be successful if intersection operates at LOS C or better at projected buildout of the Peninsula.	
<p><i>Mitigation Measure 5.1-5 Impact on Regional Roadways</i></p> <p>Same as Mitigation Measure 4.2-4 in the <i>Tiburon General Plan 2020 EIR</i>. Maintain an active role in the Transportation Authority of Marin and / or U.S. 101 Corridor planning program with the purpose of ensuring that improvements enhance inter-city movement. Corridor improvements could include additional travel lanes in some segments, operational improvements at interchanges, and measures to reduce vehicle trips (such as regional transit improvements). Ultimately, implementation of such measures is outside the jurisdiction of the Town of Tiburon.</p>	Town of Tiburon responsible for continued collaboration with regional agencies / Caltrans and TAM responsible for funding improvements.	Ongoing.	Caltrans, TAM, Town of Tiburon.	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p><i>Mitigation Measure 5.1-7 Project Impact on Bicycle Facilities and/or Safety</i></p> <p>Provide a consistent-width road section (11-foot travel lane, four-foot wide paved shoulder and two-foot wide dirt shoulder) on the project frontage along the south side of Paradise Drive (directly abutting the project site), beginning at least 200 feet west of the proposed project entrance road and extending east to the existing driveway that serves the Rabin property (a distance of approximately 1,700 feet, or one-third of a mile). Advisory signage shall be installed approximately 500 feet in advance of the proposed project driveway to alert motorists to potential cyclists around blind curves on Paradise Road.</p> <p>Minor deviations from this road section may be permitted in the discretion of the Town Engineer in order to reduce the amount of hillside grading, to preserve existing trees, and to avoid the construction of retaining walls, the need for additional storm drain pipe plus the necessity of relocating utility poles.</p>	Town of Tiburon and Marin County.	Prior to occupancy of first house.	Marin County and the Town of Tiburon.	
AIR QUALITY				
<p><i>Mitigation Measure 5.2-1 Construction-Period Air Pollutant Emissions</i></p> <p>Mitigate construction air quality impacts by implementing the Construction Management Plan as set forth in the Precise Development Plan and as modified as follows:</p> <ul style="list-style-type: none"> Require use of off-road construction equipment that was manufactured during or after 1996 meeting the California Tier I emissions standard or is equipped with diesel particulate filters or uses alternative fuels (e.g., biodiesel) that result in particulate matter emissions that are at least 20 percent lower than the statewide fleet average reported by the California Air Resources Board. Prohibit the use of “dirty” equipment. Emissions from all 	Project Applicant and individual lot owners.	Prior to issuance of grading plan and/or building permits.	Town Building Official and Town Engineer.	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>construction diesel-powered equipment used on the project site shall not exceed 40-percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40-percent opacity (or Ringelmann 2.0) shall be repaired immediately. In essence, any piece of equipment that emits dark smoke for more than three minutes would be in violation of this mitigation measure.</p> <ul style="list-style-type: none"> • Require that diesel equipment standing idle for more than five minutes shall be turned off (including waiting to deliver or receive loads). Rotating drum concrete trucks can keep their engines running continuously as long as they were on-site. • Prevent visible tracking of mud or dirt on to public roadways or immediately sweep dirt or mud tracked on to roadways. 				
NOISE				
<p><i>Mitigation Measure 5.3-1 Construction Noise</i></p> <p>The applicant shall mitigate construction noise impacts by implementing the Construction Management Plan as set forth in the Precise Development Plan and as modified as follows:</p> <ul style="list-style-type: none"> • Hours of construction shall be limited to those specified in Chapter 13 of the Town of Tiburon Municipal Code. • Include restrictions on idling of construction equipment and trucks (also required by Mitigation Measure 5.2-1). • Limit noise from construction workers radios, so as not to be audible off the site. • At all times during grading and construction, stationary noise-generating equipment shall be located as far as practical from sensitive receptors and placed so that emitted noise is directed away from residences. 	Project Applicant and individual lot owners.	Prior to issuance of grading plan and/or building permits	Community Development Director; Town Building Official; Disturbance Coordinator.	

<i>Mitigation Measure</i>	<i>Implemented By</i>	<i>When Implemented</i>	<i>Monitored By</i>	<i>Verified By Date</i>
Notify neighbors within 500 feet of the construction site of the construction schedule in writing.				
HYDROLOGY AND WATER QUALITY				
<p><i>Mitigation Measure 5.4-2 Alteration of Existing Drainage Patterns on Erosion and Downstream Sedimentation</i></p> <ul style="list-style-type: none"> • Conduct a supplemental analysis of cistern performance for the two-year design rainstorm to determine whether the preliminary cistern outlet design would be sufficient to mitigate any increases in the lot-based, post-project two-year peak flow. If the analysis shows that the outlet was too large to maintain pre-development peak flow rates for this rainstorm, the applicant shall reconfigure the proposed outlet design to successfully mitigate increases in this recurrence interval storm, as well as the 100-year rainstorm. • Prepare a field inspection and geomorphic assessment of the two receiving drainageways noted in <i>Impact 5.4-2</i> (within Lot 7 and Parcel A). If channel instabilities exist or were projected to occur due to the delivery of more concentrated site runoff, suitable channel stabilization measures shall be designed and submitted to the Town Engineer for review. <ul style="list-style-type: none"> ▫ Biotechnical techniques based on appropriate hydraulic and fluvial geomorphic analysis shall be employed, to the extent practicable. ▫ Any channel stabilization work shall be designed and overseen by a civil engineer or hydrologist familiar with fluvial geomorphic processes and stream restoration technologies. ▫ Prior to the construction of any stabilization measures within a defined drainageway, i.e. a channel with defined bed and banks: Obtain permits from appropriate regulatory and resource agencies (San Francisco Bay Regional Water Quality Control Board (RWQCB), the U.S. Army Corps of Engineers (Corps), the 	Project Applicant; individual lot owners.	Prior to issuance of grading plan and/or building permits.	Town Engineer. San Francisco Bay Regional Water Quality Control Board (RWQCB), the U.S. Army Corps of Engineers (Corps), the California Department of Fish and Game (CDFG), the Town of Tiburon, and potentially the Marin County Department of Public Works.	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>California Department of Fish and Game (CDFG), the Town of Tiburon, and potentially the Marin County Department of Public Works).</p> <ul style="list-style-type: none"> Revise the depicted outlet position of Culvert 7 such that it crosses onto the Town's right-of-way along Paradise Drive and provides for an acceptable discharge to the culvert inlet sump. This will require coordination with the Town Engineer and, ultimately, the Town's approval of the extension and outlet configuration. Lot cisterns shall be located within the buildable area/grading area designated for each lot in the Precise Development Plan. If a particular lot cistern had to be constructed outside the currently proposed lot grading boundary to facilitate gravity flow to or from the cistern, the applicant shall amend the current project Erosion Control Plan as necessary to mitigate the added potential for erosion and downstream sedimentation. 				
<p><i>Mitigation Measure 5.4-3 Impact on Groundwater Levels and Groundwater Recharge</i></p> <p>Implementation of Mitigation Measures discussed in Section 5.5 Biological Resources, including on-site replacement of freshwater wetland and seep habitats, would reduce the secondary impacts of grading and subsurface drainage control on affected biotic resources to a less-than-significant level.</p>	Project Applicant's Consultant Biologist.	See Mitigation Measures for Biological Impacts below.		
<p><i>Mitigation Measure 5.4-4 Impacts on Water Quality</i></p> <p>In addition to implementing Mitigation Measure 5.4-2 (above) and the erosion control and urban runoff pollution prevention measures cited in the Preliminary Erosion Control Plan, the applicant shall incorporate the following additional site-appropriate BMPs or their equivalents, in the project SWPPP for short- and long-term implementation by the applicant and individual lot owners, in order to comply with the requirements of the NPDES General Permit and</p>	Project Applicant, individual lot owners and the Home Owner Association.	Prior to issuance of grading plan and/or building permits; and before filing final subdivision map	The State Water Resources Control Board responsible for reviewing the NOI and the NPDES permit application,	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>provisions of the Town of Tiburon Municipal Code (Stormwater Management and Discharge Control Program”, Chapter 20A, Ordinance 407NS):</p> <ul style="list-style-type: none"> • The Home Owners Association (HOA) shall privately contract with Mill Valley Refuse Service (MVRS) or its equivalent to undertake street sweeping twice a month. • The HOA shall provide each homeowner with pamphlets or other informative documentation regarding the use of less toxic pest management procedures, including integrated pest management. Information related to this requirement can be obtained from MCSTOPP and the TMDL study on pesticides in urban creeks in the San Francisco Bay Region. <p>The following low impact development (LID) measures shall be integrated into the project drainage design to treat project site stormwater quality to the maximum extent practicable level (MEP) per the NPDES Phase II guidelines:</p> <ul style="list-style-type: none"> • Install in-line water quality filters at roadway storm drain inlets, or incorporate other modes of bioretention facilities (e.g. rain gardens, bioswales, infiltration trenches) designed to remove stormwater contaminants from site runoff. Bioretention measures shall be designed in accordance with MCSTOPPP’s <i>Guidance for Applicants: Stormwater Quality Manual for Development Projects in Marin County - A Low Impact Development Approach</i> (Vers. 6, Feb. 2008). For the in-line filtration option, the installed filtration devices shall be those produced by Filterra Bioretention Systems, or an equivalent possessing contaminant removal rates similar to those shown in Exhibit 5.4-7 of the Final EIR (see Section 9.4 Response to Comments - Comment B-13). These systems are an at-the-source treatment strategy designed for relatively high pollutant removal efficiency via the use of a plant / soil / microbe treatment media. 			<p>including the project SWPPP</p> <p>The Town Engineer would be responsible for review and approval of the in-line filters and appurtenant structures, the proposed HOA filter maintenance schedule and routine, and bioretention facility designs and siting. The Town Engineer would also be responsible for reviewing the submitted filtration device maintenance logs, and making recommendation when necessary for adjustments to the maintenance regime or</p>	

<i>Mitigation Measure</i>	<i>Implemented By</i>	<i>When Implemented</i>	<i>Monitored By</i>	<i>Verified By Date</i>
<p>Exhibit 5.4-7 provides the expected pollutant removal efficiency rates shown on the company website.</p>			methods.	
BIOLOGICAL RESOURCES				
<p><i>Mitigation Measure 5.5-1(a) Special-Status Species</i></p> <p>Obtain all necessary permits from the CDFG, Corps, USFWS, and the RWQCB as required by federal and State law to avoid, minimize or offset impacts to any species listed under either the State or federal ESAs or protected under any other state or federal law. A qualified biologist shall conduct informal consultation with each of these agencies to determine likely permit requirements and the extent of modifications to the proposed project plans necessary to secure authorization. This may include: 1) conduct of a habitat assessment and protocol surveys for California red-legged frog to confirm absence; 2) restrictions on remedial grading and subdrain installation proposed to stabilize portions of the site; and 3) adjustments to proposed residential use areas and lot lines as necessary to protect essential habitat for special-status species.</p>	<p>Project Applicant's Consultant Biologist.</p> <p>Evidence of agency authorization / permit issuance shall be provided prior to issuance of grading, building or other construction permits.</p>	<p>Consultation conducted concurrent with Town review of Tentative Map.</p> <p>CDFG, Corps, USFWS and RWQCB authorization before grading and / or building permit issuance.</p>	<p>Community Development Director and Town Engineer.</p>	
<p><i>Mitigation Measure 5.5-1(b) Special-Status Species</i></p> <p>Revise the proposed Precise Development Plan (including the site plan, grading plan, and landscape plan) to avoid further disturbance to essential habitat for special-status plant species on the site. The revisions shall be prepared based on input received during informal and formal consultation called for in Mitigation Measure 5.5-1(a) (above). Revisions shall include the following project modifications:</p> <ul style="list-style-type: none"> Substantial avoidance of the occurrence of Marin western flax in the western portion of the site. The proposed lot lines shall be revised so that the entire occurrence is contained within Common Open Space (avoid entrusting the future management of this population to an individual private property owner). Future management shall be 	<p>Project Applicant and Applicant's Qualified Consultant Biologist.</p>	<p>Before approval of Tentative Map.</p>	<p>Community Development Director and Town Engineer.</p>	

<i>Mitigation Measure</i>	<i>Implemented By</i>	<i>When Implemented</i>	<i>Monitored By</i>	<i>Verified By Date</i>
<p>defined as called for in Mitigation Measure 5.5-1(c).</p> <ul style="list-style-type: none"> • The proposed residential use area on Lot 13 shall be setback a minimum of 100 feet from the limits of Landslide N. This shall be accomplished through adjustments to the proposed lot lines to Lots 13 and 14, and possibly Lots 11 and 12. • Substantial avoidance of the occurrences of Marin western flax and Tiburon buckwheat along the existing driveway off Paradise Drive through Parcel A and Lot 8. Develop alternative methods that minimize or avoid the use of proposed subdrains through this area installed by trenching and disturbance of the ground surface. Potential options (alternative methods) include: <ul style="list-style-type: none"> □ Use additional retaining wall structures installed at the edge of the existing driveway slope. □ Drilling of horizontal subdrains under the slope from the existing driveway. □ Complete removal of the driveway and use of the driveway footprint for stabilization and habitat restoration. Under this third option, pavement would be removed from the footprint of the driveway, which could then be used for retaining wall installation for slope stabilization with the remaining areas restored to natural grassland and woodland habitat. • Improved protection of the population of north coast semaphore grass along the western edge of the site through adjustments of the proposed boundaries to Lot 1 so that the occurrence is contained within Common Open Space rather than the Private Open Space on Lot 1 and elimination of the proposed trail along the western boundary of the site. <p>Refine the revised Preliminary Planting Plan and Planting Guidelines to restrict all plantings, seeding and revegetation within Common</p>				

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>Open Space exclusively to native, indigenous species, and ensure that these plans have been reviewed and approved by the qualified biological consultant called for in Mitigation Measure 5.5-1(c). Eliminate any proposed shrub or tree plantings and revegetation that may compromise essential habitat for grassland dependent special-status plant species known from the site.</p>				
<p>Mitigation Measure 5.5-1(c) Special-Status Species</p> <p>A qualified biological consultant shall be retained by the applicant to prepare a detailed Mitigation and Monitoring Program for Special-Status Species and other Sensitive Resources (Mitigation Program). The Mitigation Program shall be prepared in consultation with the CDFG and USFWS, and shall meet with the approval of the Town of Tiburon. The Mitigation Program shall contain defined measures which accomplish the following:</p> <p>Ensure protection of the populations;</p> <p>Salvage of any seed and / or individual plants within the limits of grading;</p> <p>Replanting of salvaged plant material in suitable protected habitat;</p> <p>Long-term protection and management requirements;</p> <p>Monitoring of the habitat avoidance and salvage efforts;</p> <p>Provisions for any compensatory off-site measures if required by regulatory agencies to address on-site losses;</p> <p>Appropriate measures to avoid possible presence of special-status animal species.</p> <p>Components of the Mitigation Program shall include the following:</p> <ul style="list-style-type: none"> Refine and expand on the initial mitigation framework outlined in the <i>Mitigation Recommendations</i> and subsequent <i>Management</i> 	<p>Project Applicant is responsible for retaining the qualified biological consultant.</p> <p>Applicant's biological consultant is responsible for preparing the Mitigation Program.</p>	<p>Qualified Biologist shall be obtained prior to tentative map approval;</p> <p>Town approval of Mitigation Program before tentative map approval.</p>	<p>Community Development Director and Town Engineer</p>	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p><i>Plan and Biological Assessment</i> prepared by the applicant's consulting biologists, address input received during informal and formal consultation called for in Mitigation Measure 5.5-1(a), and incorporate avoidance measures called for in Mitigation Measure 5.5-1(b).</p> <ul style="list-style-type: none"> • Describe the inadvertent take measures for California red-legged frog called for in Mitigation Measure 5.5-1(d), as well as any development restrictions that may be required by the USFWS during the consultation called for in Mitigation Measure 5.5-1(a). • Provide a detailed description of any plant salvage and reinstallation efforts where complete avoidance of the occurrences of special-status plant species is determined to be infeasible and adequate mitigation has been developed in consultation with regulatory agencies. • Define the revegetation methods in restoring serpentine bunchgrass and other native grasslands disturbed during grading and installation of any subdrain systems through occurrences of special-status plant species. This shall include details on maintenance and monitoring methods, performance standards for plant re-establishment, and contingency measures if success criteria are not met. Maintenance and monitoring shall be provided for a minimum of ten years in locations where incursion into occurrences of special-status plant species is unavoidable, and a funding mechanism shall be identified. • Describe the long-term vegetation management goals and methods to achieve them, with an emphasis on maintaining grassland and freshwater habitats that support the occurrences of special-status plant species on the site. This shall include routine removal of invasive species over the entire site, particularly French broom, and 				

<i>Mitigation Measure</i>	<i>Implemented By</i>	<i>When Implemented</i>	<i>Monitored By</i>	<i>Verified By Date</i>
<p>selective control of coyote brush and other native scrub species that may eventually replace much of the grassland cover unless properly managed. Performance standards shall be defined regarding vegetation treatment to eliminate any uncertainty in long-term management on the site. French broom removal shall occur on an annual basis until all mature shrubs and seedlings have been eliminated from the site.</p> <ul style="list-style-type: none"> Identify a mechanism that demonstrates the feasibility of long-term on-site management of proposed Common Open Space, public trail easement areas, and portions of private lots outside the residential use area that contain occurrences of special-status species and sensitive natural communities. This can include obligations defined as part of the Codes, Covenants & Restrictions of the homeowners association for the development. Appropriate development restrictions and vegetation management obligations shall be established over all Common Open Space areas and undeveloped portions of private lots containing essential habitat for special-status species or other sensitive resources. Develop effective interpretive measures to prevent inadvertent take of special-status species by persons utilizing the Common Open Space areas or maintaining undeveloped lands on private lots. Methods shall be described to permanently prevent vehicle access into the Common Open Space areas where they border the private roads and driveways, which shall include an effective barrier system (such as rustic split-rail fence, posts, or boulders). Permanent signage shall be placed at 50-foot intervals along the perimeter of the Common Open Space areas that border roadways adjacent to occurrences of special-status plants or where any public trails pass through the vicinity of occurrences of special-status plants that state: <p style="text-align: center;">Sensitive Natural Area No Vehicle or Pedestrian Access Please Do Not Pick Wildflowers</p>				

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p><i>Mitigation Measure 5.5-1(d) Special-Status Species</i></p> <p>Adequate measures shall be taken to avoid any inadvertent take of California red-legged frog during construction; in the remote instance this species is present on the site. This shall include:</p> <p>minimizing disturbance to drainages and wetlands;</p> <p>implementation of preconstruction surveys to confirm the absence of this species on the site;</p> <p>and, adherence to rigid measures to prevent degradation of water quality in the drainages and wetlands as called for in the Stormwater Pollution Prevention Plan (SWPP).</p> <p>The preconstruction survey shall be conducted by a qualified biologist (as required in Mitigation Measure 5.5-1(c) prior to any grading or construction within 100 feet of on-site drainages and wetlands. Details of the preconstruction survey shall include the following:</p> <ul style="list-style-type: none"> • The qualified biologist(s) shall survey the construction zone two weeks before any construction activities are initiated. If California red-legged frogs, tadpoles, or eggs are found, the biologist shall contact the USFWS to determine if moving any of these lifestates is appropriate and any alternative measures that would be necessary to ensure avoidance of possible take. If authorized, only USFWS-approved biologists shall participate in activities associated with the capture, handling, or monitoring of California red-legged frogs. • Before any construction activities begin within 100 feet of the drainages or wetlands, the qualified biologist(s) shall conduct a training session for all construction personnel. At a minimum, the training shall include: (a) a description of the California red-legged frog and its protected status; (b) the general measures that are being implemented to conserve this species as they relate to the project; (c) 	<p>Project Applicant's Consultant Biologist (as specifically required), and Project Applicant, Individual Lot Owner, Construction Personnel.</p>	<p>Verification of ongoing implementation shall occur prior to issuance of grading permits.</p>	<p>Community Development Director and Town Engineer and;</p> <p>USFWS would assist in monitoring implementation if California red-legged frogs, tadpoles, or eggs are found during preconstruction surveys/at the project site.</p>	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>the boundaries within which the project may be accomplished; and (d) procedure to follow if construction personnel encounter a frog suspected to be a California red-legged frog individual.</p> <ul style="list-style-type: none"> The qualified biologist(s) shall oversee installation of exclusionary fencing prior to grading or vegetation clearance to keep California red-legged frog out of construction areas. Silt fencing installed as part of the required Stormwater Pollution Prevention Plan may function as the exclusionary fencing assuming it is installed at the edge of proposed grading, is at least three feet in height with no breaks, and is routinely monitored and maintained during construction. During project activities, all trash that may attract predators shall be properly contained, removed from the work site and disposed of properly. All fueling and maintenance of vehicles and other equipment, and construction staging areas shall be located at least 100 feet from the drainages and wetlands on the site. All construction personnel shall be informed of the importance of preventing spills and the appropriate measures to take should a spill occur, including containment, cleanup, and proper disposal. 				
<p><i>Mitigation Measure 5.5-1(e) Special-Status Species</i></p> <p>Any active raptor nests or other bird nests protected under the Migratory Bird Treaty Act in the vicinity of proposed grading and vegetation removal shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling initial grading and vegetation removal during the non-nesting period (i.e., September through February), or if this is not feasible, by conducting a pre-construction survey for bird nests. Provisions of the pre-construction survey and</p>	<p>Project Applicant and Applicant's Consultant Wildlife Biologist.</p>	<p>Ongoing.</p>	<p>Community Development Director and; CDFG, As specified.</p>	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>nest avoidance, if necessary, shall include the following:</p> <ul style="list-style-type: none"> • If grading and / or vegetation removal is scheduled during the active nesting period (March through August), a qualified wildlife biologist shall conduct a pre-construction survey no more than 14 days prior to initiation of these activities to provide confirmation on presence or absence of active nests in the vicinity. This shall include both a daytime visual survey for raptors and other diurnal bird species, and a nighttime survey for nesting owls. • If active bird nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with the CDFG and implemented to prevent abandonment of the active nest. At a minimum, grading or vegetation removal near the nest shall be deferred until the young birds have fledged. A nest-setback zone based on site conditions and proximity of the nest to existing and proposed development shall be established within which all construction-related disturbance shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated, and construction personnel restricted from the area. • If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies that the birds have either (a) not begun egg-laying and incubation, or (b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date. A survey report by the qualified biologist verifying that the young have fledged shall be submitted to the Town of Tiburon prior to initiation of grading in the nest-setback zone. 				
<p><i>Mitigation Measure 5.5-2 Sensitive Natural Communities</i></p> <p>The <i>Mitigation Program</i> called for in Mitigation Measure 5.5-1(c) shall include provisions that provide for the protection, replacement and enhancement of the native serpentine bunchgrass grasslands on</p>	Project Applicant and Applicant's Consultant Biologist.	Compliance with specific conditions and completion of <i>Mitigation Program</i> prior to issuance of	Community Development Director and Town Engineer.	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>the site. Additional protection and enhancement measures shall include the following:</p> <ul style="list-style-type: none"> Minimize disturbance to the stands of native serpentine bunchgrass and enhance this sensitive natural community type through removal of non-native species and improved vegetation management on the site. Where temporary, limited incursions into the stands of native grassland are unavoidable, adequate measures shall be taken to provide for the revegetation and restoration of areas disturbed during construction. Adjust the proposed residential use areas and associated landscaping on the south side of the proposed residences on Lots 5 and 6 so that the footprint of new structures, outdoor hardscape areas, and non-native landscaping is setback a minimum of 30 feet from the nearby stand of serpentine grassland. This would allow for improved fire safety clearance around the perimeter of the buildings without adversely affecting the native grasslands as part of routine fuel reduction and maintenance. The area within this setback distance can be restored, enhanced and managed as native grassland habitat, but would most likely be subject to routine cutting of the grassland cover. Refine the revised Preliminary Planting Plan and Planting Guideline to emphasize the use of native plant species indigenous to the site and surrounding area. Of particular concern is the proposed use of non-native grassland species in the grassland zones adjacent to the stands of serpentine bunchgrass, which should be exclusively native in Common Open Space. Highly undesirable species in landscape improvements on the site that could spread into the adjacent grassland and woodland habitat shall not be utilized. These undesirable species include: gum eucalyptus (<i>Eucalyptus globulus</i>), acacia (<i>Acacia</i> spp.), pampas grass (<i>Cortaderia selloana</i>), broom (<i>Cytisus</i> spp. and <i>Genista</i> spp.), gorse (<i>Ulex europaeus</i>), bamboo (<i>Bambusa</i> spp.), giant reed (<i>Arundo donax</i>), English ivy (<i>Hedera</i> 		grading, building, or other construction permits.		

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p><i>helix</i>), German ivy (<i>Senecio milanioides</i>), Himalayan blackberry (<i>Rubus discolor</i>), cotoneaster (<i>Cotoneaster pannosus</i>), fennel (<i>Foeniculum vulgare</i>), yellow star thistle (<i>Centaurea solstitialis</i>), purple star thistle (<i>Centaurea calcitrapa</i>), and periwinkle (<i>Vinca</i> spp.).</p> <ul style="list-style-type: none"> • Restore any portions of the stands of serpentine bunchgrass disturbed during construction or proposed for enhancement through appropriate revegetation, maintenance and monitoring. Species used in the revegetation effort shall be native and indigenous to the site, utilizing plugs salvaged from the footprint of the construction zone, and seed collected from the vicinity. Salvaged material shall be properly maintained until ready for reinstallation in the fall season after completion of construction-related disturbance, and short-term irrigation may be required to ensure survival during re-establishment. • Expand the extent of existing serpentine bunchgrass grassland by removing the non-native trees and shrubs within the footprint of the stands of native grasslands on the site. All slash from vegetation removed shall be disposed of properly. As part of this enhancement effort, consideration shall also be given to limited removal of invasive stands of native coyote bush, as called for in Mitigation Measure 5.5-1(c). The area within the driplines of the removed trees and shrubs shall be restored to a cover of native grassland, with supplemental seeding of locally collected seed provided to ensure successful re-establishment of native grassland cover. • Provide long-term maintenance and monitoring of the serpentine bunchgrass grasslands, as called for in Mitigation Measure 5.5-1(c). 				
<p><i>Mitigation Measure 5.5-3 Wetlands and Drainages</i></p> <p>(a) The <i>Mitigation Program</i> called for in Mitigation Measure 5.5-1(c) shall include provisions that provide for the protection, replacement and enhancement of the jurisdictional wetland and other waters on the</p>	Project Applicant's Consultant Biologist.	Conditions of approval for the project. Compliance with	Community Development Director and Town Engineer.	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>site. Avoidance, protection and enhancement measures shall include the following:</p> <ul style="list-style-type: none"> • Refine the applicant’s <i>Mitigation Recommendations</i> and implement appropriate measures to prevent inadvertent loss and degradation of jurisdictional waters to be protected, including restrictions on the limits of grading and installation of effective sedimentation and erosion controls. All wetland features to be protected shall be flagged by a qualified biologist prior to any grading, and initial construction activities shall be overseen by the qualified biologist, including installation of temporary protective fencing, silt fencing, and trenching of subdrain systems. • Provide adequate mitigation for any direct or indirect impacts on jurisdictional waters as coordinated with the CDFG, Corps, and RWQCB where complete avoidance is infeasible. Replacement wetlands shall be replaced at a minimum 2:1 replacement ratio and shall be established in suitable locations within the proposed Common Open Space. The wetland replacement component of the <i>Mitigation Program</i> shall emphasize establishment of native freshwater marsh habitat to enhance existing habitat values, and shall preferably be consolidated with other existing wetlands to be retained as part of the project. • The wetland replacement component of the <i>Mitigation Program</i> shall specify performance criteria that meets the minimum 2:1 replacement ratio and defines the maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. Monitoring shall be conducted by the qualified wetland specialist for a minimum of five years and continue until the success criteria are met. <p>(b) As discussed in <i>Section 5.4 Hydrology and Water Quality</i> a SWPPP will be prepared and implemented using Best Management Practices to control both construction-related erosion and</p>		<p>specific restrictions and completion of <i>Mitigation Program</i> prior to issuance of grading, building or other construction permits.</p> <p>Authorization from jurisdictional agencies provided prior to issuance of grading, building or other construction permits.</p>		

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>sedimentation and project-related nonpoint discharge into waters on the site. The SWPPP shall contain detailed measures to control erosion of exposed soil, provide for revegetation of graded slopes before the start of the first rainy season following grading, address nonpoint source pollutants to protect wetlands and water quality in the drainages, and specify procedures for monitoring of the effectiveness of the measures.</p> <p>(c) Appropriate authorizations shall be obtained from the CDFG, Corps, USFWS, and RWQCB for all activities affecting jurisdictional waters, and all conditions required as part of any required agency authorization shall be implemented and adhered to as part of the project. Evidence that agency authorization has been secured shall be provided to the Town of Tiburon prior to issuance of grading, building or other construction permits for the project. The project contractor shall have copies of all agency authorizations available on-site, and shall comply with all conditions required by jurisdictional agencies.</p>				
<p>Mitigation Measure 5.5-4 Wildlife Habitat and Connectivity</p> <p>Measures recommended in Mitigation Measures 5.5-1, 5.5-2, and 5.5-3 would serve to avoid and minimize the loss of the sensitive habitats associated with the wetlands and native grasslands on the site, would prevent habitat degradation through further spread of invasive exotic plant species and landscape plantings, and would control access into the sensitive habitat areas. The following additional provisions shall be implemented to further protect wildlife habitat resources:</p> <ul style="list-style-type: none"> Fencing shall be restricted to the Residential Use Areas on private lots, with provisions made to allow for continued wildlife movement between clusters of new residences on the site. Proposed deer fencing indicated in the Preliminary Planting Plan shall be revised to maintain opportunities for movement by larger terrestrial wildlife across the site, including deer. The location of deer fencing 	Project Applicant.	<p>Project approval conditioned to incorporate MM 5.5-4.</p> <p>Compliance with specific restrictions confirmed prior to issuance of grading, building, and construction permits.</p>	Community Development Director and Town Engineer.	

<i>Mitigation Measure</i>	<i>Implemented By</i>	<i>When Implemented</i>	<i>Monitored By</i>	<i>Verified By Date</i>
<p>shall be carefully sited to provide unobstructed corridors of at least 100 feet in width at key locations. These include the separations between Lots 12 and 13, Lots 10 and 11, Lots 1 and 2, and Lots 7 and 8. Enclosures may be utilized to protect selected plantings within these unobstructed corridors, but continuous fencing that would prevent or obstruct wildlife movement shall be prohibited. Easement restrictions on construction of deer fencing or other fencing that obstructs wildlife movement shall be recorded on the deed to the Common Open Space, individual private lots where wildlife corridors are provided, and the undeveloped portions of private lots outside the Residential Use Area.</p> <ul style="list-style-type: none"> • Lighting shall be carefully designed and controlled to prevent unnecessary illumination of the open space areas on the site. Lighting shall be restricted to the minimum level necessary to illuminate pathways, parking areas, and other outdoor areas around residences. Lighting shall generally be kept low to the ground, directed downward, and shielded to prevent illumination into adjacent natural areas. • All garbage, recycling, and composting shall be kept in closed containers and latched or locked to prevent wildlife from using the waste as a food source. • Pets shall be controlled by leash at all times in the Common Open Space areas on Parcels A and B, private roads, and undeveloped portions of private lots outside the proposed Residential Use Areas. 				
<p><i>Mitigation Measure 5.5-5 Conflicts with Tiburon Tree Ordinance and Wetland Policies</i></p> <p>(a) Mitigation Measures 5.5-1 through 5.5-4 would generally serve to provide conformance with the applicable local goals, objectives, and policies.</p> <p>(b) Comply with the Tiburon Tree Ordinance (Title IV, Chapter 15A</p>	<p>Project Applicant - refining proposed project plans.</p> <p>Project</p>	<p>Evidence of compliance provided to Town during processing of tentative map.</p>	<p>Community Development Director.</p>	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>of the Tiburon Municipal Code). The <i>Mitigation Program</i> called for in Mitigation Measure 5.5-1(c) shall include provisions that provide for the protection and replacement of “protected trees” affected by proposed development. Details of the <i>Mitigation Program</i> shall include the following:</p> <ul style="list-style-type: none"> • Comply with the Tiburon Tree Ordinance. Section 15A-7 calls for a replacement ratio of up to 3:1 for trees removed. Flexibility with this standard shall preferably be considered by the Town of Tiburon for this project given the importance of protecting grassland resources on the site and the high density of indigenous and planted trees on the site, the majority of which would be preserved as part of the project. In achieving an adequate replacement ratio to mitigate the anticipated loss of protected trees, consideration shall be given to allowing the applicant to pay a partial in-lieu fee or provide a program for partial off-site mitigation if installing all of the replacement tree plantings on-site would compromise the remaining stands of native grasslands to be protected. • Adhere to the Tree Preservation Guidelines specified in the <i>2005 Tree Survey</i>. Any provisions for replacement of “protected trees” must be balanced with the importance of maintaining the remaining grassland habitat on the site, which also provides important habitat for wildlife. • Refine the Grading Plan to clearly show the location of all trees to be protected, trees at the limits of grading that shall be preserved if determined feasible during site grading and landslide remediation according to the Tree Preservation Guidelines, and those trees recommended for removal. The tree replacement program shall address all trees designated or considered to possibly require removal as a result of site development and landslide remediation. • Refine the revised Preliminary Planting Plan to clearly indicate the location of replacement tree plantings on the site. Replacement 	<p>Biologist and landscape architect for refining avoidance and mitigation measures, and development of tree provisions.</p>			

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
tree plantings shall emphasize the use of native tree species and shall be designed to complement the existing oak woodland habitat without compromising the important native grasslands on the site.				
GEOLOGY AND SOILS				
<p><i>Mitigation Measure 5.6-1 Seismic Ground Shaking</i></p> <p>Future site development shall comply with all applicable seismic design provisions of the most currently accepted Building Code in effect at the time the applicant or individual lot owner applies for a building permit from the Town.</p>	Project Applicant; Architect; and individual lot owners.	<p>Plan compliance verified prior to Building Permit issuance.</p> <p>Field compliance verified during permit inspection, prior to occupancy.</p>	Town of Tiburon Building Inspector.	
<p><i>Mitigation Measure 5.6-2 Seismic-Related Ground Failure</i></p> <p>The applicant's geotechnical consultant shall analyze Risk Level A landslides to determine the calculated factor of safety using appropriate pseudo-static values. The consultant shall provide recommendations for repairing or improving unstable slopes and landslides that are categorized as Risk Level A to have a calculated factor of safety greater than 1.0 for seismic conditions</p>	Project Applicant's Geotechnical Consultant.	Prior to grading permit issuance.	Town Engineer and / or independent Geotechnical Consultant.	
<p><i>Mitigation Measure 5.6-3 Landsliding</i></p> <ul style="list-style-type: none"> Detailed engineering geologic and geotechnical investigations shall be performed before development of roads and utilities and within proposed development areas of each individual lot. One comprehensive grading plan shall incorporate all roads, lots, and open space. A design-level landslide repair program shall be established and implemented by the applicant. Based on the design level analysis, all landslides shall be repaired, improved or avoided in accordance with the Town's 	Project Applicant's Geotechnical Consultant.	<p>Geologic and geotechnical investigations performed prior to grading and / or building permit issuance.</p> <p>All landslides repaired, improved, or avoided before offering lots for sale.</p>	Town Engineer and / or independent Geotechnical Consultant.	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
Landslide Mitigation Policy before offering lots for sale.				
<p><i>Mitigation Measure 5.6-4 Slope Stability</i></p> <p>In order to mitigate the impacts of low shear strength of some bedrock / fill materials and potential erosion / failure of some slopes.</p> <ul style="list-style-type: none"> • Cut slopes shall be examined during construction to determine whether they would be stable in the long-term. If the applicant's or lot owners' geotechnical consultant determines that the exposed bedrock materials are weaker than expected, this condition shall be mitigated by decreasing the proposed slope angle or by selectively using retaining walls. • Depending on the remolded shear strength of compacted fill materials used on the site, some of the proposed fill slopes shall be reinforced with mechanically stabilized embankments. This would allow for steeper slopes with enhanced long-term stability. • Design appropriate drainage facilities for all slopes with grades steeper than 5:1. Drainage facilities must be designed to be self-cleaning and allow for quick drainage. • Incorporate surficial stabilization methods into slope design to reduce erosion and surficial failures (see Mitigation Measure 5.6-7). 	Project Applicant; individual lot owners; and / or their Geotechnical Consultants.	Prior to grading permit issuance and during construction.	Town Engineer and / or independent geotechnical consultant.	
<p><i>Mitigation Measure 5.6-5 Grading</i></p> <p>Implement acceptable methods of grading and also, where possible, minimize the extent of grading and the potential resulting corridor of disturbance. Typical performance criteria shall include:</p> <ul style="list-style-type: none"> • Unsuitable materials (such as landslides, colluvium, residual soil and artificial fill) located in or adjacent to areas of proposed grading shall be removed and / or recompacted during landslide repair, grading operations for road and utility construction, or development of individual private lots under the observation of and testing by a 	Project Applicant; individual lot owners; geotechnical consultant.	Prior to grading permit issuance; during construction and before occupancy.	Town Engineer and independent geologist; Community Development Director.	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>geotechnical engineer.</p> <ul style="list-style-type: none"> • The geotechnical consultant shall observe and direct grading operations, evaluate the effects of bedding or shear orientations and / or soil shear strength on the gross stability of existing and proposed slopes, and make site-specific determinations. • Natural and cut slopes shall be examined during grading to confirm their potential for long-term stability. If the geotechnical consultant determines that the exposed earth materials are weaker than expected, this condition shall be mitigated by recompaction as an earth buttress or stability fill or by the selected use of retaining walls or other acceptable methods. • Cut and fill slopes shall be planted with ground cover or in order to prevent erosion, raveling, or development of rills, sloughs, and other failures which could reduce the effectiveness of stabilization methods. This is because roots of newly planted vegetation would enhance the stability of graded slopes by holding materials in place. • All grading shall be performed in accordance with the Building Code and requirements of the Town. • All fills shall be compacted to a minimum of 90 percent relative compaction in loose lifts of six inches and placed at or near optimum moisture content. Before receiving fills, excavated area shall be stripped of unsuitable materials (such as loose surficial soils, organic materials, and deleterious debris). All unsuitable materials shall be removed from the site. • Geotechnical exploration shall be performed before grading in areas, which have not been thoroughly investigated in order to determine the depths and limits of removal and recompaction. 				
<p><i>Mitigation Measure 5.6-6 Secondary Effects of Grading</i> Implementation of Mitigation Measures discussed in Section 5.5</p>	<p>See Mitigation Measures 5.5-1, 5.5-2, and 5.5-3 (Biological Resources).</p>			

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>Biological Resources would reduce the secondary impacts of grading and subsurface drainage control on affected biotic resources to a less-than-significant level.</p> <p>Alternative slope stabilization measures should be considered that would reduce the secondary impacts to the biologic resources.</p> <p>Any alternative landslide stabilization plans shall be submitted to the Town of Tiburon and/or the Town’s Geotechnical Consultant for review and conformation that the plans are in accordance with the Town’s Landslide Mitigation Policy.</p>				
<p>Mitigation Measure 5.6-7 Expansive Soils</p> <p>Implement design criteria that would reduce the effects of shrinking and swelling soils on sloped, structures, roads and utilities to negligible level. The following measures shall be implemented:</p> <ul style="list-style-type: none"> • The measures in Mitigation Measure 5.6-4 shall be followed during the design and construction of slopes that would be constructed with the onsite expansive soils. • Plasticity index or expansion index testing shall be performed after grading to determine the specific shrink-swell potential for development sites as deemed appropriate by the respective geotechnical engineer(s). • Site-specific mitigation shall be identified which accounts for conditions present at proposed development sites. Typical measures to mitigate expansive soils shall include the following (or their equivalent): <ul style="list-style-type: none"> Pre-saturate fill soils and place wet fill soils (above optimum moisture content) to expand the soils, thereby reducing potential damage to concrete by allowing room for future shrink / swell movement of the soils. Place a non-expansive imported soil in the upper part of building 	<p>Project Applicant (roads, retaining walls, utilities); individual lot owners; and / geotechnical consultant.</p>	<p>Prior to grading permit issuance; during construction and before occupancy.</p>	<p>Town Engineer.</p>	

<i>Mitigation Measure</i>	<i>Implemented By</i>	<i>When Implemented</i>	<i>Monitored By</i>	<i>Verified By Date</i>
<p>pads.</p> <p>Bury expansive soils deep in fills.</p> <p>Treat soil with lime.</p> <p>Mix expansive soils with less expansive soils.</p> <p>Use geogrid reinforcement of compacted fill slopes to increase surficial stability.</p> <p>Combine these techniques to provide the most effective mitigation.</p> <ul style="list-style-type: none"> Residential development on individual lots shall be designed to account for each site's expansive soil conditions. Measures typically incorporated in building design shall include the following: <ul style="list-style-type: none"> Design foundation systems to incorporate measured variations of soil swell with effective confinement (dead weight). Strengthen foundations (beams). <p>Use suspended wood floors, drilled piers and grade-beam foundations, floating slabs, or pre-stressed (post-tensions) slab-on-grade.</p>				
<i>PUBLIC SERVICES</i>				
<p><i>Mitigation Measure 5.7-1 Fire Service Impact</i></p> <p>Revise the PDP to reflect standards of the TFPD related to fire apparatus access. This could be accomplished by providing multiple access points to the proposed structures through the inclusions of permanent landscape stairs and paths to the remote portions of the homes.</p>	Project Applicant.	Incorporated into tentative map.	Town Engineer and the Tiburon Fire Protection District.	
<p><i>Mitigation Measure 5.7-7 Water Service Impacts</i></p> <p>Redesign the on-site water supply system so that Lot 14 would be served by MMWD's existing water line in Paradise Drive.</p>	Project Applicant.	Incorporated into tentative map.	Town Engineer and Marin Municipal Water District.	

<i>Mitigation Measure</i>	<i>Implemented By</i>	<i>When Implemented</i>	<i>Monitored By</i>	<i>Verified By Date</i>
VISUAL QUALITY				
<p><i>Mitigation Measure 5.8-1 View Looking North from Middle Ridge Open Space (Viewpoint No. 1)</i></p> <ul style="list-style-type: none"> • Reduce the visual exposure and perceived mass of proposed houses on Lots 3, 4, 5, and 6 and the visual exposure of houses on the other lots to the extent that project elements do not attract attention when viewed from the Middle Ridge open space and therefore meet the visual dominance characteristic definition of subordinate (see Exhibit 5.8-2 on page 322 of Draft EIR). Means to accomplish this include the following: <ul style="list-style-type: none"> <input type="checkbox"/> For proposed houses on Lots 3, 4, 5, and 6: <ul style="list-style-type: none"> ▪ Limit building height to 16 feet, consistent with the proposed height for the house on Lot 5. ▪ Limit total floor area to a size considered appropriate by the Design Review Board and less than the maximum allowable FAR. <input type="checkbox"/> For all proposed houses that are in view from the open space: <ul style="list-style-type: none"> ▪ Consistent with the mitigation measures in Section 5.5 Biological Resources revise the Preliminary Planting Plan to plant native trees where they would screen the buildings so as to limit the exposure of each visible building façade to no more than 30 percent of the total façade area that would otherwise be seen in the view from Viewpoint No. 1. <p>Use glass that has a Visible Light Reflectance / Reflection value of less than nine percent for all exterior glass.</p>	Project Applicant /Architect.	Prior to Design Review approval and before occupancy of homes.	Town of Tiburon Design Review Board and Community Development Director.	
<p><i>Mitigation Measure 5.8-4 Light Pollution</i></p> <p>Prepare a <i>Lighting Plan</i> to incorporate into the Precise Development Plan. The lighting plan shall require:</p>	Project Applicant / Architect.	Concurrent with Design Review.	Community Development Director.	

<i>Mitigation Measure</i>	<i>Implemented By</i>	<i>When Implemented</i>	<i>Monitored By</i>	<i>Verified By Date</i>
<ul style="list-style-type: none"> • All light sources shall be shielded from off-site view. • All lights shall be downcast. • Escape of light to the atmosphere shall be minimized. • Low intensity, indirect light sources shall be encouraged. • Motion-activated lighting systems shall be encouraged. • Security lighting of driveways, parking areas, and garages shall use low-level bollards with shielded light unless this poses a safety hazard (as determined by the Tiburon Police Department), in which case the area shall be lit using as few as possible, motion-activated shielded lights. • Lighting of outdoor use areas and walkways shall be mounted on low-level elevation bollards or posts. • Floodlighting shall be prohibited. • Lighting of outdoor recreation areas shall be prohibited. • Mercury, sodium vapor, and similar intense and bright lights shall not be permitted except where their need is specifically approved and their source of light is restricted. <p>Submittals for Site Plan and Architectural Review shall include information on the location, types, intensity, and design of exterior lighting consistent with the Lighting Plan.</p>				
<i>CULTURAL RESOURCES</i>				
<p><i>Mitigation Measure 5.9-1 Potential Subsurface Cultural Deposits</i></p> <ul style="list-style-type: none"> • Workers involved in ground disturbing activities shall be trained in the recognition of archaeological resources (e.g., historic and prehistoric artifacts typical of the general area), procedures to report such discoveries, and other appropriate protocols to ensure that 	Project Applicant and individual lot owners.	Before issuance of grading permits.	Community Development Director.	

Mitigation Measure	Implemented By	When Implemented	Monitored By	Verified By Date
<p>construction activities avoid or minimize impacts to potentially significant cultural resources;</p> <ul style="list-style-type: none"> • In the event that archaeological artifacts, features or other cultural deposits are encountered during future grading, excavation, or other land alteration efforts, all work in the immediate vicinity of the find must be terminated until the discovery can be evaluated by an archaeologist. These discoveries may include prehistoric and / or historic materials. Depending on the extent and cultural composition of the materials, it may be advisable for subsequent excavations to be monitored by an archaeologist who would be ready to record, recover, and / or protect significant cultural materials from further damage. In the case of prehistoric resources, consultation with interested Native American groups is advised; and • In the event that human skeletal remains are discovered anywhere on the site, work in the vicinity of the discovery must be discontinued and the Marin County Coroner must be contacted. If skeletal remains are found to be prehistoric Native American (not modern), the Coroner will call the Native American Heritage Commission in Sacramento within 24 hours; they in turn will identify the person(s) believed to be the "Most Likely Descendant" of the deceased Native American. The Most Likely Descendant would be responsible for recommending the disposition and treatment of the remains. The Most Likely Descendant may make recommendations to the landowner or the person responsible for the excavation work regarding the appropriate treatment and disposition of the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98. 				

FILED

FEB 22 2012

RICHARD N. BENSON
MARIN COUNTY CLERK
BY: J. Whitney, Deputy



FILE COPY

Notice of Determination

TO: Office of Planning and Research
P.O. Box 3044
Sacramento, CA 95812-3044

County Clerk-Administration
County of Marin
3501 Civic Center Drive, Rm. 234
San Rafael, CA 94903

FROM: Town of Tiburon
1505 Tiburon Blvd.
Tiburon, CA 94920

Contact: Scott Anderson
Dir. Comm. Dev.

Phone: (415) 435-7392

SUBJECT: *Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.*

State Clearinghouse Number: 2007072104

Project Title: Alta Robles Residential Development Project

Project Location: 3825 Paradise Drive, Tiburon, Marin County; Marin County Assessor Parcel Nos. 039-021-13 and 039-301-01

Project Description: The project encompasses the subdivision and eventual development of 52.2 acres of land, currently developed with one dwelling, into 14 single-family residential lots. Street access would be provided from Paradise Drive via a private roadway. Approximately 20.95 acres of the site are located within an unincorporated portion of Marin County, within the Town of Tiburon's Sphere of Influence, and approximately 31.25 acres of the site are located within the Town of Tiburon. The unincorporated portion would be rezoned for planned residential development. The project EIR analyzed impacts of the current applications as well as all trailing permits such as site planning and architectural approval for individual homes, building permits, encroachment permits, and so forth.

This is to advise that the Town of Tiburon Town Council, the Lead Agency has approved the above described project on February 15, 2012 and has made the following determinations regarding the above described project:

1. The project will have a significant effect on the environment.
2. An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures were made a condition of the approval of the project.
4. A mitigation monitoring plan was adopted for this project.
5. A statement of Overriding Considerations was adopted for this project.
6. Findings were made pursuant to the provisions of CEQA.



This is to certify that the Environmental Impact Report and record of project approval is available to the General Public at the Community Development Department, Town of Tiburon, 1505 Tiburon Blvd., Tiburon, CA 94920.

Y 200 307

Signature: *Scott Anderson*

Title: *Director of Community Development, Town of Tiburon*

Date: February 16, 2012

Date Received for Filing:

Assessor-Recorder-County Clerk
County of
Marin
RICHARD N. BENSON
Assessor-Recorder-County Clerk

1 FISH/GAME NEGATIVE DECLARA	2101.50
1 FISH/GAME EXEMPTION	50.00

TOTAL	2151.50
CHECK 1765	2151.50

CHANGE	0.00
02/22/2012 11:33AM	2012022200107
JW	TAAXCR5VDF1

Online. Anytime.
www.marincounty.org

Requested By:
Public



Community Development Department

February 22, 2012

Office of Planning & Research
State Clearinghouse
State of California
P. O. Box 3044
Sacramento, CA 95812-3044

**RE: NOTICE OF DETERMINATION: SCH #2007072104 (ALTA ROBLES
RESIDENTIAL DEVELOPMENT; 3825 PARADISE DRIVE, TIBURON,
MARIN COUNTY, CALIFORNIA**

Dear Sir or Madam:

Please find enclosed the Notice of Determination for the above-referenced project,
along with a receipt acknowledging payment of the Fish and Game CEQA fees. If you
have any questions, please call me at (415) 435-7392.

Very truly yours,

Scott Anderson
Director of Community Development

Enc.: NOD and receipt

S:\Planning\Staff Folders\sanderson\Letters\opr nod letter7.doc

Jim Fraser
Mayor

Emmett O'Donnell
Vice Mayor

Richard Collins
Councilmember

Frank Doyle
Councilmember

Alice Fredericks
Councilmember

Margaret A. Curran
Town Manager