
Revised Draft Environmental Impact Report for Magee Preserve

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Prepared for:



Town of Danville
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- C. Air Quality, Greenhouse Gas & Health Risk Assessment
- D. Noise Assessment
- E. Transportation Impact Analysis
- F. Energy Use Assessment

1.0 INTRODUCTION

1.1 BACKGROUND AND PROJECT HISTORY

The Magee Preserve Project (project) proposes to develop approximately 29 acres of the 410-acre project site with 69 single family homes, seven attached secondary dwelling units, and associated roadways and infrastructure. Approximately 381 acres of the project site would be retained as permanent open space. The project would rezone the approximately 410-acre property from A-4 (Agricultural Preserve District), A-2 (General Agricultural District), and P-1 (Planned Unit Development District) to a new P-1 (Planned Unit Development District).¹

In October 2010, SummerHill Homes submitted an application for a Preliminary Development Plan – Rezoning and Final Development Plan – Vesting Tentative Map/Major Subdivision to allow for development of 85 residential lots on the project site. In March 2011, SummerHill Homes reduced the number of residential lots from 85 to 78. The Town began preparation of an EIR for the project and several technical studies were conducted based on a 78-unit project. These studies were not generally updated when the project was subsequently reduced in size, because the reduced proposals would cause reduced environmental impacts compared to the 78-lot proposal.

SummerHill Homes reduced the project to 70 lots before the Draft Environmental Impact Report (EIR) was issued; most of the Draft EIR's analysis was based on the 70-lot project description. In February 2013, in response to comments on the Draft EIR, SummerHill Homes reduced the project from 70 to 69 residential lots. This change reduced the proposed developed area by 70 acres and eliminated three custom lots fronting Diablo Road. The Final EIR issued in April 2013 took this reduction into account, noting that the 69-unit project would reduce some environmental impacts evaluated in the Draft EIR, and the Town of Danville approved the 69-lot proposed project.

A lawsuit was filed in June 2013 to challenge the project approvals, alleging that the project's 2013 Final EIR inadequately addressed impacts to traffic, bicycle safety, pedestrian safety, California red-legged frog, emergency access, safe evacuation, flooding, erosion, and siltation. The lawsuit further alleged that the EIR failed to adequately respond to public comments, failed to consider project alternatives that would have eliminated traffic impacts, and should have been recirculated for public comment. Finally, the lawsuit alleged that the project was inconsistent with the Town's General Plan and with other land use restrictions. The Superior Court rejected most of these claims and the Court of Appeal rejected all allegations except the claim that the EIR did not adequately address impacts to bicycle safety.² As to bicycle safety, further CEQA analysis is required before the Town considers approval of the proposed project.

In February 2017, Davidon Homes became the project applicant. The current site plan proposes 69 residential lots. It differs from the project described in the 2013 EIR in three respects: the proposed project reduces developed acreage and increases open space by approximately nine acres; replaces, rather than removes, the corral on the site; and adds electric vehicle charging stations for each proposed residence.

¹ The application is being considered under the Town of Danville 2030 General Plan, adopted March 19, 2013.

² *SOS-Danville Group v. Town of Danville*, Contra Costa County Superior Court Case No. MSN13-1151 (filed 7/25/2013); Order Re: Petition for Writ of Mandate (CEQA) (7/28/2014); Opinion, First District Court of Appeal Case No. A143010 (9/11/2015).

1.2 PURPOSE OF REVISED DRAFT EIR

This Revised Draft EIR for the Magee Preserve has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 and CEQA Guidelines, as amended. This EIR has been prepared by Denise Duffy and Associates, Inc. (DD&A) on behalf of the Town of Danville as the lead agency, in consultation with the appropriate local, regional and state agencies.

The purpose of the EIR is to inform the public generally of the significant environmental effects of the project, identify possible ways to minimize the significant effects, and describe reasonable alternatives that support the objectives of the project. As defined by the CEQA Guidelines, Section 15382, “significant effect on the environment” means:

“... a substantial, or potentially substantial adverse change 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 Notice of Preparation (NOP) for the Revised Draft EIR was circulated to interested agencies and organizations for the required 30-day review period from August 31, 2017 to October 2, 2017. The NOP with the completed Initial Study are provided in Appendix A, and the responses to the NOP are contained in Appendix B of this EIR.

This Revised Draft EIR will be circulated for agency and public review during a 45-day public review period. Comments received by the Town on the Revised Draft EIR will be reviewed and responses to comments will be provided in the Final EIR. The Town must certify that it has reviewed and considered the information in the Final EIR and that the Final EIR has been completed in conformity with the requirements of CEQA.

Although the EIR does not control the lead agency's ultimate decision on the project, the Town of Danville must consider the information in the EIR and respond to each significant effect identified in the EIR. If significant adverse environmental effects are identified in the EIR, approval of the project must be accompanied by written findings, as follows:

- A. Changes or alterations have been required in, or incorporated into, such project that mitigate or avoid the significant environmental effects thereof as identified in the completed EIR.
- B. Such changes or alterations are within the responsibility and jurisdictions of another public agency and such changes have been adopted by such other agency, or can and should be adopted by such other agency.
- C. Specific economic, social or other considerations make infeasible the mitigation measures or project alternatives identified in the EIR.

State law requires that a public agency adopt a monitoring program for mitigation measures that have been incorporated into the approved project to reduce or avoid significant effects on the environment. The purpose of the monitoring program is to ensure compliance with environmental mitigation during project implementation and operation. A Monitoring Program will be included in the Final EIR.

1.3 SCOPE OF REVISED DRAFT EIR

Although not required, an Initial Study has been prepared for the project in accordance with the CEQA Guidelines. This Initial Study is included in Appendix A to this Revised Draft EIR. The Initial Study, Revised Draft EIR, and 2013 Draft and Final EIRs are posted on the Town of Danville's website at <http://www.danville.ca.gov/MageeRanch>. CEQA identifies that when a lead agency has determined that it will prepare an EIR, the lead agency may use an initial study to focus the EIR on a project's significant environmental impacts, identify impacts determined to be not significant, and explain why potentially significant impacts were determined to be not significant (CEQA Guidelines Section 15063).

As explained in the 2017 Initial Study (2017 IS), the Town approved a slightly larger version of the project in 2013, but the Town's approvals and EIR certification were challenged in litigation. The courts collectively rejected the lawsuit's challenges to the 2013 EIR's adequacy regarding vehicular traffic and pedestrian safety, California red-legged frogs, emergency access, safe evacuation, flooding, erosion, siltation, responses to public comments, project alternatives, recirculation, and land use. The courts determined, however, that the EIR did not adequately address impacts to bicycle safety.

As explained in the Initial Study, this Revised Draft EIR will focus on the following topics:

- **Air Quality:** The EIR will quantify criteria air pollutant emissions and quantify human health risk from project construction activities.
- **Greenhouse Gas (GHG) Emissions:** The EIR will update and analyze the GHG emissions from the project.
- **Noise:** The EIR will evaluate noise and groundborne noise/vibration impacts on nearby sensitive uses (residences) during project construction.
- **Transportation:** The EIR will include a traffic analysis that addresses all aspects of transportation and circulation effects of the project, including bicycle safety.
- **Energy:** The EIR will analyze the energy impacts of the project.
- **Growth Inducement:** The EIR will address the potential growth inducement effects of the project.
- **Cumulative Impacts:** The EIR will evaluate the potential cumulative impacts of the project when combined with past, present and reasonably anticipated projects in the region in the areas of air quality, transportation, and construction noise.
- **Alternatives:** The EIR will consider a range of reasonable alternatives to the proposed project that have the potential to feasibly obtain most of the basic objectives of the project.

1.3.1 NOTICE OF PREPARATION COMMENTS

The NOP was circulated to solicit comments from public agencies and interested parties and to identify issues that should be considered in the Revised Draft EIR. The NOP, accompanied by the 2017 IS and CEQA Checklist, was posted at the County Clerk's office and sent to trustee and responsible agencies, and the State Clearinghouse for a 30-day public review period from August 31 to October 2, 2017. The NOP is contained in Appendix A. Comments received in response to the NOP are provided in Appendix B. A summary of the comments received and where the responses to the topics raised in those comments can be found in the EIR is provided in Table 1-1.

Table 1-1 Summary of Responses Received on the NOP			
Sender	Date Received	Subject	Topic Addressed in Revised Draft EIR
Boehm, Judy	9/18/17	Opposed to project*	N/A
Brant, Ray	9/12/17	Hydrology	2017 IS and EIR Section 1.3.2 under "Hydrology"
Cella, Maryann	8/28/17	Request for distribution to C DPR*	N/A
Cella, Maryann	8/28/17	Bike Safety	EIR Section 4.3 Transportation and Circulation
Cella, Maryann	9/26/17 (2)	Erosion	2017 IS and EIR Section 1.3.2 under "Hydrology"
Cella, Maryann	9/26/17 (3)	Bike Safety	EIR Section 4.3 Transportation and Circulation
Cella, Maryann	9/29/17 (1)	Erosion	2017 IS and EIR Section 1.3.2 under "Hydrology"
Cella, Maryann	9/29/17 (2)	Erosion	2017 IS and EIR Section 1.3.2 under "Hydrology"
Cella, Maryann	9/29/17 (3)	Erosion & Bike Safety	For erosion, see 2017 IS and EIR Section 1.3.2 under "Hydrology"; for bike safety, see EIR Section 4.3 Transportation and Circulation
Cella, Maryann	10/2/17 (1)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (2)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (3)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (4)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (5)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (6)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (7)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (8)	Erosion & Bike Safety	See above

Table 1-1 Summary of Responses Received on the NOP			
Sender	Date Received	Subject	Topic Addressed in Revised Draft EIR
Cella, Maryann	10/2/17 (9)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (10)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (11)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (11-1)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (11-2)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (12)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (13)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (14)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (15)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (16)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (17)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (18)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (19)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (20)	Erosion & Bike Safety	See above
Cella, Maryann	10/2/17 (21)	Distribution Request, Court Order* & Bike Safety	EIR Section 1.0 Introduction; EIR Section 4.3 Transportation and Circulation
Cella, Maryann	10/2/17 (22)	Hydrology, Bike Safety & Referendum*	2017 IS and EIR Section 1.3.2 under “Hydrology” & 4.3 Transportation and Circulation
Cella, Maryann	10/2/17 (23)	Bike Safety	EIR Section 4.3 Transportation and Circulation
Cella, Maryann	2/5/18	Erosion	2017 IS and EIR Section 1.3.2 under “Hydrology”
Contra Costa County Flood Control	9/27/17	Hydrology	2017 IS and EIR Section 1.3.2 under “Hydrology”
Contra Costa Local Agency Formation Commission	9/28/17	LAFCO Annexation, Agricultural Resources & Housing	2017 IS

**Table 1-1
Summary of Responses Received on the NOP**

Sender	Date Received	Subject	Topic Addressed in Revised Draft EIR
Covay, Melody & Robert	10/2/17	Oppose project,* Traffic & Hydrology	2017 IS and EIR Section 1.3.2 under “Hydrology”; EIR Section 4.3 Transportation and Circulation
Davis, Jerome	9/29/17 (1)	Hydrology, Bike Safety & Referendum*	2017 IS and EIR Section 1.3.2 under “Hydrology”; EIR Section 4.3 Transportation and Circulation
East Bay Municipal Utility District	9/11/17	General Comments	2017 IS
East Bay Regional Park District	10/2/17	General & Bike Safety	2007 IS; EIR Section 4.3 Transportation and Circulation
Flashman, Stuart M.	10/2/17	Bike Safety	EIR Section 4.3 Transportation and Circulation
Freeman, Marshall & Margaret	9/10/17	Bike Safety, Hydrology & Referendum*	EIR Section 4.3 Transportation and Circulation; 2017 IS and EIR Section 1.3.2 under “Hydrology”
Gallagher, Mary & Bill	9/6/17	Traffic, Aesthetics & Emergency Services	EIR Section 4.3 Transportation and Circulation and 2017 IS
George, Donya	9/25/17	Traffic, Referendum* & Hydrology	EIR Section 4.3 Transportation and Circulation; 2017 IS and EIR Section 1.3.2 under “Hydrology”
Goetze, Owen	9/5/17	Bike Safety	EIR Section 4.3 Transportation and Circulation
Hill, Suzanne	9/4/17	Traffic & Referendum*	EIR Section 4.3 Transportation and Circulation
Holmes, Judy	9/13/17	Bike Safety	EIR Section 4.3 Transportation and Circulation
Hooper, Bill	10/1/17	Bike Safety & Housing/Population & Hydrology	EIR Section 4.3 Transportation and Circulation; 2017 IS and EIR Section 1.3.2 under “Hydrology”
Isom, Pat	9/5/17	Traffic, Hydrology & Referendum*	EIR Section 4.3 Transportation and Circulation; 2017 IS and EIR Section 1.3.2 under “Hydrology”

**Table 1-1
Summary of Responses Received on the NOP**

Sender	Date Received	Subject	Topic Addressed in Revised Draft EIR
Isom, Pat	9/9/17	Traffic & GHG	EIR Section 4.3 Transportation and Circulation; EIR Section 4.1 Air Quality & Greenhouse Gas
Isom, Pat	9/18/17 (1)	Erosion	2017 IS and EIR Section 1.3.2 under “Hydrology”
Isom, Pat	9/18/17 (2)	Cumulative Impacts & Traffic	EIR Section 5.2 Cumulative Impacts; EIR Section 4.3 Transportation and Circulation
Logue, Gretchen	9/29/17	Hydrology, Bike Safety & Referendum*	EIR Section 4.3 Transportation and Circulation and EIR Section 1.3.2 under “Hydrology”
Masek, John	9/5/17	Water Supply & Housing/Population	2017 IS and
Nystrom, Barbra	9/18/17	Hydrology, Erosion, Bike Safety & Referendum*	EIR Section 1.3.2 under “Hydrology”; 2017 IS; and EIR Section 4.3 Traffic and Circulation
Reed, Arlene	9/2/17	Bike Safety & Hydrology & Referendum*	See above
Rich, Gary	10/2/17	Hydrology	2017 IS and EIR Section 1.3.2 under “Hydrology”
Ruiz, Antonio	8/16/17	Tribal/Cultural Resources	EIR Section 1.3.2 under “Tribal Cultural Resources”
Salvo, Nancy	9/2/17	Bike Safety	EIR Section 4.3 Transportation and Circulation
Schulte, Jennifer	9/29/17	Hydrology, Bike Safety & Referendum	2017 IS and EIR Section 1.3.2 under “Hydrology”; EIR Section 4.3 Transportation and Circulation
Smith, Anne	9/17/17	Hydrology, Bike Safety, Referendum,* Biological Resources & Erosion	2017 IS and EIR Section 1.3.2 under “Hydrology”; EIR Section 4.3 Transportation and Circulation, and 2017 IS
Tanner, Clelen	10/1/17	Bike Safety	EIR Section 4.3 Transportation and Circulation
*Not addressed in Revised Draft EIR because these do not relate to CEQA issues; however, comments are included in the project record and are available to decisionmakers.			

1.3.2 UPDATED TECHNICAL STUDIES

AIR QUALITY & GREENHOUSE GAS EMISSIONS

In November 2011, an air quality analysis was prepared for the earlier version of the project by Illingworth & Rodkin, Inc. This analysis included an evaluation of regional emissions, local emissions, construction effects, greenhouse gas (GHG) emissions, and climate change of the project. The assessment concluded that all air quality impacts of the project could be reduced to a less-than-significant level with identified mitigation.

In April 2018, Ramboll Environ US Corporation (Ramboll Environ) performed an assessment of project impacts related to construction-related criteria air pollutants, health risks from construction emissions, and greenhouse gas emissions of the project. The evaluations were performed for the assessment based on the CEQA Air Quality Guidelines adopted by the Bay Area Air Quality Management District in May 2017. This report is contained in Appendix C.

HYDROLOGY

In May 2011, ENGEO, Inc. prepared a Baseline Hydrology & Geomorphic Analysis and in April 2012 prepared a Regional Hydrologic Analysis for the project. Both reports were prepared in close coordination with the Contra Costa Flood Control and Water Conservation District and Town of Danville. These analyses were incorporated into the 2013 EIR. The studies identified the existing floodplain extending onto the project site and erosion at, and west of, the culvert under Diablo Road. The 2013 EIR explained that its analysis was based on an earlier version of the project that comprised 78 lots; the analysis showed that if constructed according to project designs and hydrologic recommendations, the project would attenuate peak flows to below pre-project conditions and, therefore, would not adversely impact flooding conditions.

Regarding erosion, the EIR cited legally required hydromodification measures, which require new development projects to slowly meter smaller flows (i.e., stormwater flows caused by rainfall events between 10% of the 2-year recurrent interval storm up to the 10-year recurrent interval storm). The latter requirement has been in effect in Contra Costa County since 2006 and is a far more rigorous hydrologic mitigation measure than previously imposed on similar past developments in the Green Valley Creek watershed. Given that erosive flows would be addressed through these legally required hydromodification controls, the EIR found no significant impacts with respect to downstream erosion.

The lawsuit challenging the 2013 EIR alleged that that EIR “failed to fully disclose or mitigate significant flooding, erosion and siltation impacts caused by increased storm run-off flows that would be caused by the Magee Project,” however, that claim was not upheld by the courts.

Following the winter of 2016-2017, ENGEO revisited the project site and determined that the 2013 EIR’s conclusions remained valid. ENGEO’s July 17, 2017 letter report, referred to in the 2017 Initial study, also concludes that the project would not cause significant flooding or erosion impacts.

Scoping comments submitted in response to the NOP provide information regarding existing conditions. The comments do not present substantial evidence that would change the technical analyses showing that, with required detention and hydromodification measures, the proposed 69 lot project would not significantly impact existing downstream flooding or erosion. As was the case in 2013, the project is not legally permitted to increase erosion potential. Section C.3.g.ii of the Municipal Regional Stormwater Permit applicable to the Town of Danville (NPDES No. CAS612008, Order No. R2-2015-0049, 11/19/2015) states that stormwater discharges from projects that, like the proposed project, require hydromodification, “shall not cause an increase in the erosion potential of the receiving stream over the

pre-project (existing) condition.” The subsection further describes how compliance with this standard is to be demonstrated. ENGEO has determined that the project would meet the subsection’s requirements. The Contra Costa County Flood Control & Water Conservation District and the Town of Danville will review the project’s final Hydrologic Analysis prior to issuance of any grading permits.

The Contra Costa County Flood Control & Water Conservation District submitted the following scoping comments on September 27, 2017. These comments and responses from ENGEO are provided below.

Comment 1: “As commented in our previous letters, the Revised Draft EIR should include a statement that the Federal Emergency Management Agency (FEMA), the FC District, and the Army Corp of Engineers have noted that Green Valley Creek, downstream of this project, does not have sufficient capacity for the 100-year storm event and has existing flooding, encroachments, and erosion issues. In addition, it should be noted that the FC District has received recent reports of severe creek bank erosion at locations along the East Branch of the Green Valley Creek downstream of the project, specifically behind the home at 51 Diablo Creek Place, in the Town of Danville, and at other locations along Alameda Diablo, in the unincorporated Diablo area.”

“We recommend that the Revised Draft EIR discuss if modifications to the site plan will require additional measures, above and beyond the mitigation already identified in the Final EIR, to mitigate the project’s impacts to these existing downstream conditions.”

Response 1: These comments accurately reflect existing conditions downstream of the project site. Modifications to the site plan, and particularly the reduction from 78 to 69 lots, reduce the project’s new impervious surface from the 41.2 acres studied in the 2013 Final EIR to approximately 12.8 acres. This change reduces potential runoff impacts compared to those addressed in the 2013 Final EIR. Therefore, modifications to the site plan do not require additional measures beyond the measures already identified in the 2013 Final EIR.

Comment 2: “We request that the Revised Draft EIR include an analysis of the downstream culvert at Diablo Road and Alameda Diablo, if it is determined that modifications to the original Magee Ranches site plan create impacts along Green Valley Creek in the unincorporated County.”

Response 2: Modifications to the original site plan reduce potential runoff impacts compared to the project, as analyzed in the 2013 EIR. With required detention and hydromodification, the project would not create impacts along Green Valley Creek in the unincorporated County.

Comment 3: “We previously recommended that the proposed detention basin and drainage facilities be constructed in accordance with the Regional Hydrologic Analysis prepared by Engeo Incorporated, dated June 8, 2011, and revised on April 17, 2012. However, due to modifications to the original site plan and as noted by Engeo’s Update to Hydrologic Investigations letter, dated July 17, 2017, the applicant should be conditioned to submit a revised final Hydrologic Analysis for the FC District’s review and the Town of Danville’s approval, prior to issuance of any permits.”

Response 3: As noted in the ENGEO letter, project approval would be conditioned on submittal of a revised final Hydrologic Analysis for the District review and Town of Danville approval prior to issuance of any grading permits.

Based on the above discussion and conclusions in the 2017 IS, hydrology does not require further analysis in this Revised Draft EIR.

NOISE

In October 2011, Illingworth & Rodkin, Inc. performed a noise and vibration assessment from project operations (long-term) and construction equipment (short-term) from the previous 78-lot project on the site as part of the 2013 EIR. The assessment concluded that all noise and vibration impacts of the project could be reduced to a less-than-significant level with identified mitigation.

In November 2017, Ramboll Environ prepared an updated analysis of potential noise and groundborne vibration impacts on nearby sensitive receptors from the proposed project during construction. This study is contained in Appendix D.

TRANSPORTATION & CIRCULATION

In September 2012, Hexagon Transportation Consultants, Inc. prepared a traffic impact analysis for the original, previous 78-lot project on the site. The analysis concluded that the project's traffic impacts could be reduced to a less-than-significant level with identified mitigation. The lawsuit on the 2013 EIR challenged the EIR's analysis of traffic. The Superior Court rejected these claims. The lawsuit on the 2013 EIR also challenged the EIR's analysis of bicycle safety. The Superior Court and Court of Appeal upheld these claims. The lawsuit did not challenge other aspects of the 2013 EIR's traffic analysis.

Because the courts have required a new analysis of bicycle safety and, given the time that has passed since the traffic analysis was prepared for the 2013 EIR, the transportation analysis for the project (other than change in air traffic patterns) has been updated for this Revised Draft EIR.

In June 2018, Stantec Consulting Services, Inc. completed a transportation impact study for the project. The study included a traffic operations analysis; evaluation of internal circulation, external site access, driveway operations, and emergency access; considered the adequacy of transit, bicycle, and pedestrian access; and analyzed project impacts on bike safety. The transportation analysis is contained in Appendix E of this EIR.

TRIBAL CULTURAL RESOURCES

On July 27, 2017, the Town of Danville sent notification of the proposed project to the representatives of the two California Native American Tribes that had requested notification of development projects in Danville pursuant to California Assembly Bill (AB) 52. A project that may cause a substantial adverse change in the significance of a tribal cultural resource (TCR) is considered to have a significant effect on the environment (Pub. Resources Code, § 21084.2.). AB 52 requires a TCR to have tangible, geographically defined properties that can be impacted by a proposed action.

On August 16, 2017, the Town received a letter from Antonio Ruiz, Cultural Resources Officer, Department of Environmental Resources, Wilton Rancheria, formally requesting tribal consultation. In a letter dated October 13, 2017, the Town of Danville responded to this letter stating the Town's availability for an in-person or a conference call meeting to discuss issues raised in the August 16, 2017 letter. The Town received no response to that letter and did not receive any comments from the tribe.

No TCRs have been identified that would be impacted by the project. No Native American resources have been identified within the proposed project area or a surrounding 0.5-mile radius through a Northwest Information Center (NWIC) records search or through a search of the NAHC Sacred Lands File. A copy of the cultural resources investigation of the 2013 Magee Ranches EIR was provided to Wilton Rancheria on July 27, 2017. The cultural resources investigation (July 2011) included archaeological survey and

exploratory subsurface excavation on the project site. No cultural resources or TCRs were identified as a result of these efforts.

Government to government consultation was initiated by the Town of Danville and did not result in the identification of a TCR within or near the project area. Given that no TCRs have been identified, no specific mitigation measures or additional analysis pertaining to known TCRs is necessary.

ENERGY

An analysis of energy was conducted as part of the 2013 EIR. This analysis considered energy use and efficiency, based the CEQA Guidelines (Appendix F) and Town of Danville General Plan policies. The analysis concluded that the project's impacts related to energy use could be reduced to a less-than-significant level with identified mitigation.

In April 2018, Ramboll completed a more detailed energy use assessment for both construction and operation of the project. This included 1) diesel fuel use for construction off-road equipment, 2) diesel and gas use for construction on-road vehicles, 3) diesel and gas use from vehicle trips generated by the project, 4) operational natural gas use, and 5) operational electricity consumption. This assessment is contained in Appendix F of this Revised Draft EIR.

1.3.3 CONTENTS OF REVISED DRAFT EIR

For each relevant environmental issue, the Revised Draft EIR describes the environmental setting (or current conditions), analyzes the potential impacts that could occur from project implementation, and identifies mitigation for each potentially significant impact. The Revised Draft EIR specifies ways to mitigate the impact, including one or a combination of the following measures:

- Relevant standards and regulations of agencies with jurisdiction over this project, and
- Project-specific mitigation designed to mitigate one or more project impacts.

1.4 ORGANIZATION OF REVISED DRAFT EIR

The Revised Draft EIR has been organized into the following sections:

Chapter 1. Introduction: Provides an introduction and overview that describes the purpose of the EIR, summarizes the EIR review and certification process, identifies key areas of environmental concern, and outlines the EIR process.

Chapter 2. Summary: Summarizes the proposed project, potential impacts of the project, mitigation measures identified to reduce or eliminate significant impacts, and alternatives to the proposed project.

Chapter 3. Project Description: Presents project objectives, describes the site location and characteristics, provides a detailed description of the proposed project and specifies the intended use of the EIR, including the actions required to implement the project.

Chapter 4. Environmental Analysis: Describes the existing conditions, analyzes the project's potential environmental impacts and specifies measures to mitigate the identified impacts. This section also describes cumulative impacts as applicable.

Chapter 5. Alternatives: Evaluates a reasonable range of project alternatives that would reduce or avoid environmental impacts, including the No Project Alternative.

Chapter 6. Other CEQA Considerations: Discusses irreversible or irretrievable commitments of resources, and significant unavoidable and growth-inducing impacts resulting from implementation of the project.

Chapter 7. References: Lists sources of information used in the preparation of the EIR.

Appendices: Includes the NOP and 2017 IS for the Revised Draft EIR, comments received in response to the NOP, and background technical studies for the document.

1.5 TERMINOLOGY USED IN REVISED DRAFT EIR

This Revised Draft EIR uses the following terminology to denote the significance of environmental impacts of the proposed project:

- An “environmental impact” is a direct or indirect effect that would be caused by the project that constitutes a physical change to the existing natural or man-made conditions within the area affected by the project.
- “No impact” is the lack of any environmental impact, and no mitigation is required.
- A “less-than-significant” impact or an impact that is “not significant” is an environmental impact that would cause no substantial adverse change in the environment and, as such, requires no mitigation.
- A “potentially significant” or “significant” impact is an environmental impact that could or would cause a substantial adverse change in the environment. In such a case, an impact has been identified that, although potentially significant, can be avoided or reduced to less-than-significant levels through mitigation. Further description of mitigation measures is provided below.
- A “significant and unavoidable” impact is an environmental impact that could or would cause a substantial adverse change in the environment and cannot be avoided if the project is implemented; mitigation may be recommended but would not reduce the impact to a less-than-significant level.
- “Mitigation measures” are defined in CEQA Guidelines Section 15370 as:
 - Avoiding the impact altogether by not taking a certain action or parts of an action
 - Minimizing the impact by limiting the degree or magnitude of the action and its implementation
 - Rectifying the impact by repairing, rehabilitating or restoring the affected environment
 - Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
 - Compensating for the impact by replacing or providing substitute resources or environments

1.6 EFFECTS FOUND NOT TO BE SIGNIFICANT

As noted above, the focus of this Revised Draft EIR is on the bicycle safety issues raised in the Appellate court ruling as well as updated analysis of potential impacts from air quality/greenhouse gas emissions, construction noise and vibration, transportation, and energy use. As indicated in the 2017 Initial Study, the

Town determined that the project would have no new, or substantially more severe, potentially significant impacts in the remaining environmental issue areas: aesthetics, agricultural and forest resources, biological resources, cultural/tribal resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use, mineral resources, public services, and utilities.

1.7 FINAL EIR AND PROJECT APPROVAL

1.7.1 PUBLIC REVIEW OF THE REVISED DRAFT EIR

In accordance with CEQA, a good-faith effort has been made during the preparation of this Revised Draft EIR to contact all affected agencies, organizations and persons who may have an interest in this project.

The Notice of Availability of this Revised Draft EIR is being posted at the Contra Costa County Clerk's office, mailed to any parties who have made written requests for such notice under CEQA Section 21092(b)(3), and mailed to properties within 1,000 feet of the project site and the owners of those properties. The Notice of Completion is being circulated to the State Clearinghouse and to trustee and responsible agencies. The Revised Draft EIR is being circulated for comments for 45 days, between August 31 and October 15. During this period, public agencies and members of the public may provide written comments on the analysis and content of the Revised Draft EIR.

All written comments on the Revised Draft EIR must be mailed, delivered, faxed or emailed by 5:00 p.m. on October 15, 2018 and addressed as follows:

Mail or Delivery: Town of Danville
 Attention: David T. Crompton, Principal Planner
 Development Services Department – Planning Division
 510 La Gonda Way
 Danville, CA 94526

Fax: David T. Crompton
 Town of Danville
 925-838-0360

Email: dcrompton@danville.ca.gov

All comments received on the Revised Draft EIR during the 45-day public review period will be responded to by the Town in the Final EIR.

1.7.2 CONTENTS OF FINAL EIR

The following elements will collectively compose the Final EIR:

- Revised Draft EIR (including the Appendices),
- List of persons, organizations, and public agencies that commented on the Draft EIR,
- Copies of all comments received on the Revised Draft EIR,
- Written responses to comments on the Revised Draft EIR and any supporting documentation, and
- Proposed Mitigation Monitoring and Reporting Program.

1.7.3 CERTIFICATION OF FINAL EIR AND PROJECT APPROVAL PROCESS

For a period of at least 10 days prior to any public hearing during which the lead agency takes action to certify the Final EIR, responses to comments will be made available to, at a minimum, the trustee and responsible agencies that provided written comments on the Draft EIR. Pursuant to Section 15090(a) of the CEQA Guidelines, the Final EIR must be certified before the lead agency could approve the project.

After the Final EIR is certified, the Town will evaluate the merits of the project and decide whether to approve or deny the proposed project. Prior to approving (or conditionally approving) the project, the Town must prepare CEQA findings, in accordance with Section 15091 of the CEQA Guidelines. The findings must briefly explain the rationale behind each finding for each significant environmental impact identified for the project. If significant environmental impacts that cannot be reduced to a less-than-significant level are identified for the project, the lead agency must prepare a Statement of Overriding Considerations, pursuant to Section 15093 of the CEQA Guidelines.

Certification of the Final EIR and approval of the CEQA findings, Mitigation Monitoring and Reporting Program, any Statement of Overriding Considerations, and the project applications may be considered during one final public hearing or more than one hearing. The certification of the Final EIR must be the first in any such sequence of approvals.

2.0 SUMMARY

2.1 INTRODUCTION

This summary provides a description of the proposed project, project alternatives, significant impacts, and mitigation measures identified during the environmental analysis. Responsibility for implementation of mitigation measures lies with the project applicant unless otherwise noted. This summary is intended as an overview and should be used in conjunction with a thorough reading of the Revised Draft EIR. The text of this report, including figures, tables, and appendices, serves as the basis for this summary.

2.2 PROJECT UNDER REVIEW

The project site is located in the Town of Danville, approximately 20 miles east of San Francisco in Northern California (see Figure 3-1). The site is bounded by Diablo Road and Blackhawk Road to the north and McCauley Road to the west. The property is comprised of 11 parcels totaling approximately 410 acres, and is generally characterized by open grass-covered hills with scattered trees (see Figure 3-2).

The project is the development of 69 single family residential lots and associated improvements on 29 acres of the 410-acre site, preserving the remaining 381 acres in open space. The project proposes to rezone the property from A-4 (Agricultural Preserve District), A-2 (General Agricultural District), and P-1 (Planned Unit Development District) to a new P-1 (Planned Unit Development District). In addition, a Vesting Tentative Map is proposed to create 69 single family lots on the site. The lots would be clustered and located primarily on the flatter portions of the property. Location maps are provided in Figures 3-1 and 3-2, and site plans are presented in Figures 3-3 and 3-4. The full project plans are on file and available for review at the Town of Danville Planning Division. The applicant is Davidon Homes.

2.3 SUMMARY OF POTENTIAL IMPACTS

Under the California Environmental Quality Act (CEQA), a significant impact on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project. As identified in Chapter 4 (Environmental Analysis) of this Revised Draft Environmental Impact Report (Revised Draft EIR), the proposed project has the potential to result in significant environmental impacts in the following areas compared to the 2013 EIR:

- Traffic: The project trips added to the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard under Existing plus Project and Cumulative plus Project Conditions would increase the V/C ratio by more than 5 percent during the AM and School PM peak hours, which constitutes a significant impact based on the established thresholds of significance.

ALTERNATIVES EVALUATED IN THIS REVISED DRAFT EIR

The Revised Draft EIR evaluates the comparative advantages and disadvantages of a range of project alternatives. The alternatives considered in this Revised Draft EIR are based on those analyzed in the 2013 EIR and are summarized below.

No Project/No Build: This alternative represents the “no development” scenario in which the site is left in its current generally undeveloped condition (per CEQA Guidelines §15126.6(e)(3)) and existing ranching uses continue to operate. The No Project Alternative would avoid all of the environmental impacts of the proposed project.

No Project/Build Without Subdivision: This alternative consists of eliminating the proposed subdivision and developing the project site with one residential lot per existing parcel. Since the site currently contains seven buildable parcels, this alternative would result in the construction of seven residential homes on the site and would require the provision of infrastructure to each parcel. Overall, this alternative would lessen the environmental impacts of the project by decreasing total unit count by 62.

More Clustered Alternative. This alternative consists of developing 69 lots sized a minimum of 5,000 square feet, within a smaller development footprint than the proposed project. This would eliminate development on approximately eight acres, primarily within the south portion of Magee East. This alternative would lessen some impacts of the proposed development associated with site disturbance since the development footprint would be reduced, including effects on aesthetics, cultural resources, and geology. However, this alternative would create greater density adjacent to existing neighborhoods. For many areas, the impact is relatively unchanged due to the similar magnitude of development.

Non-Clustered Alternative. This alternative consists of developing 78 lots on the project site with predominantly five-acre lots. This alternative comprises 67 five-acre lots on the portions of the site covered by the Town’s Residential – Rural Residential or Public and Open Space – Agricultural General Plan land use designations. The five acre portion of the site covered with the Town’s Residential – Single Family – Low Density General Plan land use designation (opposite Fairway Drive) would contain 11 lots with a minimum size of 13,000 square feet. This alternative would generally increase all of the environmental impacts of the project by introducing non-clustered development on the entire site. This would result in substantially greater, significant aesthetic impacts due to viewshed alteration. It would result in greater land disturbance impacts by requiring additional grading, an extensive roadway system, and additional project infrastructure to provide service and access to each lot. The overall impacts of this alternative would be substantially greater than those of the proposed project.

2.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative to the proposed project be specified, if one is identified. In general, the environmentally superior alternative is intended to minimize adverse impacts to the project site and surrounding environment while achieving the basic objectives of the project. Both of the "No Project" alternatives could be considered the environmentally superior alternative because adverse impacts associated with project construction and operation would be avoided. However, CEQA Guidelines §15126.6(e)(2) 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.”

The 5,000 SF Lot alternative would lessen impacts of the project associated with overall site disturbance by reducing the development footprint and lot sizes. For some areas, the impact is relatively unchanged due to the similar magnitude of development. However, given its smaller footprint, the 5,000 SF Lot alternative is considered the environmentally superior alternative since it would minimize and/or otherwise reduce the extent of potential physical effects associated with the project, including impacts to aesthetics, cultural resources, and geology.

2.5 OTHER CEQA CONSIDERATIONS

Chapter 5 (CEQA Considerations) of this Draft EIR provides a discussion of the significant irreversible changes and growth-inducing impacts of the proposed project. The project could result in significant unavoidable impacts to one study intersection, as described in the summary table.

2.6 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

CEQA Guidelines Section 15123 requires that EIRs summarize areas of controversy known to the lead agency and issues to be resolved. Issues identified during the Notice of Preparation (NOP) review period are summarized in Table 1-1. As indicated in Table 1-1, the issues raised have already been addressed in the 2017 Initial Study; are addressed in this Revised Draft EIR; or do not represent CEQA issues (*e.g.*, requests for a referendum on the proposed project). Comment letters received from individuals and agencies in response to the NOP are included in Appendix B. The locations of the CEQA discussions of the issues raised in the NOP comments are provided in Table 1-1.

2.7 SUMMARY OF PROJECT IMPACTS

A summary of significant project impacts and mitigation measures evaluated in this Revised Draft EIR are provided in Table 2-1. A summary of the applicable impacts and mitigation measures from the 2013 EIR are presented in Table 2-2. Mitigation measures have been identified to either avoid the impact or reduce the level of significance of each impact. The significance after mitigation implementation is noted within the table.

Table 2-1
Summary of Significant Environmental Impacts and Mitigation - 2018 Revised Draft EIR

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
4.3 Transportation & Circulation		
The project trips added to the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard under Existing plus Project and Cumulative plus Project Conditions will increase the V/C ratio by more than 5 percent during the AM and School PM peak hours, which constitutes a significant impact based on the established thresholds of significance.	4.3-1 Install a traffic signal at the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard at the applicant's expense. With signalization, the intersection would operate at LOS B under all scenarios. The above mitigation would reduce the traffic impact to a less-than-significant level. However, this intersection is within the responsibility and jurisdiction of Contra Costa County and not the Town. If the County does not implement this measure, the traffic impact will be significant and unavoidable.	Significant Unavoidable

Table 2-2
Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
4.1 Aesthetics		
The project would create new sources of light that would adversely affect nighttime views in the area.	4.1-1 All buildings shall be designed so that reflective surfaces are limited and exterior lighting is down-lit and illuminates the intended area only. Building applications for new structures shall include an exterior lighting plan subject to approval by the Town of Danville that includes the following requirements: 1) exterior lighting shall be directional; 2) the source of directional lighting shall not be directly visible; and 3) vegetative screening shall be installed, where appropriate.	Less-than-Significant
4.4 Biological Resources		
Construction of the proposed subdivision could result in potential impacts to California red-legged frog.	4.4-1 The project proponent shall implement the following measures during construction activities in or along East Branch Green Valley Creek to avoid take of individual CRLF:	Less-than-Significant

¹ Modifications to 2013 mitigation measures are inserted in **bold** type.

Table 2-2
Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	a. Prior to the start of construction, the project proponent shall retain a qualified biologist to train all construction personnel regarding habitat sensitivity, identification of special status species, and required practices. b. Prior to the start of construction, the project proponent shall retain a qualified biologist to conduct pre-construction surveys to ensure that CRLF are absent from the construction area. If CRLF are present, a qualified biologist possessing all necessary permits shall relocate them or they shall be allowed to move out of the construction area on their own. c. Immediately following the pre-construction surveys and a determination that CRLF are not present in the construction zone, the construction zone shall be cleared and silt fencing erected and maintained around construction zones to prevent CRLF from moving into these areas. d. The project proponent shall retain a qualified biological monitor to be present onsite during times of construction within the riparian habitat of East Branch Green Valley Creek to ensure no CRLF are harmed, injured, or killed during project buildout. 4.4-2 The project would impact approximately 0.3 acres of moderate-quality riparian habitat resulting from construction of the vehicular bridges across East Branch Green Valley Creek. The project shall replace the lost value of this impact by restoring the impacted riparian habitat at a minimum 1:1 replacement-to-loss ratio. (Final mitigation amounts will be based on actual impacts to be determined during the design phase.) This shall be accomplished by restoring riparian habitat at the four following locations: a. The existing wet crossing and asphalt near the panhandle (i.e., where the new bridge is to be constructed) shall be removed. The silt and sediment buildup behind and adjacent to the wet crossing and asphalt shall also be removed and the creek bed shall be lowered to restore the natural flow of this portion of the creek.	

Table 2-2
Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	b. The existing crossing from San Andreas Drive shall be removed and the creek restored in this area. c. The two existing cattle grates on Magee West near the existing culverts shall be removed. One of these is causing sediment build up and adversely impacting the creek. The natural flow of this channel shall be restored back to its original condition prior to the original installation of the grates. d. The riparian corridor along the East Branch of Green Valley Creek will be enhanced with suitable planting and placement of riparian vegetation along the proposed trail on Magee East. Approximately 2 acres along East Branch Green Valley Creek between the creek and the trail is available to accommodate the minimum 0.3 acres of riparian enhancement plantings. The enhancement area shall be planted with native species appropriate for the corridor. 4.4-3. The project would impact approximately 0.5 acres of jurisdictional waters that are of a degraded quality and marginal value for the CRLF. The project shall replace the lost functions and value of this impact to aquatic habitats at a minimum of 1:1 replacement-to-loss acreage ratio. The final mitigation amounts will be based on actual impacts to be determined during the design phase. Habitat replacement via creation of and/or enhancements to existing waters shall occur onsite. Onsite lands proposed to be preserved as open space are within the same watershed as the offsite detention basin known to support breeding CRLF and are expected to fully accommodate creation of and/or enhancements to aquatic habitats that would be of substantially higher value to CRLF than the impacted waters. Compensation for impacts to jurisdictional waters to benefit the CRLF will include all of the aforementioned components along with improving the wetland character of the onsite stock pond and enhancing the associated riparian habitat between the stock pond and the detention basin. (Refer also to mitigation measures 4.4-13 and 4.4-14 below for impacts to jurisdictional waters.)	

Table 2-2
Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	4.4-4 The project proposes to preserve approximately 302 acres [381 acres as of 2018] of the project site as open space. Areas to be preserved would be placed under a conservation easement or deed restriction to prohibit construction and preserve conservation value. The project proposes to create a geologic hazard abatement district (GHAD) to provide suitable funding for management and long-term maintenance of the site. Upland habitats shall be managed via a long-term management plan to maintain the quality of the habitat for the movement and dispersal of CRLF. Prior to construction, the project proponent shall retain a qualified biologist to prepare an open space management plan for the explicit purpose of managing and monitoring the proposed open space area. This plan shall be submitted to the Town of Danville for review and approval prior to issuance of grading permits. At a minimum this plan shall include the following components: a. Identify the location of the restoration efforts for replacing jurisdictional waters and riparian habitats. The replacement ratio for both habitats will be at a minimum of a 1:1 ratio. b. Identify the approaches to be used, including the extent that the onsite stock pond be expanded, reconfiguring of the pond bottom and increase in depth, and providing evidence that sufficient water budget exist for any proposed enhancement. c. Identify a suitable planting regime for restoring wetland and riparian habitats. d. Identify success criteria for monitoring both the wetland and riparian habitats that are consistent with similar habitats regionally. e. Monitor restored wetland habitats for at least five years and restored riparian habitats for 10 years. f. Define and identify the GHAD maintenance and management activities to manage the open space habitats to meet the stated goals of support habitat characteristics suitable for the CRLF. This would include suitable fencing so as to control access, limited cattle grazing or other procedures to manage grass height and	

Table 2-2 Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹		
Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	forage production at levels that benefit the CRLF, and removal of trash. g. Define the financial mechanism for the GHAD to manage the open space into perpetuity.	
Construction of the proposed subdivision could result in potential impacts to western pond turtle.	Implementation of the avoidance, minimization, and compensation measures for the CRLF (see discussion above) would address impacts to western pond turtles. The project proponent shall also implement the following measures. 4.4-5 Prior to the start of construction, the project proponent shall retain a qualified biologist to train construction personnel regarding habitat sensitivity, identification of special status species, and required practices. 4.4-6 Prior to the start of construction within the East Branch Green Valley Creek riparian area, the project proponent shall retain a qualified biologist to conduct pre-construction surveys to ensure that western pond turtles are absent from the construction area. If western pond turtles are present, a qualified biologist possessing all necessary permits shall be retained to relocate them. 4.4-7 If western pond turtles are found to be absent from the construction zone, immediately following the pre-construction surveys the project proponent shall clear the construction zone and install/maintain silt fencing around the construction zone to prevent western pond turtles from entering these areas. 4.4-8 During construction within the East Branch Green Valley Creek riparian area, the project proponent shall retain a biological monitor to be present onsite during times of construction to ensure that turtles are not harmed, injured, or killed.	Less-than-Significant
Construction of the proposed subdivision could result in potential impacts to nesting raptors and migratory birds	4.4-9 To the maximum extent practicable, the project proponent shall remove trees during the non-breeding season (September 1 through January 31). If it is not possible to avoid tree removal and associated disturbances during the breeding season (February 1 through August 31), the project proponent shall retain a qualified biologist to conduct a pre-construction survey for tree-nesting raptors and other tree- or	Less-than-Significant

Table 2-2
Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	ground-nesting migratory birds in all trees or other areas of potential nesting habitat within the construction footprint and 250 feet of the footprint, if such disturbance would occur during the breeding season. This survey shall be conducted no more than 14 days prior to the initiation of demolition/construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). If nesting raptors or migratory birds are detected on the site during the survey, a suitable construction-free buffer shall be established around all active nests. The precise dimension of the buffer (a minimum of 150 feet up to a maximum of 250 feet) shall be determined at that time and may vary depending on location and species. Buffers shall remain in place for the duration of the breeding season or until it has been confirmed by a qualified biologist that all chicks have fledged and are independent of their parents. Pre-construction surveys during the non-breeding season are not necessary, as the birds are expected to abandon their roosts during construction activities.	
Construction of the proposed subdivision could result in potential impacts to burrowing owls.	4.4-10 In order to avoid impacts to active burrowing owl nests, the project proponent shall retain a qualified biologist to conduct pre-construction surveys for burrowing owls within the construction footprint and within 250 feet of the footprint no more than 30 days prior to the onset of ground disturbance. These surveys shall be conducted in a manner consistent with the CDFG's burrowing owl survey methods (CDFG 2012b). If pre-construction surveys determine that burrowing owls occupy the site during the non-breeding season (September 1 through January 31), then a passive relocation effort (e.g., blocking burrows with one-way doors and leaving them in place for a minimum of three days) may be used to ensure that the owls are not harmed or injured during construction. Once it has been determined that owls have vacated the site, the burrows can be collapsed, and ground disturbance can proceed. If burrowing owls are detected within the construction footprint or immediately adjacent lands (i.e., within 250 feet of the footprint) during the breeding season (February 1 through August 31), a construction-free buffer of 250 feet shall be established around all active owl nests. The buffer area should be enclosed with temporary	Less-than-Significant

Table 2-2
Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	fencing, and construction equipment and workers may not enter the enclosed setback areas. Buffers must remain in place for the duration of the breeding season or until it has been confirmed by a qualified biologist that all chicks have fledged and are independent of their parents. After the breeding season, passive relocation of any remaining owls may take place as described above.	
Construction of the proposed subdivision could result in potential impacts to American badgers.	4.4-11 Pre-construction surveys conducted for burrowing owls shall also be used to determine the presence or absence of badgers in the development footprint. If an active badger den is identified during pre-construction surveys within or immediately adjacent to the construction envelope, the project contractor shall establish a construction-free buffer around the den of up to 300 feet or a distance specified by the resource agencies (i.e., CDFG). Because badgers are known to use multiple burrows in a breeding burrow complex, the project contractor shall retain a biological monitor during construction activities to ensure the buffer is adequate to avoid direct impacts to individuals or nest abandonment. The monitor shall be present onsite until it is determined that young are of an independent age and construction activities would not harm individual badgers. Once it has been determined that badgers have vacated the site, the burrows can be collapsed or excavated, and ground disturbance can proceed.	Less-than-Significant
Development of the proposed subdivision would impact wetlands (0.5 acres) and riparian habitat (0.3 acres).	4.4-12 The project proponent shall replace wetland and riparian habitat at a 1:1 replacement-to-loss ratio. It is expected that all compensation measures can be accommodated within the 287 acres [381 acres as of 2018] of the site proposed as open space. Prior to issuance of a grading permit, the project proponent shall retain a qualified biologist to prepare an onsite habitat mitigation and monitoring plan (HMMP) that includes both an aquatic habitat restoration plan and a riparian habitat restoration plan. The HMMP would specifically address the wetland and riparian habitats and is separate from the Open Space Management Plan identified in Mitigation 4.4-4, although there may be some overlap. The HMMP shall include the following components, at a minimum: a. Define the location of all restoration/creation activities; b. Provide evidence of a suitable water budget to support any created wetland and riparian habitats;	Less-than-Significant

Table 2-2
Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	c. Identify the species, amount, and location of plants to be installed; d. Identify the time of year for planting and method for supplemental watering during the establishment period; e. Identify the monitoring period, which should be not less than 5 years for wetland restoration and not less than 10 years for riparian restoration, defines success criteria that will be required for the wetland restoration to be deemed a success; f. Identify adaptive management procedures that include (but are not limited to) measures to address colonization by invasive species, unexpected lack of water, excessive foraging of installed wetland plants by native wildlife, and similar; g. Define management and maintenance activities (weeding of invasives, providing for supplemental water, repair of water delivery systems) of the proposed GHAD; and h. Provide for assurance in funding the monitoring and ensuring that the created wetland and riparian habitats fall within lands to be preserved and managed into perpetuity. Confirm that the proposed GHAD will meet these responsibilities. 4.4-13 The project proponent shall comply with all state and federal regulations related to construction work that will impact aquatic habitats occurring on the site. Prior to construction, the project proponent shall obtain a Section 404 Clean Water Act permit from the USACE, Section 401 Water Quality Certification from the RWQCB, and/or Section 1600 Streambed Alteration Agreement from the CDFG, and submit proof of such documentation to the Town of Danville.	
The project would result in the removal of 38 trees on the site, which represents a potentially significant impact.	4.4-14 Prior to issuance of a grading permit, a tree preservation plan shall be prepared for all trees to be retained that identifies all protection and mitigation measures to be taken and includes the tree preservation guidelines by HortScience in their tree report(s). These measures shall remain in place for the duration of construction activities at the project site. 4.4-15 Upon completion of construction, the project proponent shall replace all ordinance-size trees to be removed with approved species “of a cumulative number and diameter necessary to equal the diameter of the	Less-than-Significant

Table 2-2
Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	tree(s) which are approved for removal” in accordance with the Town’s tree ordinance. Tree removal shall be conducted in accordance with the Town’s requirements, including planting a mixture of small and large box trees to meet the cumulative diameter number of the removed trees. The project proponent shall replace all non-ordinance-size trees (i.e., trees less than 10 inches in diameter for single-trunk trees or less than 20 inches in diameter for multi-trunk trees) at a replacement-to-removal ratio of 1:1. To the maximum extent practicable, all native trees that are removed shall be replaced with like species. All non-native trees that are removed shall be replaced with species that are known to occur naturally within similar habitats in the region. 4.4-16 Prior to construction, the project proponent retain a qualified arborist to develop a monitoring plan for replacement trees (outside the riparian habitat) and submit it to the Town of Danville during the permit process. The basic components of the monitoring plan shall include final success criteria, specific performance criteria, monitoring methods, data analysis, monitoring schedule, contingency/remedial measures, and reporting requirements.	
The improvements to the Diablo Road/Green Valley Road intersection would require the removal of 18 trees within the Town right-of-way, which represents a significant impact.	4.4-17 If the Town determines that the improvements to the Diablo Road/Green Valley Road intersection are required, the project shall implement Mitigation Measures 4.4-14 through 4.4-16 as applicable.	Less-than-Significant
4.5 Cultural Resources		
Construction of the project may result in the discovery and disturbance of unknown archaeological resources and/or human remains.	4.5-1 If during the course of project construction, archaeological resources or human remains are accidentally discovered during construction, work shall be halted within 20 feet of the find until a qualified professional archaeologist can evaluate it. Work shall not recommence until the project archaeologist has submitted documentation to the Town indicating that discovered resources have been adequately salvaged and no further resources have been identified within the area of disturbance. 4.5-2 Pursuant to Section 7050.5 of the Health and Safety Code and Section 5097.94 of the Public Resources Code of the State of California, in the	Less-than-Significant

Table 2-2
Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	event of the discovery of human remains during construction, no further excavation or disturbance shall be conducted on the site or any nearby area reasonably suspected to overlie adjacent remains. The Contra Costa County Coroner shall be notified and make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the Native American Heritage Commission who shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the land owner shall re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance.	
Construction of the project may result in the discovery and disturbance of unknown paleontological resources.	4.5-3 If during the course of project construction, paleontological resources are accidentally discovered during construction, work shall be halted within 20 feet of the find until a qualified professional paleontologist can evaluate it. Work shall not recommence until the project paleontologist has submitted documentation to the Town indicating that discovered resources have been adequately salvaged and no further resources have been identified within the area of disturbance.	Less-than-Significant
4.6 Geology and Soils		
Construction of the project could result in temporary soil erosion and loss of topsoil.	4.6-1 In order to reduce wind and water erosion on the project site, an erosion control plan and Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the site preparation, construction, and post-construction periods (see mitigation measure 4.8-1 in 4.8 Hydrology and Water Quality). The project shall prepare an erosion control plan in accordance with the Town's Erosion Control Ordinance. The project proponent shall implement the following measures, where appropriate, to control erosion: 1) keep construction machinery off of established vegetation as much as possible, especially the vegetation on the upwind side of the construction site; 2) establish specific access routes at the planning phase of the project, and limits of grading prior to development, which should be strictly observed; 3) utilize mechanical measures (i.e., walls	Less-than-Significant

Table 2-2 Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹		
Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	from sand bags and/or wooden slat or fabric fences) to reduce sand movement; 4) immediate re-vegetation (plus the use of temporary stabilizing sprays), to keep sand movement to a minimum; and 5) for larger-scale construction, fabric or wooden slat fences should be placed around the construction location to reduce sand movement. This erosion control plan shall be submitted to the Town of Danville for review and approval prior to issuance of a grading permit.	
4.7 Hazards & Hazardous Materials		
Development of the proposed project, including excavation and other land disturbance, could result in the release of hazardous materials that may be present on portions of the project site, exposing construction personnel and the environment to potential health and safety risks.	4.7-1 In order to minimize potential human health hazards associated with the historical use of hazardous materials on portions of the project site, the project proponent shall retain a trained professional to prepare a Site Management Plan to maintain the safety of construction workers and assure proper management of any contaminated soils on the site in accordance with federal, state and local regulatory requirements. This plan shall be subject to review and approval by Contra Costa County Health Services, and evidence of approval provided to the Town of Danville, prior to the issuance of any grading permit, demonstrating that all necessary remedial actions have been completed pursuant to the approved Site Management Plan. At a minimum, the Site Management Plan shall include 1) the collection and chemical analysis of soil samples from the former UST location and 2) excavation and soils characterization to confirm that sufficient soils removal has occurred for OCPs and elevated 4, 4-DDE at location SB-3, and 3) proper removal and disposal of all hazardous materials on the site, including contaminated soils, chemical containers observed in the storage shed, and herbicides spray bottles at an approved disposal facility.	Less-than-Significant
4.8 Hydrology & Water Quality		
Construction and operation of the project could impact surface water quality.	4.8-1 In order to avoid water quality impacts, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the site preparation, construction, and post-construction periods. The SWPPP shall incorporate best management practices consistent with the requirements of the National Pollution Discharge Elimination System (NPDES) Municipal Stormwater permit (No. CAS612008). The project proponent shall obtain a NPDES General Construction Permit	Less-than-Significant

Table 2-2 Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹		
Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	and prepare the SWPPP in accordance with all legal requirements, prior to the issuance of a grading permit. Additional requirements for erosion control are detailed in mitigation measure 4.6-1 in 4.6 Geotechnical and Geologic Hazards.	
4.10 Noise		
Construction of the project would result in less-than-significant short-term noise impacts on nearby sensitive receptors.	[Voluntary measure below to be incorporated as condition of approval as accepted by applicant.] 4.10-2 Prior to any grading or other construction activities, the applicant shall develop a construction mitigation plan in close coordination with the Town of Danville staff to assure that construction activities are scheduled to minimize noise disturbance. The following conditions shall be incorporated into the building contractor specifications. a. Muffle and maintain all equipment used on site. All internal combustion engine driven equipment shall be fitted with mufflers, which are in good condition. Good mufflers shall result in non-impact tools generating a maximum noise level of 80 dB when measured at a distance of 50 feet. b. Utilize “quiet” models of air compressors and other stationary noise sources where technology exists. c. Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area. d. Prohibit unnecessary idling of internal combustion engines. e. Prohibit audible construction workers’ radios on adjoining properties. f. Restrict noise-generating activities at the construction site or in areas adjacent to the construction site to the hours between 8:00 a.m. and 5:00 p.m., Monday through Friday. g. Do not allow machinery to be cleaned or serviced past 6:00 p.m. or prior to 7:00 a.m. Monday through Friday. h. Limit the allowable hours for the delivery of materials or equipment to the site and truck traffic coming to and from the site for any purpose to Monday through Friday between 7:00 a.m. and 6:00 p.m.	Less-than-Significant

Table 2-2
Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹

Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	i. Do not allow any outdoor construction or construction-related activities at the project site on weekends and holidays. Indoor construction activities may be allowed based on review/approval of the Town. j. Allowable construction hours shall be posted clearly on a sign at each construction site. k. Designate a Disturbance Coordinator for each of the clustered development sites for the duration of the Phase 1 (site work) and for each home site during the Phase 2 (home building) construction. Because each home would be constructed individually and would have its own building permit, a Disturbance Coordinator should be designated during the construction of each home. The requirement for a Disturbance Coordinator for each home site should be incorporated in the CCRs of the development, such that responsibility of the Property Owners' Association and/or home builder to designate this Disturbance Coordinator for each lot for the duration of construction until full site buildout. The Disturbance Coordinator shall conduct the following: receive and act on complaints about construction disturbances during infrastructure installation, landslide repair, road building, residential construction, and other construction activities; determine the cause(s) and implement remedial measures as necessary to alleviate significant problems; clearly post his/her name and phone number(s) on a sign at each clustered development and home building site; and, notify area residents of construction activities, schedules, and impacts.	
4.11 Public Services		
The project would result in an incremental increase in the student population in the SRVUSD.	4.11-1 The applicant shall pay a school impact fee pursuant to the criteria set forth within California Government Code Section 65995. Prior to the issuance of building permits, the applicant shall pay required school mitigation fees, subject to the review and approval of the Town of Danville and San Ramon Valley Unified School District. The fees set forth in Government Code Section 65996 constitute the exclusive means of both "considering" and "mitigating" school facilities impacts	Less-than-Significant

Table 2-2 Summary of Significant Environmental Impacts and Mitigation –Carried Forward from 2013 EIR¹		
Environmental Impact	Mitigation Measure	Level of Significance After Mitigation
	of projects [Government Code Section 65996(a)]. They are “deemed to provide full and complete school facilities mitigation” [Government Code Section 65996(b)].	
4.12 Traffic & Circulation		
See Table 2-1 above.		
4.13 Utilities		
Development of the proposed project would require the construction of new water infrastructure in order to serve the project. EBMUD has identified that specific improvements may be necessary to serve new uses located above the 650 foot elevation contour. These improvements are necessary to mitigate potential water supply infrastructure impacts. ²	4.13-2 Prior to the recordation of the final map for each phase of development, the applicant shall submit detailed design-level infrastructure drawings approved by the East Bay Municipal Utility District to the Town of Danville for review and approval. All new water supply infrastructure shall be designed in accordance with all applicable East Bay Municipal Utility District specifications. All water supply infrastructure plans shall be reviewed and approved prior to final map recordation. 4.13-3 The East Bay Municipal Utility District maintains a right-of-way (R/W 1581) through the project site, which provides access to the Green Valley Reservoir. In order to avoid potential effects to East Bay Municipal Utility District’s existing operations, the final map shall clearly delineate all known easements, including East Bay Municipal Utility District’s right-of-way (R/W 1581). Any and all activities proposed within the right-of-way shall be coordinated with East Bay Municipal Utility District. This easement shall be reflected in all final design-level improvement plans and appropriate notes shall also be included, subject to the review and approval of the East Bay Municipal Utility District and the Town of Danville.	Less-than-Significant

² Note: See IS p.64

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3.0 PROJECT DESCRIPTION

3.1 PROJECT DESCRIPTION

This section presents the project description as required by CEQA Guidelines Section 15124. The project proposes to subdivide the approximately 410-acre site into 69 single-family lots, associated site improvements, and open space. The application requests approval of a Preliminary Development Plan – Rezoning and a Final Development Plan – Major Subdivision to rezone the property from A-4 (Agricultural Preserve District), A-2 (General Agricultural District), and P-1 (Planned Unit Development District) to a new P-1; Final Development Plan; and Tree Removal Permit. In addition, a Vesting Tentative Map is proposed to create the 69 single family lots on the site. The lots would be clustered and located primarily on the flatter portions of the property. The project location maps are provided in Figures 3-1 and 3-2. The project plans are on-file and available for review at the Town of Danville Planning Division. The project applicant is Davidon Homes.

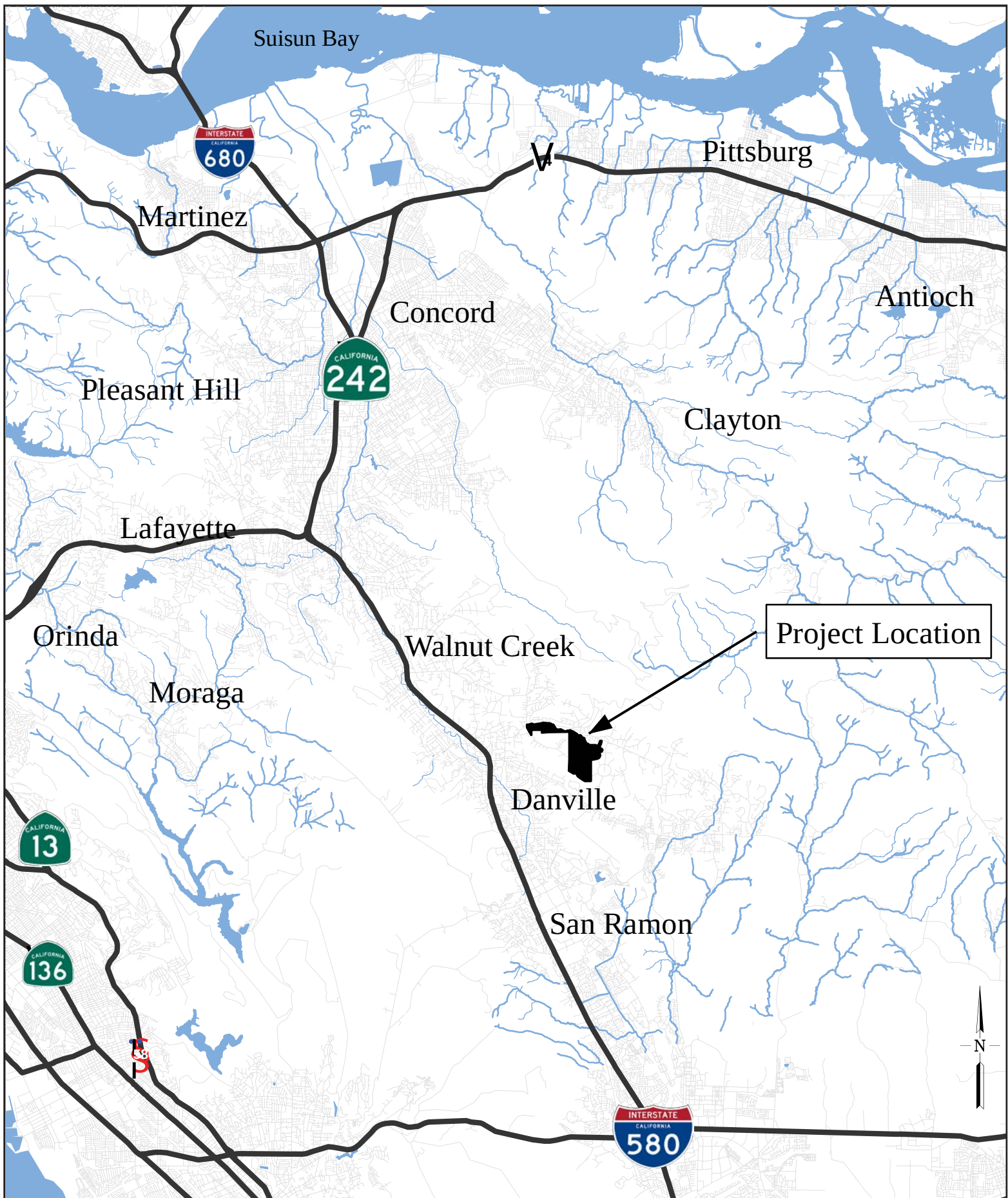
3.2 PROJECT LOCATION AND AREA

The project is located in the Town of Danville, approximately 20 miles east of San Francisco in Northern California (refer to Figure 3-1). The site is bounded by Diablo Road and Blackhawk Road to the north and McCauley Road to the west. The project site is comprised of 11 parcels totaling approximately 410 acres (refer to Figure 3-2). The project site is generally characterized by open grass-covered hills with scattered trees. The elevation of the property ranges from approximately 425 feet along the project's frontage at Diablo Road near McCauley Road to about 860 feet at its highest point.

The project site is located on a portion of a historically larger ranch that has been subdivided several times over the last 60 years. The site is currently used for beef cattle operations and horse ranching. The property is surrounded by single-family residential neighborhoods, including the unincorporated community of Diablo and single family homes located between Green Valley Creek and Diablo Road/Blackhawk Road to the north, the Hidden Valley development to the west, the existing Magee Ranch subdivision to the east, and residential uses located on the south side of Short Ridge to the south. Public and private open space areas are also located in the project vicinity, including Sycamore Valley Regional Open Space Preserve and Mt. Diablo State Park.

3.3 PROJECT BACKGROUND

In October 2010, SummerHill Homes submitted an application to allow for development of 85 residential lots on the project site. SummerHill Homes reduced the project to 70 lots before the Draft EIR was circulated in 2012. In response to comments on the Draft EIR, the project was further reduced to 69 lots, and the Final EIR issued in April 2013 took this reduction into account. In 2013, the Town of Danville certified the Final EIR and approved the 69-lot project.



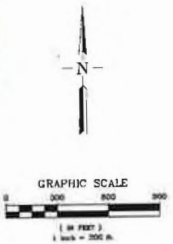
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Regional Map



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Figure
3-1



Source: Ruggeri-Jensen-Azar, June 2017

Title:

Aerial Map



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Figure
3-2

In June 2013, a lawsuit was filed to challenge the project approvals, alleging that the project's EIR inadequately addressed impacts to traffic, bicycle safety, pedestrian safety, the California red-legged frog, emergency access, safe evacuation, flooding, erosion, and siltation. The lawsuit further alleged that the EIR failed to adequately respond to public comments, failed to consider project alternatives that would have eliminated traffic impacts, and should have been recirculated for public comment. Finally, the lawsuit alleged that the project was inconsistent with the Town's General Plan and with other land use restrictions. The Superior Court rejected most of these allegations and the Court of Appeal rejected all of them except for the claim that the EIR did not adequately address impacts to bicycle safety.¹ As to bicycle safety, further CEQA analysis is required before the Town considers project approval.

In February 2017, Davidon Homes became the project applicant. The current site plan proposes a total of 69 residential lots. It differs from the project described in the 2013 EIR in three primary respects:

1. The project would place 69 clustered lots on a total of approximately 29 acres. Under the project, all 69 lots would be placed within the footprint of residential development analyzed and approved in 2013. The project would reduce developed acreage and correspondingly increase open space by approximately nine acres compared to the project described in the 2013 FEIR.
2. An existing corral on the site, which would be eliminated by the project, would be replaced by a new 100 by 100-foot corral near Diablo Road, to serve cattle grazing operations that would continue on the majority of the project site.
3. Each of the 69 single family residences would include an electric vehicle charger and would comply with the 2019 Building Energy Efficiency Standards of Title 24.

3.4 PROJECT OBJECTIVES

The objectives of the project applicant are listed below:

- Develop a residential project that is consistent with the Town of Danville Agricultural, General Open Space, Rural Residential, and Single Family-Low Density General Plan Land Use designations for the site as well as the General Plan's Magee Ranch Special Concern Area language.
- Provide 69 residential lots, including 66 home sites at the east end of site south of Blackhawk Road and three home sites near the southeast corner of the Diablo Road/McCauley Road intersection.
- Design the project to cluster development on the lower portions of the site to minimize visual impacts and limit disturbance on the property.
- Provide for a minimum of 10% of the 69 lots to include a second dwelling unit ("casita") to satisfy the Town's inclusionary housing requirements.
- Preserve approximately 381 acres of the project site as permanent open space.
- Preserve significant features of scenic hillsides and major ridgeline areas.

¹ *SOS-Danville Group v. Town of Danville*, Contra Costa County Superior Court Case No. MSN13-1151 (filed 7/25/2013); Order Re: Petition for Writ of Mandate (CEQA) (7/28/2014); Opinion, First District Court of Appeal Case No. A143010 (9/11/2015)

3.5 PROJECT CHARACTERISTICS

3.5.1 SITE PLAN

Davidon Homes is under contract to purchase the 410-acre project site, with the current landowner retaining several access easements. The overall site plan is presented in Figure 3-3, and the detailed site plans are provided in Figures 3-4a through 3-4c. The project proposes to subdivide the approximately 410-acre site into 69 single family lots, road rights-of-way and open space. Magee East, comprising approximately 335 acres, would include 66 lots ranging in size from approximately 10,000 to 22,000 square feet. Magee West, comprising approximately 75 acres, would include three lots ranging in size from approximately 29,000 to 48,000 square feet. The proposed lot sizes are presented in Table 3-1. The project proposes to locate the 69 lots on approximately 23 acres on the flatter portions of the site, avoiding steeper slopes and ridgelines. A minimum of 10% of the homes would be constructed with attached second dwelling units, referred to as “casitas,” in order to meet the Town’s inclusionary housing requirements. In addition to the 23 acres of residential lots, street rights-of-way would occupy approximately 5.7 acres.

The remaining portion of the project site (approximately 381 acres) would be preserved as permanent open space. Most of this area would be used for cattle grazing and habitat, and would also include two public trails, common area landscaping, biofiltration swales and bioretention/flow control basins, and a relocated corral of approximately 100 by 100 feet to support the ongoing cattle grazing operations. No structures would be constructed to serve the corral. During construction, corrective grading to protect new residences and infrastructure from existing landslides and debris flows would also occur in portions of the open space area.

East Branch Green Valley Creek passes through Magee East. The project would remove an existing bridge across the creek, construct a new bridge for project access, improve existing concrete stabilization with natural rock grade control structures, and enhance riparian habitat upstream and downstream of the proposed bridge.



Source: Ruggeri-Jensen-Azar, April 2017

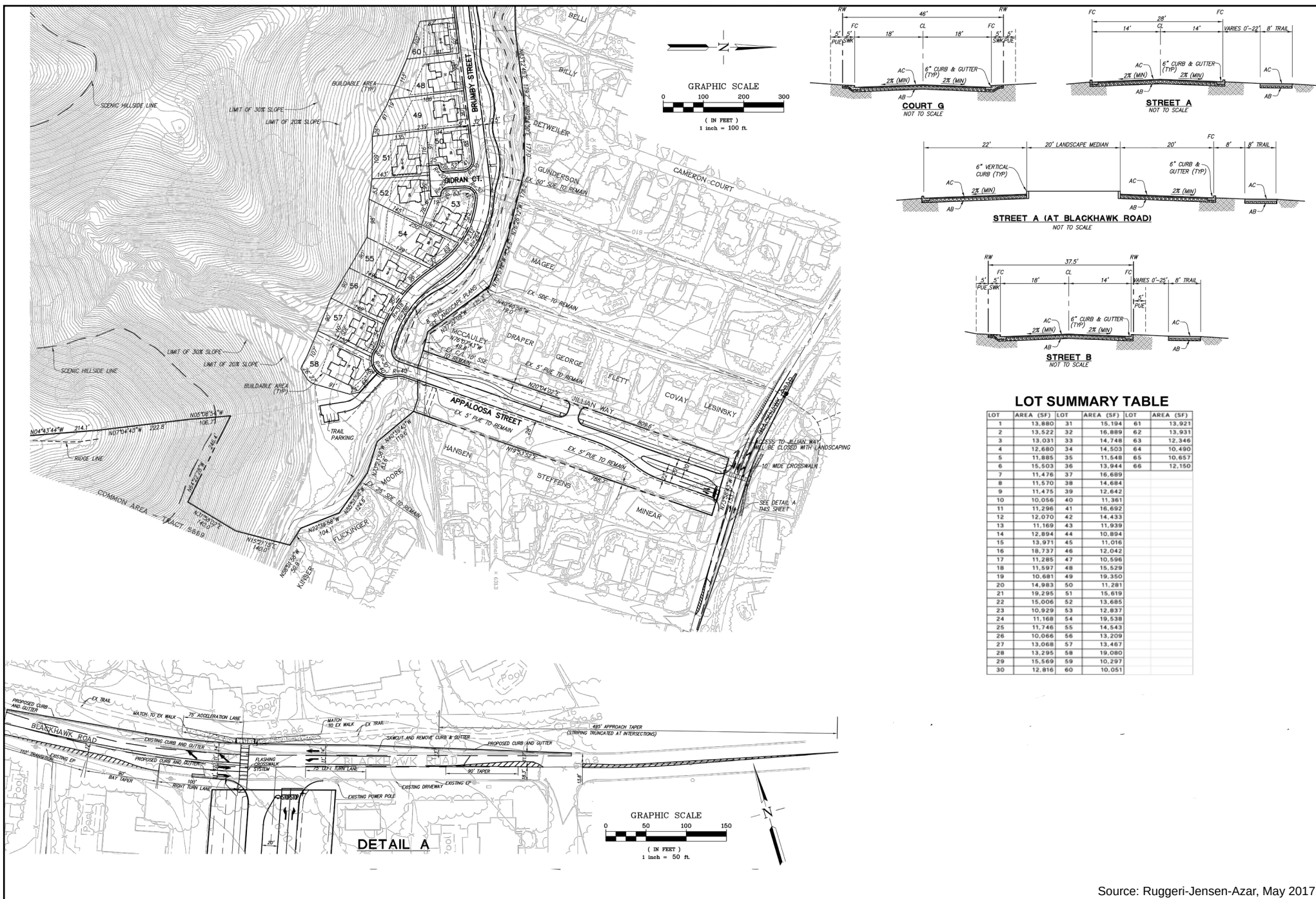
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Overall Site Plan



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Figure
3-3



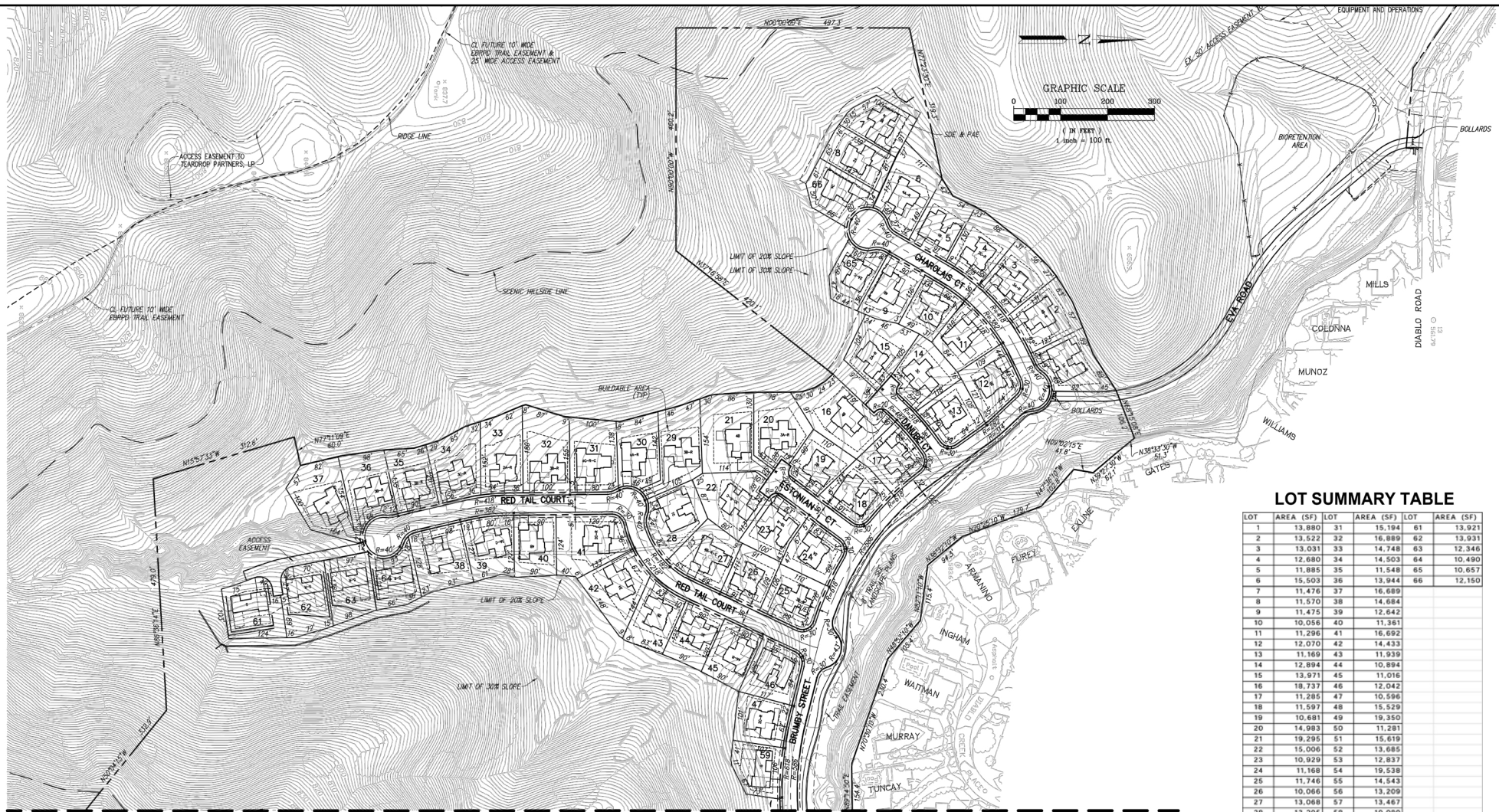
Source: Ruggeri-Jensen-Azar, May 2017

Title: Site Plan - Magee East



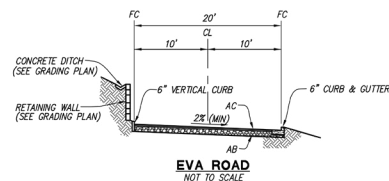
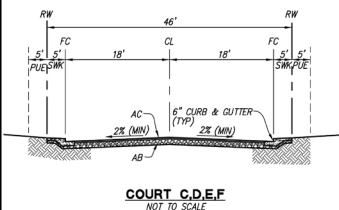
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Figure
3-4a



LOT SUMMARY TABLE

LOT	AREA (SF)	LOT	AREA (SF)	LOT	AREA (SF)
1	13,880	31	15,194	61	13,921
2	13,522	32	16,889	62	13,931
3	13,031	33	14,748	63	12,346
4	12,680	34	14,503	64	10,490
5	11,885	35	11,548	65	10,657
6	15,503	36	13,944	66	12,150
7	11,476	37	16,689		
8	11,570	38	14,684		
9	11,475	39	12,642		
10	10,056	40	11,361		
11	11,296	41	16,692		
12	12,070	42	14,433		
13	11,169	43	11,939		
14	12,894	44	10,894		
15	13,971	45	11,016		
16	18,737	46	12,042		
17	11,285	47	10,596		
18	11,597	48	15,529		
19	10,681	49	19,350		
20	14,983	50	11,281		
21	19,295	51	15,619		
22	15,006	52	13,685		
23	10,929	53	12,837		
24	11,168	54	19,538		
25	11,746	55	14,543		
26	10,066	56	13,209		
27	13,068	57	13,467		
28	13,295	58	19,080		
29	15,569	59	10,297		
30	12,816	60	10,051		



Source: Ruggeri-Jensen-Azar, May 2017

Title:
Site Plan - Magee East



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Figure
3-4b

**Table 3-1
Magee Preserve Lot Summary**

Lot	Area (s.f.)	Lot	Area (s.f.)
1	13,880	36	13,944
2	31,522	37	16,689
3	13,031	38	14,684
4	12,680	39	12,642
5	11,885	40	11,361
6	15,503	41	16,692
7	11,476	42	14,433
8	11,570	43	11,939
9	11,475	44	10,894
10	10,056	45	11,016
11	11,296	46	12,042
12	12,070	47	10,596
13	11,169	48	15,529
14	12,894	49	19,350
15	13,971	50	11,281
16	18,737	51	15,619
17	11,285	52	13,685
18	11,597	53	12,837
19	10,681	54	19,538
20	14,983	55	14,543
21	19,295	56	13,262
22	15,006	57	14,268
23	10,929	58	22,137
24	11,168	59	10,297
25	11,746	60	10,051
26	10,066	61	13,921
27	13,068	62	13,931
28	13,295	63	12,346
29	15,569	64	10,775
30	12,816	65	10,657
31	15,194	66	12,150
32	16,889	67	36,647
33	14,748	68	29,327
34	14,503	69	48,427
35	11,548		
Lots 1-66 on Magee East Lots 67-69 on Magee West			

Land Use Entitlements

The applicant is seeking approval of a Preliminary Development Plan – Rezoning and Final Development Plan – Major Subdivision application and a Vesting Tentative Map. In order to cluster development, the site would need to be rezoned. The project would rezone portions of the project site that are currently zoned A-4 (Agricultural Preserve District) and A-2 (General Agricultural District) to P-1 (Planned Unit Development District). In addition, a portion of the site currently zoned P-1 would be rezoned to a new P-1. The proposed rezoning would allow for residential uses at densities consistent with General Plan land use designations. The project would also require a Tree Removal Permit.

Consistent with the Magee Ranch General Plan Special Concern Area language, the purpose for the P-1 (Planned Unit Development District) rezoning request is to allow clustering of residential units on the flatter

portions of the site while maintaining the same overall density allowed under the current General Plan land use designations. This allows the portions of the site that contain steeper slopes and visible ridgelines to be retained as open space. Table 3-2 below summarizes the existing and proposed zoning by parcel.

Table 3-2 Existing and Proposed Zoning/General Plan Designations				
APN	General Plan Designations	Existing Zoning	Proposed Zoning	Acres
202-050-071	Public and Open Space -Agricultural	A-4	P-1	36.4
202-050-073	Public and Open Space - General Open Space	P-1	P-1	3.4
202-050-078	Public and Open Space -Agricultural	A-4	P-1	159.1
202-050-079	Residential - Rural Residential	A-2	P-1	17.2
202-050-080	Residential - Rural Residential	A-2	P-1	52.7
	Residential - Single Family - Low Density	A-2	P-1	5.0
202-100-017	Residential - Rural Residential	A-2	P-1	40.8
202-100-019	Residential - Rural Residential	A-2	P-1	38.9
202-100-038	Residential - Rural Residential	A-2	P-1	51.1
202-100-040	Public and Open Space – General Open Space	P-1	P-1	2.5
215-040-002	Public and Open Space -Agricultural	A-4	P-1	3.2
Total Acres				410.3
A-2; General Agricultural District				
A-4; Agricultural Preserve District				
P-1; Planned Unit District				
Sources: Town of Danville 2030 Land Use Map; Town of Danville Zoning Map				

Pedestrian/Bicycle Trail

The project proposes an eight-foot wide pedestrian/bicycle trail in the Magee East portion of the project site. This trail provides access from Blackhawk Road through the panhandle and to the proposed residential portion of Magee East along Green Valley Creek. The trail would connect to the emergency vehicle access road (EVA). The trail, including the EVA portion, would be approximately 3,085 feet in length.

Open Space/Hiking Trails

The project proposes to preserve approximately 381 acres of the 410-acre site as permanent open space. As shown in Figures 3.4a and b, portions of existing fire trails are proposed to be granted to the East Bay Regional Park District (EBRPD) for use as public trails. In addition, the project would grant an easement to the Town of Danville for construction of a multi-use public trail for pedestrians and cyclists. Other existing fire trails within the open space area could be used as private or public hiking trails. The applicant proposes to form a geologic hazard abatement district (GHAD) to own and manage the open space. These trails can be managed by either the GHAD or another public or private entity (such as a park district or the project homeowner's association).

Landscaping

Landscaping would be incorporated into the project design within the residential lots, along proposed streets, adjacent to the proposed trail and emergency vehicle access, and along the main project entrance road.

3.5.2 INFRASTRUCTURE

The project would require the construction and installation of infrastructure, including roads, water supply, sanitary sewer, and storm water facilities.

Access

Access to the project would be provided by new residential roadways, as described below.

- **Magee East Access.** The main access for Magee East would be located on Blackhawk Road in the vacant panhandle property just east of Jillian Way. The entrance would consist of one 28-foot inbound lane, two 14-foot outbound lanes, and a 20-foot landscaped median. The project proposes to close Jillian Way and provide access to the existing Jillian neighborhood through the new panhandle access.

This main access road, Appaloosa Street, would consist of a two-lane facility with a bridge crossing East Branch Green Valley Creek into the proposed subdivision. The access road would serve 66 proposed residential lots through a network of streets and cul-de-sacs, as shown in Figures 3-4a and 3-4b. In addition, an emergency vehicle access road for the Magee East portion of the site is proposed from the southern portion of the site to Diablo Road. A crosswalk is also proposed on the west leg of the intersection of Blackhawk Road & Appaloosa to facilitate north-south pedestrian crossing. Supplemental flashing beacon treatment may also be included to enhance the crossing.

- **Magee West Access.** The access for Magee West would be provided from a shared driveway on the east side of McCauley Road approximately 235 feet south of Diablo Road to provide access to the remaining three residential lots, as shown in Figure 3-4c. This street, Cinch Court, consists of one 12-foot inbound lane and one 12-foot outbound lane with minor-street stop sign control.

Water System

East Bay Municipal Utility District (EBMUD) would be responsible for providing water supply to the project. Water lines are proposed within the roadway right-of-ways for the proposed new access roads. Magee East would connect to existing 8-inch and 16-inch water mains in Blackhawk Road. Magee West would connect to existing water mains in McCauley Road. The project would also require annexation of portions of the project site into EBMUD.

Sanitary Sewer System

Sanitary sewer service would be provided by Central Contra Costa Sanitary District (Central San). Sanitary sewer lines are proposed within the roadway rights-of-way for the proposed new access roads. Magee East would connect to the existing 8-inch sanitary sewer line in Blackhawk Road. The lots along McCauley Road would connect to an existing 8-inch sanitary sewer main in McCauley Road. The project would also require annexation of portions of the project site into Central San.

Storm Drainage System

The project would provide a drainage system to accommodate the proposed residential subdivision. The project would provide structural controls to avoid increases in downstream flooding and erosion, as required by law. The project proposes to install the following drainage facilities:

- biofiltration swales along the entrance road to Magee East, and
- bioretention/flow control basins for the McCauley development area in Magee West and the northwest portion of Magee East.

3.5.3 CONSTRUCTION AND GRADING

Grading

The project would require grading on the site to facilitate construction of the proposed subdivision and associated infrastructure. Total grading is estimated at approximately 183,000 cubic yards of cut and 183,000 cubic yards of fill. Grading on the site is proposed to balance with no import or export of soil material.

Remedial Grading

In addition to grading for construction of the subdivision and its infrastructure, the project includes remedial grading to address existing landslides and debris flows, including debris noted following the winter of 2016-2017. Remedial grading would not require import or export of soil material.

Demolition

Demolition of existing agricultural structures on the project site would be performed consistent with all applicable statutes, regulations, and rules. These requirements include Bay Area Air Quality Management District Regulation 11, Rule 2, regarding proper removal and disposal of any asbestos-containing building materials, and requirements for removal and disposal of any lead-based paint, as prescribed by the California Division of Occupational Safety and Health (Cal/OSHA) and the regulations under Title 8, Section 1532.1, of the California Code of Regulations.

Building Construction/Design

Davidon Homes is offering various floor plans for homes. Base floor plans range from approximately $\pm$ 3,100 square feet to $\pm$ 4,400 square feet with three-car garages and a variety of elevations, limited to two stories. Ten percent of the units would include attached second dwelling units (“casitas”) in order to comply with the Town’s Inclusionary Housing Ordinance, for a total of seven casitas. All structures would be of wood-frame construction.

Sustainable Design Features

The project would meet the 2019 Building Energy Efficiency Standards that will take effect on January 1, 2020 (including for residences that obtain building permits prior to that date).

The project would provide the following specific sustainable design features:

- Rooftop solar installations

- GreenPoint rated design
- Tankless hot water heaters
- High efficiency irrigation systems
- Low emitting insulation at walls and ceilings
- Insulation on all hot water pipes
- Energy Star appliances
- Low volatile organic compound (VOC) paints, caulking and construction adhesives
- Energy Star bath fans
- Low flow toilets
- HVAC filters
- High efficiency air conditioners with environmentally responsible refrigerants
- Electric vehicle chargers

Optional sustainable design features offered would include the following measures:

- Solar upgrades
- Whole house fan
- Blown-in insulation
- Electricity monitor

Project Schedule/Phasing

The tentative schedule for proposed project is summarized below:

Initiate Site Work (grading, roads, utilities):	July 2019
End Initial Site Work:	June 2020
Begin Construction of Homes:	April 2020
End Construction of Homes:	December 2023

Jurisdictional Waters (Wetlands)

A formal wetland delineation was prepared for the project site. Preliminary field verification by the U.S. Army Corps of Engineers determined that East Branch Green Valley Creek, an unnamed seasonal drainage on the south portion of the site, smaller ephemeral drainages, and various impoundments including the borrow pit and stock pond constitute Waters of the United States and are subject to the Corps' regulatory authority. The California Department of Fish and Wildlife also has jurisdiction over the bed and bank of natural drainages. Approximately 0.5 acres of jurisdictional waters would be filled to accommodate the proposed development, with replacement wetland provided as mitigation in accordance with all regulatory agency requirements.

Tree Removal

The project would require the removal of some existing trees on the project site. The 2017 arborist report for the site identified the removal of 49 trees, primarily to provide access to the site. Of these 49 trees, seven have protected status.² An additional 18 trees may be removed to provide for improvements at the

² The Town of Danville has a tree preservation ordinance that regulates the removal and preservation of trees. The tree preservation ordinance applies to "protected trees," which include a list of native trees having a trunk or main stem which measures 10 inches or greater in diameter measured 4½ feet above natural grade or, for a multiple trunked tree, a combination of trunks totaling 20 inches or greater in diameter measured 4½ feet above natural grade.

intersection of Diablo Road/Green Valley Road if required by the Town; eight of these are protected trees. All trees to be removed would be replaced in accordance with the Town's requirements and mitigation measures identified in the 2013 EIR.

3.6 REQUIRED PERMITS AND APPROVALS

The Town of Danville is the lead agency responsible for certification of the EIR and approval of potential future Project permits. A summary of the anticipated entitlement and processing actions required to implement the project are as follows:

- Certification of a Revised EIR
- Preliminary Development Plan - Rezoning (P-1; Planned Unit Development District) (LEG10-0004)
- Final Development Plan – Vesting Tentative Map/Major Subdivision (DEV10-0071 and SD 9291)
- Final Development Plan (DEV10-0072)
- Tree Removal Permit (TR10-0028)
- Grading and Building Permits

The EIR will also be available for the use of responsible, trustee, and other agencies that have jurisdiction or approval authority for the project. These agencies may include:

- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- California Department of Fish & Wildlife
- San Francisco Bay Regional Water Quality Control Board
- East Bay Municipal Utility District
- Central Contra Costa Sanitary District
- Contra Costa County Flood Control and Water Conservation District
- Contra Costa County Public Works Department Contra Costa County, Large Road Encroachment Permit
- Contra Costa Local Agency Formation Commission

3.7 INTENDED USE OF EIR

It is the intent of this EIR to provide the Town of Danville, decision makers, and the general public with the relevant environmental information to use in considering the project. The Town of Danville will use the EIR for discretionary approvals of the various entitlements required to develop the project. This EIR will be used by other agencies requested to provide permits or other discretionary approvals for implementation of the project (i.e., resource agencies and other agencies listed above).

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4.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

This section describes each of the environmental categories addressed in this Revised Draft EIR. Each category includes the following subsections: introduction, environmental setting, regulatory environment, and impacts and mitigation measures. Environmental impacts can be described as follows: less-than-significant, potentially significant, significant adverse, and significant unavoidable. The specific criteria for determining the significance of an impact are identified prior to the impact discussion in each category and are consistent with significance criteria set forth in CEQA Guidelines and local, regional, state and/or federal standards.

A Mitigation Monitoring and Reporting Program (MMRP), as required by PRC §21081.6, will be developed in conjunction with the Final EIR that outlines the mitigation measures and the monitoring and reporting methods that would be employed. After certification of the Final EIR, the MMRP would be considered for adoption by the City Council if the City Council approves the project.

Under CEQA, a significant impact is defined as a substantial, or potentially substantial, adverse change in the environment (Public Resources Code 21068). The guidelines implementing CEQA direct that this determination be based on scientific and factual data. The specific criteria for determining the significance of a particular impact are identified prior to the impact discussion in each section.

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4.1 AIR QUALITY AND GREENHOUSE GAS

Introduction

This section is based on an air quality analysis prepared for the project by Ramboll (April 3, 2018), contained in Appendix C. This analysis evaluated construction-related criteria air pollutants (CAPs) and precursors, greenhouse gas (GHG) emissions, and health risks from exposure of sensitive receptors to construction emission diesel and fine particulates. The air quality evaluation was performed based on guidance provided by the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines adopted in May 2017.

Setting

The project site is located in the San Francisco Bay Area Air Basin, which is comprised of nine counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. The air basin only includes the southern portion of Sonoma County and the southwestern portion of Solano County. Air quality in the region is affected by natural factors such as proximity to the Bay and ocean, topography, meteorology, and existing air pollution sources.

The Bay Area is characterized by the Mediterranean type climate with warm, dry summers and cool, wet winters. Danville lies on hilly terrain along the San Ramon Valley north of the Livermore-Amador Valley. The area is in the climatological sub-region referred to as the Diablo and San Ramon Valleys. The San Ramon Valley is surrounded on all sides by high hills or mountains.

The terrain of the project area influences both the climate and air pollution potential. The project area generally has lighter winds and calmer conditions compared to the greater Bay Area, due to its location in an inland, protected valley. Thus, the project area is not as affected by marine airflow as many other portions of the Bay Area.

Inversions can be found during all seasons in the Bay Area but are particularly prevalent in the summer months when they are present about 90 percent of the time in both morning and afternoon. Inversions are created by warm stable air aloft that severely limits the vertical dispersion of air pollutants.

Regulatory Environment

Federal

The Federal Clean Air Act (CAA) authorized the establishment of federal air quality standards and set deadlines for their attainment. The CAA identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and attainment, and incorporates more stringent sanctions for failure to meet interim milestones. The U.S. EPA is the federal agency charged with administering CAA and other air quality-related legislation.

The CAA of 1970, as amended, establishes air quality standards for several pollutants. The National Ambient Air Quality Standards (NAAQS) have been established for seven major air pollutants: carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O₃), respirable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), sulfur oxides and lead. Table 4.1-1 identifies the characteristics, health effects and typical sources of these major air pollutants. The federal standards are presented in Table 4.1-2. These standards are designed to protect public health and welfare. The “primary” standards have been established to protect the public health. The “secondary” standards are intended to protect the nation’s welfare and account for air pollutant effects on soils, water, visibility, materials, vegetation and other aspects of general welfare.

In addition to major pollutants, the U.S. Environmental Protection Agency regulates Hazardous Air Pollutants (HAPs). One means by which the U.S. EPA addresses HAP exposure is through the National Emission Standards for Hazardous Air Pollutants (NESHAPS)¹, which include source-specific regulations that limit allowable emissions of such pollutants.

State

The California Air Resources Board (CARB) coordinates and oversees both state and federal air pollution control programs in California. As part of this responsibility, CARB monitors existing air quality, establishes state air quality standards, and limits allowable emissions from vehicular sources. Regulatory authority within established air basins is provided by Air Pollution Control and Management Districts, which control stationary-source and most categories of area-source emissions. Districts also develop regional air quality plans. The project is located within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD).

California has established its own set of ambient air quality standards (the California Ambient Air Quality Standards or CAAQS) for the seven pollutants with federal standards. In addition, California has standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. The state standards are also presented in Table 4.1-2. The California Clean Air Act, effective January 1, 1989, provides a planning framework for attaining the state standards. Nonattainment areas in the state were required to prepare plans for attaining these standards. Attainment plans are required to demonstrate a five percent per year reduction in the emissions of nonattainment pollutants or their precursors, unless all feasible measures are being employed. The attainment status of the NCCAB is described under the section titled: “Air Pollutant Concentrations, Standards Violations and Risk Levels.”

The state also regulates Toxic Air Contaminants (TACs) separately from those pollutants with CAAQS primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act institutes a formal procedure for designating substances as TACs. The procedure includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. CARB adopts an Airborne Toxics Control Measure for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below the threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology (BACT) to minimize emissions. For source categories under the regulatory jurisdiction of the individual air districts (as previously described), those air districts adopt and enforce the control measure locally.

¹ The NESHAPS are promulgated under Title 40 of the Code of Federal Regulations (CFR), Parts 61 & 63.

Table 4.1-1
Criteria Pollutants

Pollutant	Characteristics	Health Effects	Major Sources
Ozone (O ₃)	A highly reactive photochemical pollutant created by the action of sunshine on ozone precursors (primarily reactive hydrocarbons and oxides of nitrogen). Often called photochemical smog. Highest concentrations of ozone are found downwind of urban areas.	▪ Respiratory function impairment.	Sources of ozone precursors (nitrogen oxides and reactive hydrocarbons) are combustion sources, such as factories and automobiles, and evaporation of solvents and fuels.
Carbon Monoxide (CO)	Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels. CO concentrations are highest in the winter, when radiation inversions over large areas can limit vertical dispersion.	▪ Impairment of oxygen transport in the bloodstream. ▪ Aggravation of cardiovascular disease. ▪ Fatigue, headache, confusion, dizziness. ▪ Can be fatal in the case of very high concentrations.	Automobile exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide (NO ₂)	Reddish-brown gas that discolors the air, formed during combustion. Nitrogen dioxide levels in California have decreased in recent years due to improved automobile emissions. Ambient standards are typically not exceeded in NCCAB.	▪ Increased risk of acute and chronic respiratory disease.	Automobile and diesel truck exhaust, industrial processes, fossil-fuel powered plants. Also formed via atmospheric reactions.
Sulfur Dioxide (SO ₂)	Sulfur dioxide is a colorless gas with a pungent, irritating odor. Ambient standards for sulfur dioxide are rarely exceeded in the NCCAB.	▪ Aggravation of chronic obstruction lung disease. ▪ Increased risk of acute and chronic respiratory disease.	Diesel vehicle exhaust, oil-powered power plants, industrial processes.
PM ₁₀ & PM _{2.5}	Solid and liquid particles of dust, soot, aerosols and other matter which are small enough to remain suspended in the air for a long period of time. PM ₁₀ is particulate matter with diameter less than 10 microns. PM _{2.5} is particulate matter with diameter less than 2.5 microns. PM _{2.5} has been found to be more harmful to humans.	▪ Aggravation of chronic disease and heart/lung disease symptoms.	Combustion, automobiles, field burning, factories and unpaved roads. Also, formed secondarily by photochemical processes of combustion emissions. PM _{2.5} is primarily a secondary pollutant.

**Table 4.1-2
Federal and State Ambient Air Quality Standards**

Pollutant	Averaging Time	State Standard	Federal Standard	
			Primary	Secondary
Ozone	1-Hour 8-Hour	0.09 ppm (180 µg/m ³) 0.07 ppm (137 µg/m ³)	-- 0.075 ppm (147 µg/m ³)	-- 0.075 ppm (147 µg/m ³)
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm (10 mg/m ³) 20 ppm (23 mg/m ³)	9.0 ppm (10 mg/m ³) 35.0 ppm (40 mg/m ³)	-- --
Nitrogen Dioxide	Annual 1-Hour	0.030 ppm (57 µg/m ³) 0.18 ppm (339 µg/m ³)	0.053 ppm (100 µg/m ³) --	0.053 ppm (100 µg/m ³) --
Sulfur Dioxide	Annual 24-Hour 3-Hour 1-Hour	-- 0.04 ppm (105 µg/m ³) -- 0.25 ppm (655 µg/m ³)	0.03 ppm (80 µg/m ³) 0.14 ppm (365 µg/m ³) -- --	-- -- 0.5 ppm (1,300 µg/m ³) --
PM ₁₀	Annual 24-Hour	20 µg/m ³ 50 µg/m ³	-- 150 µg/m ³	-- 150 µg/m ³
PM _{2.5}	Annual 24-Hour	12 µg/m ³ no separate state standard	15 µg/m ³ 35 µg/m ³	15 µg/m ³ 35 µg/m ³
Lead	Calendar quarter	--	1.5 µg/m ³	1.5 µg/m ³
	30-day	1.5 µg/m ³	--	--
Sulfate	24-Hour	25 µg/m ³	--	--
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m ³)	--	--
Vinyl Chloride	24-Hour	0.010 ppm (26 µg/m ³)	--	--
Visibility Reducing Particles	8-hours (10 am - 6 pm)	Extinction coefficient of 0.23 per km - visibility of ≥ 10 miles due to particles when relative humidity is < 70%.	--	--
mg/m ³ = milligrams per Cubic Meter Annual = annual arithmetic mean µg/m ³ = micrograms per Cubic Meter ppm = parts per million				

Regional

BAAQMD is primarily responsible for assuring that the national and State ambient air quality standards are attained and maintained in the Bay Area. BAAQMD, along with other regional agencies (e.g., ABAG and MTC) develop plans to reduce air pollutant emissions. EPA requires plans to address attainment of the NAAQS for O₃ and PM_{2.5}. State law requires a plan to show progress in reducing O₃ levels.

The BAAQMD, along with other regional agencies (e.g., ABAG and MTC), develop plans to reduce air pollutant emissions. The most recent clean air plan is the *Bay Area 2017 Clean Air Plan: Spare the Air, Cool the Climate* (2017 CAP), which was adopted by BAAQMD in April 2017. This is an update to the 2010 CAP and centers on protecting public health and climate. The 2017 CAP identifies a broad range of control measures. These control measures include specific actions to reduce emissions of air and climate pollutants from a range of emission sources, and is based on the following four key priorities:

- Reduce emissions of criteria air pollutants and toxic air contaminants from all key sources.
- Reduce emissions of “super-GHGs” such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
- Decarbonize the energy system.

BAAQMD adopts and enforces rules to reduce particulate matter emissions and develops public outreach programs to educate the public to reduce PM₁₀ and PM_{2.5} emissions (e.g., Spare the Air Program). California Senate Bill 656 (SB 656) requires further action by CARB and air districts to reduce public exposure to PM₁₀ and PM_{2.5}. Efforts identified by BAAQMD in response to SB 656 are primarily targeting reductions in wood smoke emissions and adoption of new rules to further reduce NO_x and particulate matter from internal combustion engines and reduce particulate matter from commercial charbroiling activities. The Bay Area experiences the highest PM₁₀ and PM_{2.5} in winter when wood smoke and ammonium nitrate contributions to particulate matter are highest. BAAQMD rules restrict operation of any indoor or outdoor fireplace, fire pit, wood or pellet stove, masonry heater or fireplace insert on specific days during the winter when air quality conditions are forecasted to exceed the NAAQS for PM_{2.5}. When meteorological conditions are conducive to high levels of O₃ or PM_{2.5}, BAAQMD declares a Spare the Air day. Uncontrolled wood burning is prohibited in winter during Spare the Air days. The rule also limits excess visible emissions from wood burning devices and require clean burning technology for wood burning devices sold (or resold) or installed in the Bay Area. NO_x emissions contribute to ammonium nitrate formation that resides in the atmosphere as particulate matter, so a reduction in NO_x emissions reduces wintertime PM_{2.5} levels.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are a broad class of compounds known to cause a wide range of adverse health effects. These include acute effects such as eye or throat irritation or headaches and chronic effects such as morbidity or mortality (usually because they cause cancer). TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter and benzene near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level. CARB has identified almost 200 TACs.

Diesel particulate matter is the predominant TAC in urban air, and is estimated to represent over 80 percent of the Bay Area population weighted cancer risk. Diesel exhaust is a complex mixture of gases, vapors, and fine particles. Due to the complex nature of diesel particulate matter, there are no accepted methods to measure ambient concentrations. CARB previously identified some of the chemicals in diesel exhaust (e.g., benzene, formaldehyde) as TACs; they are listed as carcinogens either under the State's Proposition 65 or under the federal Hazardous Air Pollutants program. California has adopted a comprehensive diesel risk-reduction program. U.S. EPA has adopted low-sulfur diesel fuel standards that will reduce diesel particulate matter substantially; these standards went into effect in late 2006. Other common TACs in urban environments include benzene present in gasoline vapors and vehicle exhaust, and 1,3 butadiene in vehicle exhaust.

In cooler weather, smoke from residential wood combustion can be a source of TACs. Localized high TAC concentrations can result when cold stagnant air traps smoke near the ground and, with no wind, the pollution can persist for many hours. This occurs in sheltered valleys during the winter. Wood smoke also contains a significant amount of PM₁₀ and PM_{2.5}. Wood smoke is an irritant and is implicated in worsening asthma and other chronic lung problems.

Local Air Pollution Conditions

Danville's typical summer weather conditions (clear skies with relatively warm temperatures) combine with localized air pollutant emissions to elevate O₃ levels. Air quality standards for O₃ traditionally are exceeded when relatively stagnant conditions occur for periods of several days during the warmer months of the year. Weak wind flow patterns combined with strong inversions substantially reduce normal atmospheric mixing. Key components of ground-level O₃ formation are sunlight and heat; thus, significant O₃ formation only occurs from late spring through early fall. Air pollution potential in the project area is higher than other parts of the Bay Area because winds generally transport O₃ precursor pollutants into the area. Highest concentrations of O₃ occur at monitoring stations in the eastern and southern portions of the Bay Area, because they are usually downwind of the major urban areas.

Particulate matter is both directly emitted, as well as formed indirectly from precursor chemicals, such as ROG, NO_x, and ammonia (NH₃). Like ozone, particulate matter air pollution, especially PM_{2.5}, shows a regional effect that is seasonal. Analysis conducted by BAAQMD found that highest PM_{2.5} levels in the Bay Area are closely associated with stagnant weather conditions that develop in winter. Levels are typically highest after PM_{2.5} levels have built up for 2 - 4 consecutive days where a wintertime high pressure system results in clear cold nights with very light winds. The dense cold air converging in the Central and San Joaquin Valleys then flows through the Carquinez Strait into the Bay Area. In addition, ammonium nitrate, a key component in forming secondary PM₁₀ and PM_{2.5}, is also transported from the inland valleys. Ammonium nitrates combine with emitted or formed particulate matter levels to result in elevated PM₁₀ and PM_{2.5} levels in the Bay Area.

Light winds that are common in winter combine with strong surface-based inversions caused by cold air trapped near the surface, to trap locally emitted pollutants such as particulates (e.g., wood smoke) and CO. This can lead to localized high concentrations of these pollutants.

Attainment Status for State and Federal Ambient Air Quality Standards

Areas that do not violate ambient air quality standards are considered to have attained the standard. Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant. The Bay Area as a whole does not meet either NAAQS or CAAQS for ground level O₃ and PM₁₀, or CAAQS for PM₁₀. For O₃, the entire Bay Area is designated as non-attainment at both the federal and State levels. The Bay Area is designated as attainment for all other criteria pollutants.

Sensitive Receptors

Sensitive receptors or populations are more susceptible to the effects of air pollution than the general population. Sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, and convalescent and retirement homes. The property is surrounded by single family residential neighborhoods, including the unincorporated community of Diablo to the north; the residential neighborhood between the east branch of Green Valley Creek and Blackhawk Drive to the north; the existing Magee Ranch residential development to the east; and residential uses to the south. In addition, Green Valley Elementary is located about 450 feet west of the proposed lots along McCauley Road.

Greenhouse Gases and Global Climate Change

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect.

Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO₂), methane (CH₄), ozone (O₃), water vapor, nitrous oxide (N₂O), and chlorofluorocarbons (CFCs). Human-caused emissions of these GHGs in excess of natural ambient concentrations are responsible for enhancing the greenhouse effect (Ahrens 2003). Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors (California Energy Commission 2006a). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (California Energy Commission 2006a). A byproduct of fossil fuel combustion is CO₂. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills. Processes that absorb and accumulate CO₂, often called CO₂ "sinks," include uptake by vegetation and dissolution into the ocean.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are of regional and local concern, respectively. Carbon dioxide equivalents (CO₂e) is a measurement used to account for the fact that various GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

Climate Change Regulatory Framework

This section describes recent state regulations that specifically address greenhouse gas emissions and global climate change.

Assembly Bill 1493. In 2002, Assembly Bill (AB) 1493 was passed requiring that the California Air Resources Board (CARB) develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty truck and other vehicles determined by the CARB to be vehicles whose primary use is noncommercial personal transportation in the state."

Executive Order S-3-05. Executive Order (EO) S-3-05, signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra's snow pack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050. The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The Secretary must also submit biannual reports to the governor and state legislature describing: 1) progress made toward reaching the emission targets; 2) impacts of global warming on California's resources; and 3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the Secretary of the CalEPA created a Climate Act Team made up of members from various state agencies and commission.

Assembly Bill 32. AB 32, the California Global Warming Solutions Act, was signed into law in September 2006. AB 32 codifies the State of California's GHG emissions target by directing CARB to reduce the state's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, CARB, California Energy Commission (CEC), the California Public Utilities Commission (CPUC), and the Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.²

A Scoping Plan for AB 32 was adopted by CARB in December 2008 and is updated every five years. The first update of the Scoping Plan was approved by the ARB on May 22, 2014, which looked past 2020 to set mid-term goals (2030-2035) on the road to reaching the 2050 goals. The most recent update released by ARB is the 2017 Climate Change Scoping Plan, which was released in November 2017. The 2017 Scoping Plan incorporates strategies for achieving the 2030 GHG-reduction target established in SB 32 and EO B-30-15 of 40 percent emissions reductions to below 1990 levels.

Senate Bill 1368. Senate Bill (SB) 1368 is the companion bill of AB 32 and was signed into law in September 2006. SB 1368 required the CPUC to establish a greenhouse gas emission performance standard. Therefore, on January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard in an effort to help mitigate climate change. The Emissions Performance Standard is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO₂ per megawatt-hour. "New long-term commitment" refers to new plant investments (new construction), new or renewal contracts with a term of five years or more, or major investments by the utility in its existing baseload power plants. In addition, the CEC established a similar standard for local publicly owned utilities that cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas fired plant. On July 29, 2007, the Office of Administrative Law disapproved the Energy Commission's proposed Greenhouse Gases Emission Performance Standard rulemaking action and subsequently, the CEC revised the proposed regulations. SB 1368 further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and CEC.

Senate Bill 375. Senate Bill 375, signed in August 2008, requires all metropolitan regions in California to complete a Sustainable Communities Strategy (SCS) as part of a Regional Transportation Plan. In the Bay Area, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments

² Note that Assembly Bill (AB) 197 was adopted in September 2016 to provide more legislative oversight of CARB.

(ABAG) are jointly responsible for developing and adopting a SCS that integrates transportation, land use and housing to meet greenhouse gas reduction targets set by the CARB. Plan Bay Area 2040, an update to Plan Bay Area adopted in 2013, provides guidance for accommodating projected household and employment growth in the nine-county Bay Area by 2040. The Plan also provides a transportation investment strategy for the region. Key features of the Plan are as follows:

- Describes where and how the region can accommodate 820,000 new projected households and 1.3 million new jobs between now and 2040;
- Details a regional transportation investment strategy given \$303 billion in expected revenues from federal, state, regional and local sources over the next 24 years; and
- Complies with SB 375, which integrates land use and transportation planning and mandates both a reduction in GHG emissions from passenger vehicles and the provision of adequate housing for the region's 24-year projected population growth.

Executive Orders B-30-15. On April 29, 2015, California Governor Edmund G. Brown Jr. issued EO B-30-15, setting a new interim statewide GHG emission reduction target. The purpose of establishing the interim target is to ensure California meets its previously established target of reducing GHG emissions to 80 percent below 1990 levels by 2050, as set forth in EO S-3-05 in 2005. Under EO B-30-15, the interim target is to reduce GHG emissions to 40 percent below 1990 levels by 2030. As a part of this effort, CARB is required to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent. CARB is moving forward with a second update to the Scoping Plan to reflect the 2030 target set by EO B-30-15.

EO B-30-15 also calls for the California Natural Resources Agency to update the California's climate adaption strategy, *Safeguarding California*, every three years. *Safeguarding California* will identify vulnerabilities to climate change by region and sector, including water, energy, transportation, public health, agriculture, emergency services, forestry, biodiversity and habitat, and ocean and coastal resources. It will also set forth actions needed to reduce risks to residents, properties, communities, and natural systems from the vulnerabilities. A lead agency or group of agencies will be identified to lead adaptation efforts in each sector. Overall, the Natural Resources Agency will be responsible for ensuring that the provisions in the state's climate adaption strategy are fully implemented and state agencies must take climate change impacts into account in their planning decisions, including for all infrastructure projects.

Senate Bill 350. On October 7, 2015, SB 350: Clean Energy and Pollution Reduction Act, was signed into law, establishing new clean energy, clean air and greenhouse gas reduction goals for 2030 and beyond. SB 350 codifies Governor Edmund G. Brown Jr.'s aggressive clean energy goals and is a key part of California's strategy to address climate change. SB 350 established California's 2030 GHG reduction target of 40 percent below 1990 levels. To achieve this goal, SB 350 sets ambitious 2030 targets for energy efficiency and renewable electricity, among other actions aimed at reducing GHG emissions across the energy and transportation sectors. SB 350 is intended to enhance the State's ability to meet its long-term climate goal of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. Large utilities will be required to develop and submit Integrated Resource Plans (IRPs) to identify how each utility will meet their customers' resource needs, reduce GHG emissions, and ramp up the deployment of clean energy resources. Moving forward, this will include reviewing IRPs of the 16 largest publicly owned utilities starting in 2019 to help ensure they reach the 50 percent RPS target

by 2030 and meet their greenhouse gas emission reduction target, while maintaining reasonable customer rates and reliable electric service.

Senate Bill 32. SB 32 was signed by Governor Brown on September 8, 2016. SB 32 effectively extends California's GHG emission-reduction goals from 2020 to 2030. This new emission-reduction target of 40 percent below 1990 levels by 2030 is intended to promote further GHG-reductions in support of the State's ultimate goal of reducing GHG emissions by 80 percent below 1990 levels by 2050. SB 32 also directs the CARB to update the Climate Change Scoping Plan to address this interim 2030 emission-reduction target.

Town of Danville Sustainability Action Plan. The Town of Danville has adopted a Sustainability Action Plan to encourage more environmentally sustainable practices to help reach emission reduction targets (established by AB 32 in 2006). Unless otherwise required by state law, compliance is intended to be achieved through a combination of voluntary measures and public education and outreach. The Sustainability Plan was adopted concurrent with the Danville 2030 General Plan on March 19, 2013 and contains strategies that address the following issues: land use and transportation, energy and green building, recycling and waste, water and wastewater, lifecycle emissions, and community outreach.

Thresholds of Significance

For the purposes of this analysis and in accordance with CEQA Guidelines, a project impact would be considered significant if the project would:

- 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 region 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;
- generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Impacts and Mitigation

The air quality analysis prepared for the project evaluated construction-related criteria air pollutants (CAPs) and precursors, greenhouse gas (GHG) emissions, and health risks from exposure of sensitive receptors to construction emission diesel and fine particulates.

The lawsuit on the 2013 EIR did not challenge the EIR's adequacy with respect to air quality. As described in the 2017 IS, the following air quality effects of the project have not changed compared to the 2013 EIR: 1) consistency with clean air planning efforts, 2) air pollution from project operations, and 3) impacts related to odors. These air quality effects were found to be less-than-significant in the 2013 EIR. However, the construction emissions were re-calculated for the proposed project based on current methodologies, as described below.

Construction Emissions

Construction of the proposed project would generate temporary pollutant emissions, especially during the grading phases. Ramboll primarily utilized the California Emission Estimator Model version 2016.3.1 (CalEEMod) to quantify CAP emissions for the project. CalEEMod is a program designed to calculate both criteria pollutant and GHG emissions for development projects in California. CalEEMod provides a simple platform to calculate both construction emissions and operational emissions from a land use project, which calculates both the daily maximum and annual average for criteria pollutants as well as total (annual) GHG emissions.

CalEEMod utilizes widely accepted models for emission estimates combined with appropriate default data that can be used if site-specific information is not available. The total CAP emissions from construction activities were calculated based on land use assumptions, the construction phasing schedule, equipment lists, haul trucks for material import, worker trips and vendor trips for construction material deliveries, and CalEEMod default parameters.³ Emissions were calculated assuming all off-road equipment would have at least Tier 2 engines with Level 3 verified retrofits for diesel emissions. The total estimated construction emissions were divided by construction duration to estimate the average daily construction emissions in pounds per day (see Tables 4.1-3 and 4.1-4).

Table 4.1-3 Project Construction Air Pollutant Emissions							
Phase	Year	Source	CAP Emissions ¹				CO ₂ e
			ROG	NO _x	PM ₁₀	PM _{2.5}	
			tons/year				MT/year
Site Preparation	2019	On-Site	0.17	3.2	0.014	0.014	342
		Off-Site	0.0071	0.056	2.9E-04	2.8E-04	24
Model Homes	2019	On-Site	0.032	0.71	0.0041	0.0041	71
		Off-Site	5.9E-04	0.0042	4.0E-05	4.0E-05	1.7
	2020	On-Site	0.37	1.5	0.0084	0.0084	145
		Off-Site	0.0011	0.0077	5.0E-05	4.0E-05	3.4
Home Production	2019	On-Site	0.032	0.71	0.0041	0.0041	71
		Off-Site	0.0036	0.029	2.4E-04	2.2E-04	10
	2020	On-Site	0.14	3.1	0.018	0.018	305
		Off-Site	0.014	0.11	7.0E-04	6.6E-04	45
	2021	On-Site	0.14	3.1	0.018	0.018	304
		Off-Site	0.012	0.10	3.6E-04	3.4E-04	44
	2022	On-Site	1.7	1.8	0.011	0.011	182
		Off-Site	0.0070	0.055	2.1E-04	1.9E-04	26

Table 4.1-4 shows the total annual emissions by phase and the average daily emissions by year for the project. The maximum construction-related project daily emissions for each pollutant are as follows: 9.1 lb/day ROG in 2022, 26 lb/day NO_x in 2019, 0.15 lb/day exhaust PM₁₀ in 2020, and 0.15 lb/day exhaust PM_{2.5} in 2020. None of these emissions would exceed the BAAQMD significance thresholds, as shown in Table 4.1-4. Construction emission impacts from the project, therefore, would be less-than-significant.

³ Tier 2 refers to federal emission standards for nonroad diesel engines of all sizes used in a range of construction, agricultural, and industrial equipment.

Table 4.1-4 Project Construction Annual Air Pollutant Emissions					
Year	CAP Emissions²				CO₂e
	ROG	NO_x	PM₁₀	PM_{2.5}	
	lbs/day				MT/year
2019	1.3	26	0.13	0.13	519
2020	2.9	26	0.15	0.15	499
2021	0.84	17	0.10	0.10	348
2022	9.1	10	0.059	0.059	208
BAAQMD Threshold	54	54	82	54	--
¹ Emissions assume all off-road equipment is Tier 2 with Level 3 Verified Retrofits for Off-Road Diesel Vehicles (evaluated and verified by the Air Resources Board to lower the harmful emissions from diesel exhaust).					
² Daily emissions averaged over a period of 365 days.					

Although the project would not exceed the BAAQMD significance thresholds, the project would be subject to the following BAAQMD Best Management Practices, which are required for all new development:

- a. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- b. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- c. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- d. All vehicle speeds on unpaved roads shall be limited to 15 mph.
- e. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- f. A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

TAC Exposure

A health risk assessment (HRA) was conducted as part of the air quality evaluation to address TACs generated during construction. The TAC emissions associated with the project construction were calculated using the same methodology as the construction CAP emissions calculation with the following conservative assumptions and exceptions:

1. Diesel Particulate Matter (DPM): DPM emissions were used to evaluate the cancer risk and non-cancer chronic hazard index (HI) during project construction. In this analysis, both onsite (construction equipment) and local offsite (construction mobile sources) PM₁₀ exhaust emissions were calculated as DPM and modeled within the project boundaries. This analysis also conservatively assumed the small fraction of non-diesel PM₁₀ (PM₁₀ emissions from gas fueled passenger vehicles) was DPM, which has greater human health impacts.

2. Diesel total organic gases (TOG): Diesel TOG emissions were used to evaluate the non-cancer acute HI due to the project construction. ROG emissions were converted to TOG emissions using EPA conversion factors. The modeled emissions were calculated using the total emissions averaged over an 8-hour day and the days of construction by phase. Off-gassing TOG emissions from architectural coating were excluded from the HRA.
3. PM_{2.5}: Exhaust PM_{2.5} emissions were used to evaluate the PM_{2.5} concentration due to project construction. The modeled emissions were calculated using the same conservative assumptions as the DPM calculation. In addition, the analysis assumed that the construction activities would meet the best management practices set forth by the BAAQMD to minimize fugitive dust.

The HRA evaluated exposures to TACs for two categories of potential adverse health risks, cancer and non-cancer effects. Toxicity values used to estimate the likelihood of adverse effects occurring in humans at different exposure levels are identified as part of the toxicity assessment component of the HRA. Excess lifetime cancer risk and chronic hazard quotient (HQs) calculations for project construction were based on the toxicity values for DPM. Acute HQ calculations utilized the toxicity values for TACs from speciated diesel TOG for all source categories (Cal/EPA 2016). An age sensitivity factor of 10 for children was applied to the resident child, assuming the resident child receptors are between the third trimester of pregnancy in fetus to age two. To be conservative, the HRA assumed that all receptors were a “resident child,” since this receptor type is presumed to be home virtually all day, every day during construction.

Construction emissions would only impact sensitive receptors in the project vicinity during the 10 hours when construction equipment is operated; however, the emissions modeled during the 10 hours each day were adjusted using a factor of 2.4 to correct for 24 hours per day period averaging in the air modeling outputs. Because a resident child is assumed to be exposed to emissions 24 hours a day, seven days a week throughout the entire construction duration, a modeling adjustment factor was not needed. Cancer risk, chronic HI, and acute HI were calculated from ambient annual and hourly concentrations using intake factors, cancer potency factors, and chronic reference exposure levels calculated consistent with the Office of Environmental Health Hazard Assessment⁴ and BAAQMD guidance.

As shown in Table 4.1-5, the cancer risk, chronic HI, acute HI, and annual PM_{2.5} concentrations would be below the BAAQMD thresholds at the maximally exposed individual sensitive receptors. The coordinates of the maximally exposed individual sensitive receptors for cancer risk, chronic HI, acute HI, and PM_{2.5} concentrations are noted in Table 4.1-5.

⁴ 2015 OEHHA Hot Spots Program

Table 4.1-5 Lifetime Excess Cancer Risk at Maximally Exposed Individual Sensitive Receptor (MEISR)				
MEISR Location	Lifetime Excess Cancer Risk	Chronic Hazard Index	Acute Hazard Index	Maximum Annual PM_{2.5} Concentration
	in a million	Unitless	Unitless	($\mu\text{g}/\text{m}^3$)
Off-Site	3.4	0.0029	0.062	0.014
On-Site	2.5	0.0035	0.063	0.017
Threshold	10	1	1	0.3
Exceeds Threshold?	No	No	No	No

In summary, the estimated cancer risk, chronic and acute HI, and annual average PM_{2.5} concentration associated with construction of the project would not exceed the BAAQMD significance thresholds based on the results of the HRA for the project, and represent a less-than-significant impact.

Greenhouse Gas Evaluation

Construction Period GHG Emissions

The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. The District recommends calculating the emissions and disclosure that GHG emissions would occur during construction. Construction-related GHG emissions were quantified using CalEEMod based on project specific data including the construction phasing schedule, the equipment list, haul trucks for material import, and vendor trips for construction material deliveries and CalEEMod default parameters. Table 4.1-3 shows the total annual construction GHG emissions by phase and year. The maximum annual construction GHG emissions are 519 metric tons (MT) carbon dioxide equivalent (CO₂e) in 2019, as shown in Table 4.1-4.

Operation Period GHG Emissions

CO₂e emissions from project operations were also calculated using CalEEMod. Land use assumptions for operational GHG emissions are presented in Appendix C. The project proposes to include electric vehicle (EV) charging stations in each single family residential unit.

Table 4.1-6 shows the projected service population 2030 GHG threshold. Additionally, the project applicant has indicated that all residences would be zero net electricity homes, in accordance with the 2019 California Energy Commission Title 24 Building Energy Efficiency Standards. Because these homes will generate as much clean renewable electricity as they consume over the course of a year, emissions from electricity use for these homes were assumed to be zero over the course of the year; natural gas emissions were assumed to remain at 2016 Title 24 standards as a conservative assumption. Total GHG emissions from project operations are estimated to be 581 MT CO₂e for 2023, as shown in Table 4.1-7.

Table 4.1-6 Projected 2030 GHG Significance Threshold	
BAAQMD 2020 Service Population Calculation (Based on the 2008 Scoping Plan)¹	
Land Use Sectors Greenhouse Gas Emissions Target (metric tons CO ₂ e/yr)	295,530,000
Population	44,135,923
Employment	20,194,661
California Service Population (Population + Employment)	64,330,584
AB 32 Goal GHG emissions (MT CO ₂ e/SP/yr) ²	4.6
2030 Service Population Estimation Calculation (Based on the 2014 Updated Scoping Plan)³	
Original 2020 Limit (MMT CO ₂ e) (i.e., 1990 level approved in 2007) ⁴	427
BAAQMD-used California Land Use Sector Emissions Target Based on Original 2020 Limit (MMT CO ₂ e/r) ⁵	296
BAAQMD-used Land Sector 2020 Emission Target/2020 Emission Limit	69.2%
Updated 2020 Limit (i.e., 1990 level approved in 2014 and most correct) (MMT CO ₂ e) ⁴	431
California Land Use Sector Emissions Target Based on <u>Updated</u> 2020 Limit (MMT CO ₂ e/yr)	298
Percentage 2030 GHG Target Emissions Relative to 1990 level ⁵	60.0%
Estimate 10-year employment growth rate (2014-2024) ⁶	15.1%
Estimated 2030 Data	
Land Use Sectors Greenhouse Gas Emissions Target ^{1,7} (MT CO ₂ e/yr)	CY 2030 178,979,059
2030 Population ⁸	44,019,846
Employment ⁹	23,241,833
California Service Population (Population + Employment)	67,261,679
2030 Goal GHG Emissions (MT CO ₂ e/SP/yr)	2.7
Notes: ¹ Table 6 of May 2017 BAAQMD California Environmental Quality Act Guidelines. Bay Area Air Quality Management District (BAAQMD). 2017 ² This Target is based on the IPCC Second Assessment Report Global Warming Potentials (GWP). If updated to the Fourth Assessment Report GWPs, the emissions would increase slightly, but would remain at 4.6 MT CO ₂ e/SP/yr, due to negligible impacts of the GWP. ³ Using AR4 Global Warming Potentials for the 1990 Inventory. ⁴ California 1990 Greenhouse Gas Emissions Level and the 2020 Limit. Available at: http://www.arb.ca.gov/cc/inventory/1990level/1990level.htm . Accessed: September 2017. ⁵ Executive Order B-30-15. Available at: https://www.gov.ca.gov/news.php?id=18938 . Accessed: September 2017. ⁶ California Industry Employment Projections Between 2014-2024. Employment Development Department (EDD), State of California, August 2016. Available at: http://www.labormarketinfo.edd.ca.gov/file/occproj/calSoccnarr-2014-2024.pdf . Accessed September 2017 ⁷ Emissions adjusted by AR4 GWP and reduction target for 2030. ⁸ Report P-1 (County): State and County Total Population Projections, 2010-2060 (5-year increments). California Department of Finance. Available at: http://www.dof.ca.gov/Forecasting/Demographics/projections/ ⁹ Assume the 10-year employment growth rate between 2020 and 2030 is the same as that of 2014-2024.	

BAAQMD has set a 2020 threshold for GHGs of 1,100 MT CO₂e/year or 4.6 MT CO₂e per service population per year. Although, as noted below, the project would fall well below this threshold, state legislation calls for further reductions in GHG generation by 2030. Because the project is expected to be completed after 2020, this analysis addresses an anticipated 2030 GHG threshold, even though such a threshold has not yet been set by the BAAQMD. Ramboll calculated a projected 2030 threshold using the same methods that the BAAQMD used for the 2020 threshold. The projected threshold was found to be 2.7 MT CO₂e per service population per year. As shown in Table 4.1-7, the project would fall below both the 1,100 MT and the 2020 service population thresholds, and would fall below the projected 2030 service population threshold if all residences are constructed using the 2019 Title 24 standards.

Table 4.1-7 Operational GHG Emissions	
Total Project 2023 GHG Emissions¹	
Category	CO₂e
	(MT/yr)
Area	12
Energy Use ²	134
Mobile	532
Waste Disposed	46
Water Use	13
Sub-Total	736
Vegetation/Sequestration ³	-3.2
Electric Vehicle Charging ⁴	-152
Total	581
2020 GHG Target	1,100
Meets Target?	Yes
GHG Emissions per Service Population	
Project Service Population	216
Emissions per Service Population (MT/SP/yr)	2.7
BAAQMD 2020 Service Population Target (MT/SP/yr)	4.6
Meets 2020 Target?	Yes
Estimated 2030 Target ¹	2.7
Meets Estimated 2030 Target? ¹	Yes
¹ Project operational GHG emissions were estimated for the project build-out year of 2023, and were compared to the 2020 GHG threshold, as well as the 2030 GHG threshold. GHG emissions from the project are expected to be lower in 2030 than in 2023, based on increased fuel efficiency standards and lower emissions from electricity due to the Renewable Portfolio Standard (RPS). ² All homes would be zero net electricity, under the 2019 Title 24 standards. ³ Vegetation amortized over 30 years. ⁴ With the installation of electric vehicle charging stations in all single-family homes, 50% of single-family homes are assumed to have an electric vehicle. 50% of the annual miles driven by these households are assumed to be displaced with miles driven by electric vehicles.	

Consistency with GHG Plans

A GHG analysis was prepared for the project. As described above, the project would have a less-than-significant impact on GHG emission levels since it would not exceed 2020 and 2030 thresholds and, therefore, the project would not conflict with plan adopted for purposes of minimizing GHG emissions.

Cumulative Impacts

As explained in the BAAQMD CEQA Guidelines, significance thresholds for air pollutants and GHG emissions have been set based on levels for which a project's individual emissions would be cumulatively considerable. Accordingly, additional analysis of cumulative impacts is unnecessary.⁵

For localized human health risk, additional cumulative impact analysis is conducted if substantial TAC and/or PM_{2.5} emissions sources (such as freeways, high volume roadways, truck distribution centers, etc.) are located within 1,000 feet of a proposed project site. No such sources are located in the vicinity of the project site. Accordingly, no cumulative impact analysis is required.

⁵ BAAQMD CEQA Air Quality Guidelines, p. 2-1 (May 2017).

4.2 NOISE

Introduction

In October 2011, Illingworth & Rodkin, Inc. performed a noise and vibration assessment from project operations (long-term) and construction equipment (short-term) from the previous 78-lot project on the site as part of the 2013 EIR. The assessment concluded that all noise and vibration impacts of the project could be reduced to a less-than-significant level with identified mitigation.

In November 2017, Ramboll Environ prepared an updated analysis of potential noise and groundborne vibration impacts on nearby sensitive receptors from the proposed project during construction. This study is contained in Appendix D.

Setting

Noise Characteristics

Noise is defined as unwanted or objectionable sound. State and local regulations define objectionable noise levels and identify land use compatibility standards. The following analysis describes the characteristics of sound, the location of sensitive noise receptors, and the existing/future noise environment.

Sound is comprised of three variables: magnitude, frequency, and duration. The magnitude of air pressure changes associated with sound waves results in the quality commonly referred to as "loudness." Variations in loudness are measured on the "decibel" (dB) scale. On this scale, noise at zero decibels is barely audible, while noise at 120-140 decibels is painful and may cause hearing damage. These extremes, however, are not encountered in commonplace environments.

Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 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 intensity. Each 10-decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities.

The second characteristic of sound is frequency. The human ear responds to sounds whose frequencies are in the range of 20 to 20,000 hertz. Within the audible range, subjective response to noise varies. People generally find higher pitched sound to be more annoying than lower pitched sounds. Noise is typically characterized using the A-weighted sound level or dBA. This scale gives greater weight to the frequencies to which the human ear is most sensitive.

The third characteristic of noise is duration. Annoyance due to noise is often associated with how long noise persists. To adequately describe a noise environment, it is necessary to quantify the variation in noise levels over time. Acoustical engineers often use a statistical approach that specifies noise levels that are observed to be exceeded over a given percentage of time.

For evaluating noise over extended periods, the "Day-Night Noise Level" scale (DNL or L_{dn}) or "Community Noise Equivalent Level" (CNEL) are measures of the average equivalent sound level (L_{eq}) during a 24-hour period. The L_{eq} can be thought of as the steady sound level that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same period. The CNEL and L_{dn} account for greater sensitivity of noise receptors at night by penalizing noise occurring during evening and nighttime hours.

Vibration Characteristics

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Various methods are used to quantify vibration amplitude. One is the Peak Particle Velocity (PPV) and another is the Root Mean Square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration. For the noise evaluation prepared for this project, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration impacts associated with building damage and human complaints. Vibration may be found to be annoying at different levels, depending on the level of activity and/or the sensitivity of the individual. For sensitive individuals, vibrations approaching the threshold of perception can be annoying.

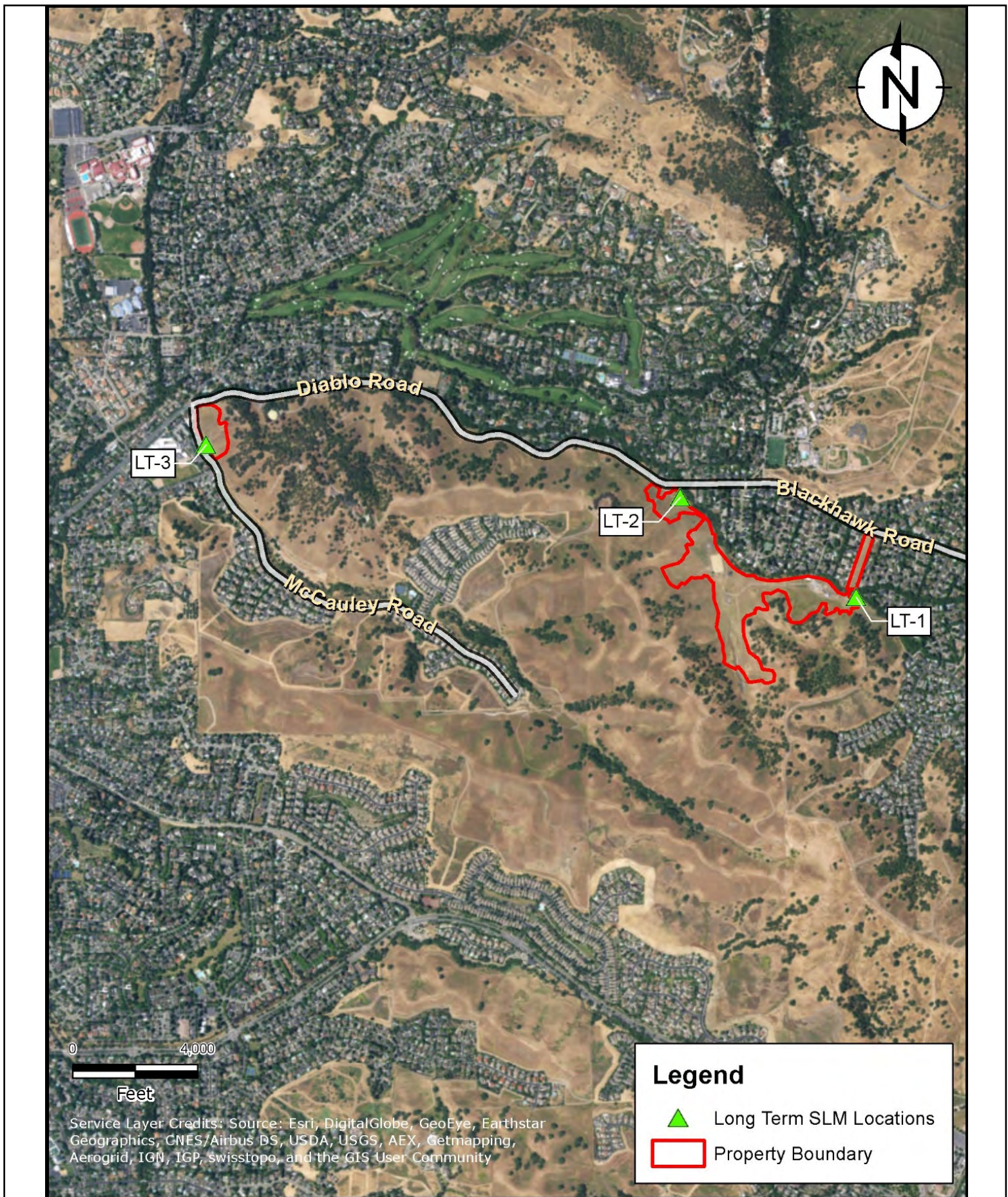
Existing Noise Environment

The project site is located in northeast Danville, on the south side of Diablo Road and Blackhawk Road (see Figure 3-2). The property is currently used for beef cattle operations. The property is surrounded by single family residential neighborhoods, including the unincorporated community of Diablo to the north, the residential neighborhood between the east branch of Green Valley Creek and Blackhawk Drive to the north, the existing Magee Ranch residential development to the east, and residential uses located beyond Short Ridge to the south. A substantial amount of open space is located in the vicinity. Specifically, the project site lies adjacent to the Sycamore Valley Open Space Preserve to the south, managed by the East Bay Regional Park District.

The project consists of the development of 69 single-family homes on minimum 10,000 square foot lots, which would be clustered on the flatter portions of the site. The project site would be accessed by one driveway along Diablo/Blackhawk Road and one driveway along McCauley Road. The main project entrance is proposed from Blackhawk Road just east of Jillian Way.

Long-term sound levels were measured by Ramboll Environ at three locations from June 26 to 29, 2017. The noise measurements locations are shown in Figure 4.2-1. Noise measurement LT-1 was located at the intersection of the proposed main driveway off Diablo/Blackhawk, Appaloosa Street, and the proposed Brumby Street. LT-2 was located along Diablo Road just east of Ave Nueva. LT-3 was located along McCauley Road, on proposed Lot 1 of the Magee East site.

The noise level measurements were conducted with Larson Davis Lxt Class I sound level meters. Each meter was factory certified within the preceding 12 months and was calibrated in the field prior to use. Each meter was fitted with an acoustically neutral weather head and set at an approximate listening height of ~5 feet above ground elevation.



Title:

Noise Measurement Locations



Monterey | San Jose | Santa Barbara
Denise Duffy and Associates, Inc.
Environmental Consultants Resource Planners
947 Cass Street, Suite 5
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Figure
4.2-1

The noise levels for the measurement locations are summarized in Table 4.2-1. As shown in the table, the hourly noise levels range from a minimum of 42 L_{eq} to a maximum of 63 L_{eq} at the three measurement sites. The highest noise levels were measured at Location L-2.

Table 4.2-1 Existing Ambient Noise Levels During Hours of Construction (dBA)			
SLM #	Date	Hourly L_{eq} 7AM to 7PM	
		Min	Max
LT1	June 26 – 29, 2017	42	52
LT2	June 26 – 29, 2017	58	63
LT3	June 26 – 29, 2017	49	53
Source: Ramboll Environ, 2017			

Regulatory Environment

Town of Danville General Plan. The Town of Danville General Plan contains noise goals and policies that support the Town's goal of protecting existing and future residents from excessive noise. Applicable policies contained in the 2030 General Plan are as follows:

- 27.01 Ensure that new residential development projects should meet acceptable noise level guidelines, as shown in Figure 24. *Note: refer to Table 4.2-2 below.*
- 27.02 Require acoustical studies for major residential and other development projects, as appropriate, and impose noise mitigation measures accordingly.
- 27.03 Protect the noise environment in existing residential areas. Where acceptable noise levels in residential areas would be exceeded or further impacted as a result of new development or transportation improvements, require the use of noise mitigating measures, such as wall barriers, berms, mufflers, sound traps, and baffles to reduce noise intrusion.
- 27.04 Encourage the location of noise sensitive land uses away from noise sources or require appropriate noise screening.
- 27.05 Open space should be used, wherever practical, to provide an adequate spatial separator between noise sources and sensitive land uses.
- 27.09 Generally maintain exterior noise levels below 60 L_{dn} in areas where outdoor use is a major consideration, such as in residential backyards. Where the Town determines that this level cannot be achieved after reasonable mitigation has been applied, higher standards may be permitted at the discretion of the Town Council. In such cases, indoor noise levels should not exceed an L_{dn} of 45 dB.

Development sites exposed to noise levels exceeding 60 L_{dn} shall be analyzed following protocols in Appendix Chapter 12, Section 1207 Sound Transmission of the 2010 California Building Code (or the latest revision).

- 27.12 Require the preparation of groundborne vibration studies by qualified professionals in accordance with industry-accepted methodology where heavy construction activities involving significant site grading, underground, or foundation work will occur within 50 feet of residential or other vibration sensitive uses.

Vibration studies may also be required for projects involving significant increases in the operation of heavy vehicles such as trucks and buses. Applicable and feasible vibration reduction measures shall be incorporated into project plans.

- 27.13 Utilize noise reduction measures during all phases of construction activity to minimize the exposure of neighboring properties to excessive noise levels.

Construction activities are required to comply with the Town's noise ordinance limitations on hours and days of operations.

Table 4.2-2 Town of Danville 2030 General Plan Land Use Compatibility Guidelines for Exterior Noise Levels (2012)				
Land Use Compatibility	Community Noise Equivalent Level (CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential-Low Density, Single Family, Duplex, Mobile Homes	50-60	55-70	70-75	75-85
Residential – Multifamily	50-65	60-70	70-75	75-85
Transient Lodging – Motel, Hotels	50-65	60-70	70-75	75-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	80-85
Auditoriums, Concert Halls, Amphitheaters	Not Applicable	50-70	Not Applicable	C
Sports Arenas, Outdoor Spectator Sports	Not Applicable	50-70	Not Applicable	C
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-70	Not Applicable	70-80	80-85
Office Buildings, Business Commercial and Professional	50-70	67.5-77.5	75-85	Not Applicable
Industrial, Manufacturing, Utilities, Agricultural	50-75	70-80	75-85	Not Applicable
CNEL = Community Noise Equivalent Level in A-weighted decibels (dBA)				
Normally Acceptable: Specified Land use is satisfactory, based upon assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. Conditionally Acceptable: New construction of development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice. Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design. Clearly Unacceptable: New construction or development should generally not be undertaken. Source: California Office of Planning and Research, General Plan Guidelines, October 2003. Town of Danville, 2012.				

Town of Danville Municipal Code. Chapter IV of the Town of Danville Municipal Code contains language restricting the hours of construction. Specifically, Code 4-2.4(d) restricts construction that creates noise within or adjacent to a residential land use district to Monday through Friday between the hours of 7:30 AM and 7 PM, and on Saturdays, Sundays and holidays between the hours of 9 AM and 7 PM.

Thresholds of Significance

For the purposes of this analysis and in accordance with the CEQA Guidelines, a project impact would be considered significant if the project would:

- expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- expose persons to or generation of excessive groundborne vibration or groundborne noise levels;
- have substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- have a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

In applying the above CEQA Guideline thresholds, the following specific significance criteria were used to evaluate the significance of construction noise and vibration resulting from the project, consistent with the 2013 EIR.

1. With regards to construction vibration, the following standard is applied: a significant impact would occur if it would expose persons to groundborne vibration levels exceeding 0.20 in/sec PPV (peak particle velocity).
2. With regards to construction noise, the following standard is applied: a significant impact would occur if generation of noise from construction activities or construction-related off-site traffic would exceed 60 dBA L_{eq} and result in an increase over ambient sound levels of at least 5 dBA L_{eq} for a period of one year or more at exterior areas of uses sensitive to noise (e.g., residences, residential care facilities, schools).

Impacts and Mitigation

Operational Noise

The lawsuit on the 2013 EIR did not challenge the EIR's adequacy with respect to noise. The 2013 EIR found the operational noise impacts from the project to be less-than-significant, since the project would not result in a substantial, permanent increase in ambient noise levels in the project vicinity above levels existing without the project. However, the Town decided to update the analysis of ground-borne noise and vibration effects during construction of the project in this Revised Draft EIR. Construction noise is addressed below.

Construction Noise

As outlined in the 2013 EIR, a significant noise impact is defined as construction-related noise that exceeds 60 dBA L_{eq} at sensitive receivers and results in an increase over ambient sound levels of at least 5 dBA L_{eq} for a period of one year or more.

Existing hourly noise levels measured at residences adjacent to the proposed primary cluster of residences and far from Blackhawk/Diablo Road (represented by LT-1) ranged from 42 to 52 dBA during standard

hours of construction. Hourly sound levels nearer to Blackhawk/Diablo Road (represented by LT-2) ranged from 58 to 63 dBA. Measured hourly noise levels near the proposed smaller cluster of homes near McCauley Road (represented by LT-3) ranged from 49 to 53 dBA. At noise-sensitive receiving areas with existing hourly L_{eq} in the 40s to low 50s dBA, including residences that are represented by LT-1 and the Green Valley Elementary School represented by LT-3, a construction noise level of 60 dBA or more would result in an increase of more than 5 dBA. For residences near Blackhawk/Diablo Road, as represented by LT-2, the ambient sound levels are higher, ranging from 58 to 63 dBA, allowing for construction-related sound levels up to 62 dBA before resulting in an overall increase of greater than 5 dBA.

Noise from On-site Equipment

Project construction would occur over two construction phases. The first phase would include demolition, site preparation, grading, and trenching, as well as construction of Project access roads, paths, and utilities. The second phase of construction would include construction of individual residences (i.e., houses). According to the developer's schedule, the first phase (site work) will be completed in less than 1 year (approximately ten months). During the second phase of work (individual home building), each home would be constructed individually and would be issued its own building permit. Estimated construction sound levels for the various construction phases are presented in Table 4.2-3.

Table 4.2-3 Noise Levels of Construction Equipment (Hourly L _{eq} , dBA)						
Phase	Activity	# Days	Level at 50 ft ^(a)	Distance to Nearest Receiver (ft)	Level at Nearest Receiver	Distance to 60 dBA (ft)
1	Demolition	15	84	85	79	750
	Site Preparation		83	20	91	750
	Grading	75	84	20	92	750
	Trenching	75	83	55	82	750
	Paving	16	77	50	77	375
	Landscaping	60	83	20	91	750
2	Building Construction	Dispersed over 3 years	83	150/20 ^(b)	74/91 ^(c)	750
	Architectural Coating		74	150/20 ^(b)	64/82 ^(c)	250
Source: Equipment usage for Site Preparation and Landscaping phases was provided by the project sponsor. Equipment usage for other phases was taken from CalEEMod default values. (a) Equipment sound levels from the FHWA <i>Roadway Construction Noise Model</i> . Representative sound levels for each phase of construction were calculated based on the conservative assumption that two loudest pieces of equipment during each phase would operate continuously at the same location. (b) Distances to off-site/on-site residences (c) Calculated levels at off-site/on-site residences.						

Construction activities within the new Appaloosa Street corridor, the driveway to the main Magee West portion of the site from Diablo/Blackhawk Road, would be the nearest activity to potentially affected sensitive receptors. Site preparation, grading, and landscaping activities could occur as close as 20 feet from existing residential buildings and outdoor use areas along the east side of the corridor, and as near as 50 feet from residential buildings on the west side. Outdoor use areas of homes on the west side of this corridor are located more than 50 feet away or are located on the west side of the residential building and, therefore, are shielded from activity within the corridor. Using worst-case assumptions (i.e., the two loudest pieces of equipment operating concurrently at the same location nearest the receiver), site preparation, grading, and landscaping could result in levels as high as 91 to 92 dBA at the nearest residences (see Table 4.2-3).

However, these activities would only occur nearest each individual residence for short periods of time, and noise levels during most of the first construction phase would be much lower than those shown in Table 4.2-3. Based on conservative assumptions that include distance attenuation with no reduction from intervening structures, topography, or foliage, noise levels could exceed 60 dBA for residences within 750 feet of most site preparation activities. Given the large size of the project site, elevated levels of construction noise would be expected at individual noise-sensitive receptors for small durations of time relative to the overall construction program. Since all Phase 1 construction work would occur for less than one year (approximately 10 months), elevated noise levels at individual sensitive receptors would occur for substantially less than a year.

Construction of individual homes would occur after site work has been completed, with the exception of some landscaping activity that would occur as individual home construction is completed. Each home could take up to nine months to construct. The levels identified in Table 4.2-3 indicate that noise levels from this work would not typically be as loud as grading or other major site work. However, this evaluation uses conservative estimates assuming two pieces of large diesel-powered equipment (e.g., cranes, excavators, forklift) would operate concurrently at a single location during the building process. Such equipment would be required only occasionally and for short periods of time during each home's approximately nine-month construction period. In addition, most potentially affected noise sensitive receptors are located far from construction activity for individual new homes, and, therefore, would not be exposed to elevated construction noise levels during most home construction activity.

New on-site residences built early in Phase 2 could be exposed to sound levels of 80 dBA or more if homes are constructed immediately adjacent to these newly occupied homes. However, as noted above, the loudest equipment associated with the construction of individual homes is expected to operate only intermittently and for relatively short periods of time, and the majority of home construction would be much quieter. In addition, as more homes are built, they may provide noise shielding (if located between an occupied home and ongoing construction activities). It appears unlikely that the early new residences would be exposed to elevated noise levels for extended periods of time.

Construction noise would also be generated by worker vehicles and delivery trucks traveling to/from active construction areas. Traffic data produced for the project showed that peak daily construction trips would overlap with landscaping and building construction on the Magee East site. During the project's worst-case construction traffic hour, up to 19 worker vehicle trips, three medium-sized truck trips, and one heavy duty truck trip would be generated. The nearest roadways to potentially affected residences are 1) the new Appaloosa Street driveway, the centerline of which would be located approximately 70 feet from residential buildings west of the street, and 2) Brumby Street, the centerline of which would be located approximately 100 feet from existing residential buildings. At residences nearest Appaloosa Street and Brumby Street, construction traffic noise levels are expected to be 47 and 48 dBA, respectively, during the worst-case peak hour period. Construction traffic noise levels of this magnitude would result in a negligible contribution to the overall construction noise levels and would not contribute to significant noise impacts.

For all potentially affected noise-sensitive receptors adjacent to or near the project site, hourly noise levels during construction activities are expected to exceed 60 dBA L_{eq} and result in greater than 5 dBA increases over ambient levels during portions of the construction period. However, elevated levels above 60 dBA (and greater than 5 dBA over ambient) are not expected to occur at any single location for a duration of one year or more, rendering this impact less-than-significant. In addition, the applicant has agreed to implement mitigation measures that were previously identified in the 2013 EIR, listed below to further reduce potential noise impacts

Mitigation Measures from 2013 EIR to be Incorporated as Conditions of Approval

- Prior to any grading or other construction activities, the applicant shall develop a construction mitigation plan in coordination with the Town of Danville staff to assure that construction activities are scheduled to minimize noise disturbance. The following conditions shall be incorporated into the building contractor specifications.
 - a. Muffle and maintain all equipment used on site. All internal combustion engine driven equipment shall be fitted with mufflers, which are in good condition.
 - b. Utilize “quiet” models of air compressors and other stationary noise sources where technology exists.
 - c. Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
 - d. Prohibit unnecessary idling of internal combustion engines.
 - e. Prohibit audible construction workers’ radios on adjoining properties.
 - f. Restrict noise-generating activities at the construction site or in areas adjacent to the construction site to the hours between 8:00 a.m. and 5:00 p.m., Monday through Friday.
 - g. Do not allow machinery to be cleaned or serviced past 6:00 p.m. or prior to 7:00 a.m. Monday through Friday.
 - h. Limit the allowable hours for the delivery of materials or equipment to the site and truck traffic coming to and from the site for any purpose to Monday through Friday between 7:00 a.m. and 6:00 p.m.
 - i. Do not allow any outdoor construction or construction-related activities at the project site on weekends and holidays. Indoor construction activities may be allowed based on review/approval of the Town.
 - j. Allowable construction hours shall be posted clearly on a sign at each construction site.
 - k. Designate a Disturbance Coordinator for each of the clustered development sites for the duration of the Phase 1 (site work) and for each home site during the Phase 2 (home building) construction. Because each home would be constructed individually and would have its own building permit, a Disturbance Coordinator should be designated during the construction of each home. The requirement for a Disturbance Coordinator for each home site should be incorporated in the CCRs of the development, such that responsibility of the Property Owners’ Association and/or home builder to designate this Disturbance Coordinator for each lot for the duration of construction until full site buildout. The Disturbance Coordinator shall:
 - 1. Receive and act on complaints about construction disturbances during infrastructure installation, landslide repair, road building, residential construction, and other construction activities.

2. Determine the cause(s) and implement remedial measures as necessary to alleviate significant problems.
3. Clearly post his/her name and phone number(s) on a sign at each clustered development and home building site.
4. Notify area residents of construction activities, schedules, and impacts.

Effects of Groundborne Vibration

The 2013 EIR indicated that residences in the vicinity of the original project site could at times be exposed to perceptible vibration levels from construction activities, but that vibration levels would not be considered excessive. This was identified as a less-than-significant impact. Assessment of construction-related vibration levels are evaluated below for the currently proposed project based on an updated evaluation by Ramboll Environ (see Appendix D).

The California Department of Transportation uses vibration limits as follows: 1) 0.5 in/sec peak particle velocity (PPV) to avoid structural damage in buildings structurally sound and designed to modern engineering standards, 2) 0.2 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and 3) conservative limit of 0.08 in/sec PPV for ancient buildings or buildings that are documented to be structurally weakened. To be conservative, the threshold of significance for construction-related vibration for the evaluation prepared for project is exposure of buildings to groundborne vibration levels exceeding 0.20 in/sec PPV.

Construction activities for the project would include site preparation work such as grading, installation of utilities, paving, landscaping, and new building framing and finishing. Building framing, exterior and interior finishing, and landscaping activities are not sources of substantial vibration. Construction techniques that generate the highest vibration levels, such as impact or vibratory pile driving, are not required for the project. The primary source of construction-related vibration associated with the project is expected to be mobile heavy equipment (e.g., dozers, vibratory rollers). Table 4.2-4 identifies typical vibration levels for various construction activities and equipment that are expected for the project.

Construction activities on the majority of the project site would occur at distances of 80 feet or more from the nearest residential buildings and are expected to result in groundborne vibration levels less than 0.2 in/sec PPV (see Table 4.2-4).

Table 4.2-4				
Vibration Source Levels for Construction Equipment				
Equipment	PPV (in/sec)			
	At 25 ft^(a)	At 20 ft^(b)	At 50 ft^(b)	At 80 ft^(b)
Vibratory Roller	0.210	0.29	0.07	0.04
Large bulldozer	0.089	0.12	0.03	0.02
Loaded trucks	0.076	0.11	0.03	0.01
Small bulldozer	0.003	0.00	0.00	0.00
^(a) Source: Federal Transit Administration (FTA), <i>Transit Noise and Vibration Impact Assessment</i> , May 2006.				
^(b) Calculated based on reference level at 25 feet and standard distance attenuation of $PPV_{(at\ receiver)} = PPV_{(reference\ at\ 25\ ft)} \times (25/distance\ to\ receiver)^{1.5}$				

Construction of the proposed main entrance at Blackhawk Road (Appaloosa Street) would require grading and paving activities near existing residences. Grading and site preparation activities would include the use of a dozer operating as near as 20 feet from the closest existing residential buildings, and may result in an

estimated vibration level of up to 0.12 in/sec PPV. Paving of the entrance roadway and path may include use of a vibratory roller operating as near as 50 feet from the closest residential buildings, resulting in an estimated vibration level of up to 0.07 in/sec PPV. These worst-case vibration levels would not be expected to result in structural damage. Vibration levels may still be perceptible but would occur for short periods of time. Vibration from construction of the project would not result in levels of 0.20 in/sec PPV at any building. Therefore, construction-related vibration impacts from the project are expected to be less-than-significant.

Cumulative Impacts

Noise impacts during construction would be relatively localized. The only currently proposed project that might be constructed at the same time as the project, in the vicinity of receivers potentially affected by project construction, is a portion of the Central Contra Costa Sanitary District's Proposed Satellite Water Recycling Facility (SWRF) Project. The SWRF project, if approved, would place a pipeline along the north side of Diablo Road between Green Valley Road and Calle Arroyo. Because the pipeline construction would proceed at a pace of approximately 100 linear feet per day, noise from SWRF construction would not combine with noise from project construction to cause a significant impact at any sensitive receptor. Therefore, no cumulative noise impacts are anticipated during project construction.

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4.3 TRANSPORTATION AND CIRCULATION

Introduction

A traffic and circulation analysis was prepared for the project by Hexagon Transportation Consultants in coordination with the Town of Danville Transportation Division (September 2012). The lawsuit on the 2013 EIR challenged the analysis of traffic; the Superior Court rejected these claims. The lawsuit on the 2013 EIR also challenged the EIR's analysis of bicycle safety, and the Superior Court and Court of Appeal upheld these claims.

Because the courts have required a new analysis of bicycle safety, and due to the amount of time that has passed since the traffic analysis for the 2013 EIR was prepared, all aspects of the transportation and circulation analysis for the project, other than change in air traffic patterns, are addressed in a new transportation study. This transportation study was prepared for the project by Stantec (June 2018), and is contained in Appendix E. The methodology for the study is described later in this section.

Setting

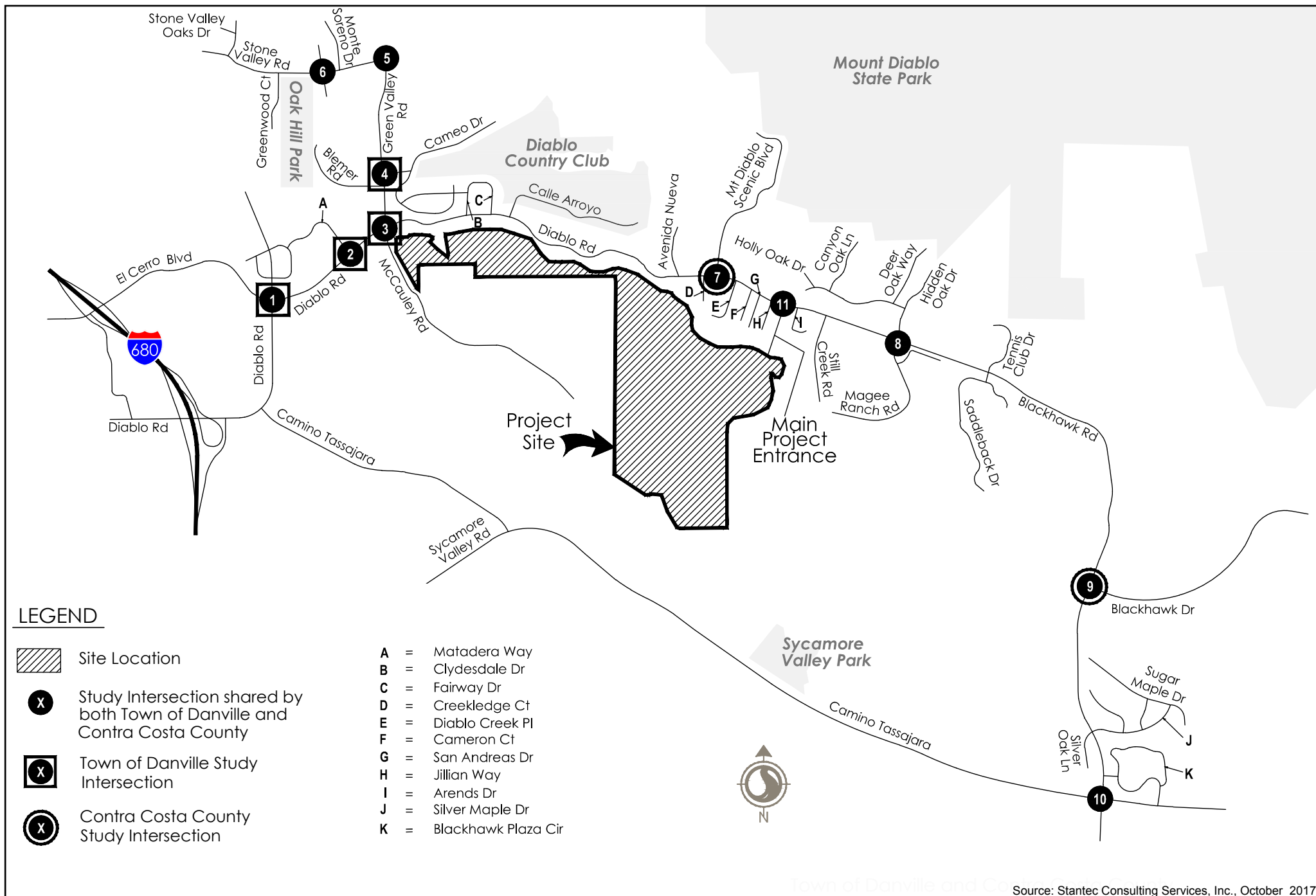
Roadway System

The roadway network in the project area is presented in Figure 4.3-1 and summarized below. Regional access to the project site is provided via Interstate 680. Local access to the site is provided via Blackhawk Road, Camino Tassajara, Crow Canyon Road, Diablo Road, El Cerro Boulevard, Green Valley Road, and Stone Valley Road. These roadways are described below.

I-680 is an eight lane north/south freeway with three mixed-flow lanes and one HOV lane in each direction in the project vicinity. I-680 extends north through Contra Costa County and south to Santa Clara County. Access to the project area is provided via the I-680 interchanges with Crow Canyon Road, Stone Valley Road, Diablo Road, and El Cerro Boulevard.

Blackhawk Road is a two to four-lane roadway that runs between Mt. Diablo Scenic Boulevard and Camino Tassajara with average daily traffic (ADT) of approximately 10,100 vehicles per day (VPD, 2017). The road facilitates east-west and north-south movement providing access to residential neighborhoods, schools, and businesses, and has posted speed limits between 35 and 45 mph. Bike lanes are present on Blackhawk Drive, between Blackhawk Plaza Circle and Jillian Way. On-street parking is only available near its intersection with Blackhawk Drive. A continuous path/sidewalk is provided on the north/east side of the road.

Camino Tassajara is a two to six-lane roadway that runs between Diablo Road in Danville and Tassajara Road in Pleasanton with ADT between 27,000 and 29,000 VPD (2017). It provides access to residential neighborhoods, schools, public parks and facilities, and businesses, and has posted speed limits between 35-45 mph. Bike lanes are present between Diablo Road and Crow Canyon Road/Blackhawk Road and between Tassajara Ranch Drive and Finley Road, and on-street parking is available between Diablo Road and Sycamore Valley Road. Continuous paths/sidewalks are present on both sides of Camino Tassajara between Diablo Road and the Mustang Soccer League driveway.



Title:

Roadway Network & Study Locations

Monterey | San Jose | Santa Barbara

Denise Duffy and Associates, Inc.

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Source: Stantec Consulting Services, Inc., October 2017

Figure
4.3-1

Crow Canyon Road is a two to eight-lane roadway that runs between E Castro Valley Boulevard and Camino Tassajara with ADT of approximately 24,400 VPD (2017). It provides intraregional access to residential neighborhoods, schools, public parks and facilities and businesses, and has posted speed limits between 40-50 mph. Bike lanes are present between E Castro Valley Boulevard and Cull Canyon Road, and between Alcosta Boulevard and Camino Tassajara, and on-street parking is available between E Castro Valley Boulevard and Cull Canyon Road. Discontinuous sidewalks are present on both sides of Crow Canyon Road between E Castro Valley Boulevard and Bollinger Canyon Road, and continuous sidewalks are present on both sides between Bollinger Canyon Road and Camino Tassajara.

Diablo Road is a two-lane to four-lane roadway that runs between Hartz Avenue and Mt. Diablo Scenic Boulevard with ADT between 14,000 (east) and 23,000 (west) VPD (2017). The road primarily facilitates east-west movement providing access to downtown Danville, residential neighborhoods, schools, and public parks and facilities, and has posted speed limits between 25-35 mph. Bike lanes are present between Via Hermosa in the west and McCauley Road/Green Valley Road in the east. On-street parking is permitted along some portions of the road, and sidewalks are located on both sides between Hartz Avenue and I-680 northbound off-ramp, and between Camino Tassajara and McCauley Road/Green Valley Road. A pedestrian/bicycle pathway is available on the north side of the road between McCauley Road/Green Valley Road and Calle Arroyo.

El Cerro Boulevard is a two-lane roadway that runs between Danville Boulevard and Diablo Road/Ackerman Drive with ADT of approximately 10,900 VPD (2017). It provides access to residential neighborhoods, schools, and public parks and facilities, and has a posted speed limit of 30 mph. Bike lanes are present along its entirety, and on-street parking is available near Danville Boulevard, between La Gonda Way and W El Pintado, and between Adobe Court/El Pintado Road and Diablo Road/Ackerman Drive. A continuous sidewalk is present on the south side of El Cerro Boulevard, with a discontinuous sidewalk available on the north side.

Green Valley Road is a two-lane north-south roadway that runs between Diablo Road and the Macedo Ranch Staging Area with ADT of approximately 13,700 VPD (2017). It provides access to residential neighborhoods, schools, and public parks and facilities, and has a posted speed limit of 30 mph. Bike lanes are present between Diablo Road and Stone Valley Road with limited on-street parking. A continuous sidewalk is located on the west side of the street, and sidewalk is provided on the east side between Waingarh Way and Stone Valley Road.

Stone Valley Road is a two-lane roadway that runs between Lunada Lane and Golden Ridge Road in Alamo with ADT of approximately 10,300 VPD (2017). It facilitates east-west movement providing access to residential neighborhoods, schools, and public parks and facilities, and has posted speed limits of 25 and 35 mph. Bike lanes are present between Danville Boulevard and Green Valley Road, and on-street parking is available between Lunada Lane and Danville Boulevard, and between Monte Sereno Drive and Green Valley Road. A continuous sidewalk is provided on the north side of the road, with discontinuous sidewalk available on the south side.

Transit Service

Transit service in Danville is provided by the Central Contra Costa Transit Authority (CCCTA). The Project site has no transit service available in the vicinity. Transit riders have access to Lines 21, 92X and 95X from the Danville Park-and-Ride on Sycamore Valley Road at the I-680 interchange. Line 21 also has various stops along Danville Boulevard, Railroad Avenue, and San Ramon Valley Boulevard.

The closest Bay Area Rapid Transit (BART) stations to the project site are the Walnut Creek and Dublin-Pleasanton stations, located approximately 11 and 13 miles from the site, respectively. The closest access

to the Altamont Commuter Express (service to San Jose and Stockton) is located at the Pleasanton Station, approximately 17 miles south of the project site.

The Town participates in the Measure J Traffic Congestion Relief Agency, an independent joint powers authority known as TRAFFIX. TRAFFIX is a traffic congestion relief program funded by Measure J, a ½ cent sales tax extended by Contra Costa voters in 2004, that is intended to reduce school related traffic along some of San Ramon Valley's most congested corridors. Near the project site are two TRAFFIX bus routes (LC8 and LC9) serving Los Cerros Middle School, two routes (GV8 and GV9) serving Green Valley Elementary School, and one route (MV10) serving Monte Vista High School. TRAFFIX began service in 2009 and is funded by a percentage of the Measure J tax revenues, which will terminate in 2034 unless reinstated by voters.

Bicycle Facilities

The traffic study assessed existing bicycle conditions through field surveys on April 26, 2017, measurements of lane widths made by the project engineers, and review of the 2030 Town of Danville General Plan and 2017 Parks, Recreation and Arts Strategic Plan. Bicycle facilities are divided into three classes:

- Class I routes operate within a completely separate right-of-way and are exclusively used by bicycles and pedestrians.
- Class II routes, commonly called bike lanes, operate in a striped, restricted lane within the right-of-way of a street. Motor vehicles are prohibited from using this lane, although crossflows in and out of parking spaces and onto cross-streets are permitted.
- Class III routes, or bike routes, operate within moving traffic lanes and are distinguished only by signs or pavement markings. Bicycles share the right-of-way with vehicles.

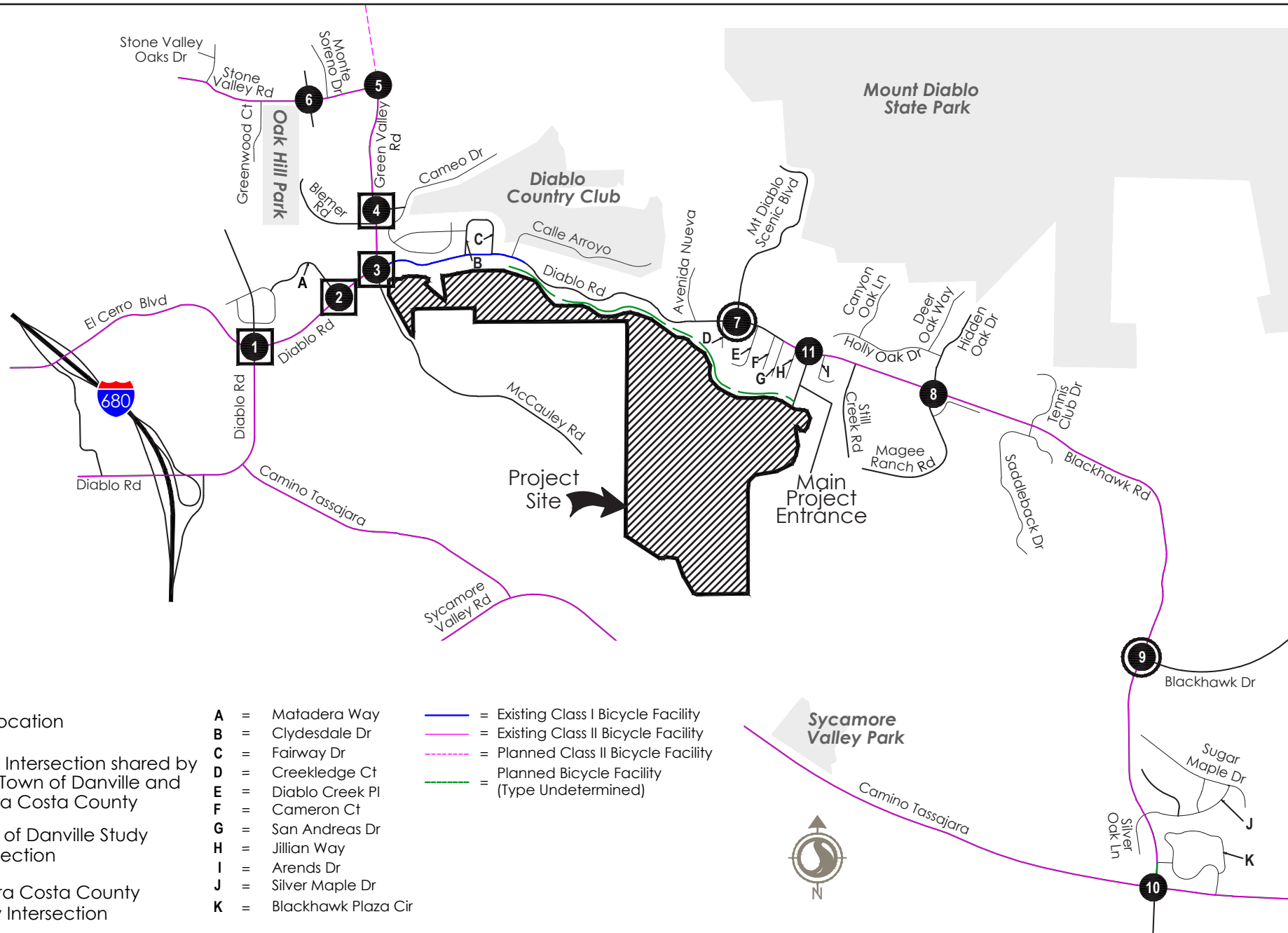
A Class I multi-use pathway is found on Diablo Road between McCauley Road/Green Valley Road and Calle Arroyo, and the Town is currently conducting a gap closure study (CIP NO. C- 055) for Diablo Road between Calle Arroyo and Avenida Nueva. Currently, Class II bike lanes are found in the project vicinity on the following roads:

- Blackhawk Road – between Blackhawk Plaza Circle and Jillian Way
- Camino Tassajara – between Diablo Road and Crow Canyon Road/Blackhawk Road
- Diablo Road – between Via Hermosa and McCauley Road/Green Valley Road
- Green Valley Road – between Diablo Road and Stone Valley Road
- Stone Valley Road – between Danville Boulevard and Green Valley Road
- Sycamore Valley Road – between San Ramon Valley Boulevard and Camino Tassajara

Class II bike lanes are proposed on Green Valley Road north of Stone Valley Road as set forth in the 2017 Parks, Recreation and Arts Strategic Plan. Existing and proposed bicycle facilities are illustrated in Figure 4.3-2.

Pedestrian Facilities

The traffic study also observed existing pedestrian conditions in the project vicinity during the field visit on April 26, 2017. Pedestrian sidewalks are described in the roadway network discussion. The project area is generally well served by pedestrian facilities.



Source: Stantec Consulting Services, Inc., June 2018

Title:

Existing and Planned Bicycle Facilities



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Figure
4.3-2

Traffic Study and Methodology

Intersections

The traffic study evaluated existing traffic conditions at 10 study intersections during AM, school PM, and commute PM peak hours for a typical weekday. The peak periods observed were 7:00-9:00 AM, 2:00-4:00 PM, and 4:00-6:00 PM, respectively. The study intersections and controls are listed below. The study intersections are presented in Figure 4.3-1. Intersection 11 represents the proposed intersection of the new project driveway, Appaloosa Street, with Blackhawk Road.

1. El Cerro Boulevard/Diablo Road & Diablo Road/Ackerman Drive [Signal]
2. Diablo Road & Matadera Way [Signal]
3. Diablo Road & McCauley Road/Green Valley Road [Signal]
4. Blemer Road/Cameo Drive & Green Valley Road [Signal]
5. Stone Valley Road & Green Valley Road [AWSC¹]
6. Stone Valley Road & Monte Vista High School Main Driveway [Signal]
7. Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard [AWSC]
8. Blackhawk Road & Magee Ranch Road/Hidden Oak Drive [TWSC²]
9. Blackhawk Drive & Blackhawk Road [Two-Way Stop Control (TWSC)]
10. Camino Tassajara & Crow Canyon Road/Blackhawk Road [Signal]

The traffic study evaluated traffic conditions under the four following scenarios:

- Existing Conditions – This scenario evaluates current intersection conditions based on field surveys and existing vehicle, bicycle and pedestrian counts.
- Existing plus Project Conditions – This scenario is identical to Existing Conditions, but with the addition of proposed Project traffic.
- Cumulative Conditions – This scenario is based on projections from the latest Contra Costa Transportation Authority (CCTA) countywide Decennial model. 23-year incremental traffic growth was added to existing volumes to estimate 2040 traffic conditions. This scenario does not include the proposed project traffic.
- Cumulative plus Project Conditions – This scenario is identical to Cumulative Conditions, but with the addition of proposed project traffic.

Traffic conditions at the study intersections were analyzed based on a level of service (LOS) evaluation. LOS is a qualitative measure of operational conditions ranging from A to F. LOS A represents free flow traffic with little or no delay and LOS F represents jammed conditions with excessive delay and back-ups. Tables 4.3-1 and 4.3-2 present the LOS definitions per the Highway Capacity Manual 2010 (HCM 2010).³

¹ All way stop control

² Two way stop control

³ Transportation Research Board, Fifth Edition

Table 4.3-1
HCM 2010 Signalized Intersection Level of Service Definitions

LOS	Description
A	Very low control delay, up to 10 seconds per vehicle and V/C ratio no greater than 1.0. Typically assigned when the V/C ratio is low and either progression is extremely favorable or the cycle length is very short. If due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	Control delay greater than 10 and up to 20 seconds per vehicle and V/C ratio no greater than 1.0. Typically assigned when the V/C ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
C	Control delay greater than 20 and up to 35 seconds per vehicle and V/C ratio no greater than 1.0. Typically assigned when progression is favorable or the cycle length is moderate. Individual <i>cycle failures</i> (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	Control delay greater than 35 and up to 55 seconds per vehicle and V/C ratio no greater than 1.0. Typically assigned when the V/C ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	Control delay greater than 55 and up to 80 seconds per vehicle and V/C ratio no greater than 1.0. Typically assigned when the V/C ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F	Control delay exceeds 80 seconds per vehicle or V/C ratio greater than 1.0. Typically assigned when the V/C ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.
V/C = volume to capacity ratio	

Table 4.3-2
HCM 2010 Unsignalized Intersection Level of Service Definitions

LOS	Description
A	Very low control delay, up to 10 seconds per vehicle for each movement subject to delay and V/C ratio no greater than 1.0.
B	Control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay and V/C ratio no greater than 1.0.
C	Control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay and V/C ratio no greater than 1.0.
D	Control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay and V/C ratio no greater than 1.0.
E	Control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay and V/C ratio no greater than 1.0.
F	Control delay exceeds 50 seconds per vehicle for each movement subject to delay or V/C ratio greater than 1.0.

Signalized Intersections

The LOS for signalized intersections was evaluated using two methodologies: 1) the Contra Costa Transportation Authority (CCTALOS) method, and 2) the HCM 2010 method. The TRAFFIX software was used to apply the CCTALOS methods and Synchro 9 software was used to apply the HCM 2010 methods to evaluate conditions at signalized intersections. CCTALOS is a simplified method that expresses LOS conditions in terms of total V/C ratios. It does not consider signal timing, queue lengths, delay and storage capacity. CCTALOS methodology is a minimum requirement of the CCTA, and its calculations are included in the appendix for CCTA's Measure J compliance reporting purposes.

The Town of Danville uses the HCM method, which evaluates signalized intersection operations based on average control delay time for all vehicles at the intersection. Control delay is the amount of delay that is attributed to the specific traffic control device at the intersection and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. As such, and per the Town of Danville, the LOS in this study is reported using the HCM 2010 methodology because it provides a more accurate indication and represents a more conservative expression of intersection operation. Table 4.3-1 above presents the correlation between average delay and LOS.

Unsignalized Intersections

LOS at unsignalized intersections in the Town of Danville and Contra Costa County is based on the HCM 2010 method. Synchro 9 software was used to apply the HCM 2010 methodology for evaluation of conditions at unsignalized intersections. TRAFFIX software was not used for the analysis of unsignalized intersections due to its inability to apply the HCM 2010 method. HCM 2010 provides separate analysis methods for AWSC and TWSC intersections. Table 4.3-2 shows the correlation between unsignalized intersection delay and LOS. For AWSC intersections, the reported LOS and delay represent the average delay of all intersection movements, and for TWSC intersections the reported LOS and delay represent the critical (worst) approach delay.

Bicycle Safety

As with intersection LOS analysis, bicycle LOS (BLOS) analysis is performed using HCM 2010 methodology. The BLOS scores are calculated using equations provided in Chapter 16 and Chapter 17 of HCM 2010 and are then compared with the letter grade ranges shown in Table 4.3-3. Calculations of BLOS scores are dependent on multiple variables, including the physical conditions of the area in addition to the traffic patterns observed. The methodology yields estimated performance measures for bicycle travel speed and LOS scores for the link and segment with the assumption that bicycles travel in the street (possibly in a bicycle lane) and in the same direction as adjacent motorized vehicles. HCM 2010 does provide separate methodology for evaluating off-street bicycle facilities, but on-street facility analysis results provide the most conservative approach.

According to HCM 2010, BLOS for urban street segments is based on a BLOS score, which is calculated using a traveler-perception model. Table 4.3.3 summarizes BLOS scores and their associated LOS. The overall BLOS score is based on the following variables:

- Bicycle Running Speed
- Bicycle Delay at Intersection
- Bicycle Travel Speed: segment length and segment running time
- Bicycle LOS Score for Intersection
- Bicycle LOS Score for Link: Roadway cross-section; motorized vehicle volumes; motorized vehicle speeds; heavy vehicle (truck) percentage; pavement condition; number of through lanes
- Bicycle LOS Score for Segment: number of access points on right side in the subject direction of travel

The HCM BLOS methodology was selected to determine levels of bicycle operations as it considers many aspects associated with rider comfort and safety. Of the above listed parameters, Bicycle Running Speed, Bicycle Delay at Intersection, and Bicycle Travel Speed are associated with rider comfort and typically include single variable functions. For example, Bicycle Running Speed is assumed at 15 mph; Delay is dependent on traffic signal timing if applicable; and Travel Speed is dependent on segment length.

The remaining parameters are associated with bicycle safety and have a more significant impact on the BLOS calculation. Of the safety-related variables, the most influential in BLOS calculations are roadway cross-section (lane and shoulder widths, etc.) and right-hand access point density. These parameters are most critical as they represent physical constraints of the roadway and are directly linked to bicyclist safety. Wide lanes typically enhance bicycle safety with more room for maneuvering. Access-point density is crucial in bicycle safety as right-hand access points (e.g., driveways and minor street intersections) produce conflicts between through-travelling bicycles and right-turning vehicles. High access-point density cannot be remedied without physical roadway alteration.

Table 4.3-3 HCM 2010 Bicycle Mode Level of Service Criteria	
LOS	BLOS Score
A	≤ 2.00
B	$> 2.00-2.75$
C	$> 2.75-3.50$
D	$> 3.50-4.25$
E	$> 4.25-5.00$
F	> 5.00

Town staff measured the 85th percentile (critical) speed for vehicles on Diablo Road between Alameda Diablo and Avenida Nueva in 2012 and 2015 during off-peak hours for vehicles. The measured critical speed was nearly 40 mph and Town staff directed that this analysis assume 40 mph for three reasons:

1. HCM 2010 recommends using measured 85th percentile speed of 40 mph for BLOS analysis, when possible. The methodology permits use of posted speed limits when critical speed is unavailable, but could produce less reliable analysis results.
2. Traffic speed during the congested time periods, such as the morning and evening commute periods, would be much lower than 40 mph.
3. Analyzing all scenarios with 40 mph vehicle speeds represents a conservative approach.

The Diablo Road/Blackhawk Road corridor is separated into five segments for BLOS analysis:

1. McCauley Road/Green Valley Road to Calle Arroyo [2,850 linear feet (LF)]
2. Calle Arroyo to Alameda Diablo [455 LF]
3. Alameda Diablo to Avenida Nueva [4,020 LF]
4. Avenida Nueva to Diablo Creek Place [1,334 LF]
5. Diablo Creek Place to Magee Ranch Road/Hidden Oak Drive [3,915 LF]

Lane and shoulder widths are two of the most critical variables in BLOS calculations, and Diablo Road/Blackhawk Road has varying cross-sectional widths. Measurements along Diablo Road/Blackhawk Road were taken in 100-foot intervals to identify lane and shoulder widths in each direction of travel. From various spot measurements along the corridor, average lane and shoulder widths were determined for each BLOS study segment. The averages along each segment provide a conservative but appropriate approach to understand bicycle level of comfort on the study corridor. The measurements and averages are provided in Appendix E.

Existing Conditions

Intersection Conditions

The traffic study included collection of weekday vehicle, pedestrian, and bicycle counts at all study intersections during AM (7:00 AM – 9:00 AM), School PM (2:00 PM – 4:00 PM), and commute PM (4:00 PM – 6:00 PM) peak periods on March 30, 2017. Figures 4.3-3 and 4.3-4 illustrate existing lane geometry, traffic controls, and turning movement volumes at the study intersections.

Table 4.3-4 summarizes the peak hour LOS and V/C at the study intersections under Existing Conditions. As shown in this table, all study intersections are currently operating at LOS D or better except for the following locations:

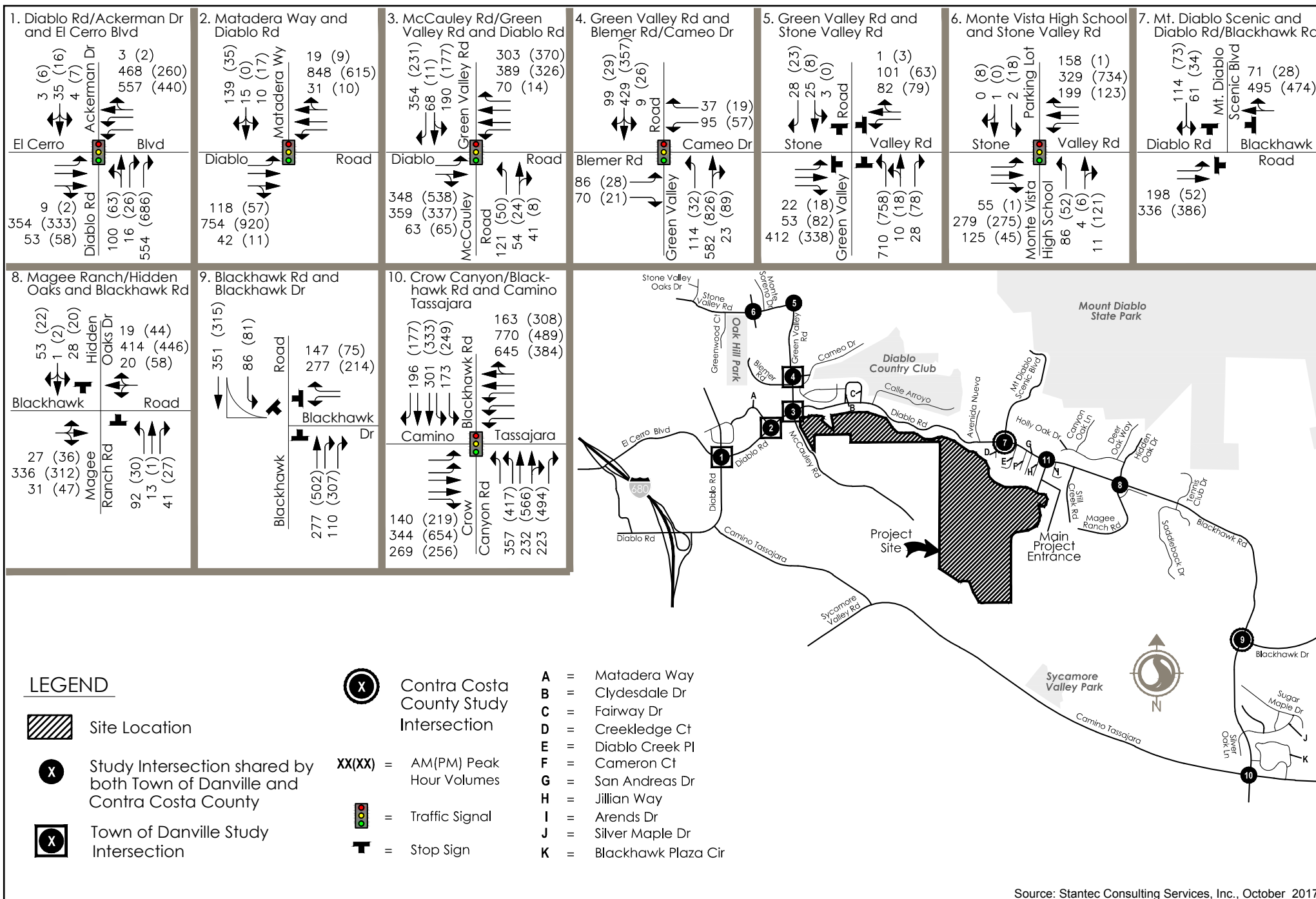
- Intersection 4: Blemer Road/Cameo Drive & Green Valley Road (Signal) operates with a V/C ratio > 1.0 during the AM peak hour.
- Intersection 5: Stone Valley Road & Green Valley Road (AWSC) operates at LOS F during the AM and School PM peak hours, and LOS E during the PM peak hour.
- Intersection 7: Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard (AWSC) operates at LOS E during the AM peak hour and LOS F during the School PM peak hour.

Existing Intersection Deficiencies

As documented in Table 4.3-4, some study intersections currently operate at unacceptable levels of service without the project. Of the three deficient intersections, two operate with stop control and one operates with a traffic signal. The stop-controlled intersections have been assessed with a peak hour signal warrant analysis to determine if traffic signal control is warranted per the California Manual of Uniform Traffic Control Devices (CA MUTCD). The results of the analyses for Existing Conditions traffic volumes are as follows:

- Intersection 5: Stone Valley Road & Green Valley Road: peak hour signal warrant satisfied during the AM, School PM, and PM peak hours.
- Intersection 7: Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard: peak hour signal warrant satisfied during the School PM peak hour.

The Blemer Road/Cameo Drive & Green Valley Road intersection (Intersection 4) operates unacceptably due to the AM peak hour V/C ratio exceeding 1.0. To improve operations at this location, intersection capacity would need to be increased, via additional through or turning lanes. Signal timing adjustment may result in slight improvements to delay but would not improve operations to acceptable levels of service or V/C ratio.



Source: Stantec Consulting Services, Inc., October 2017

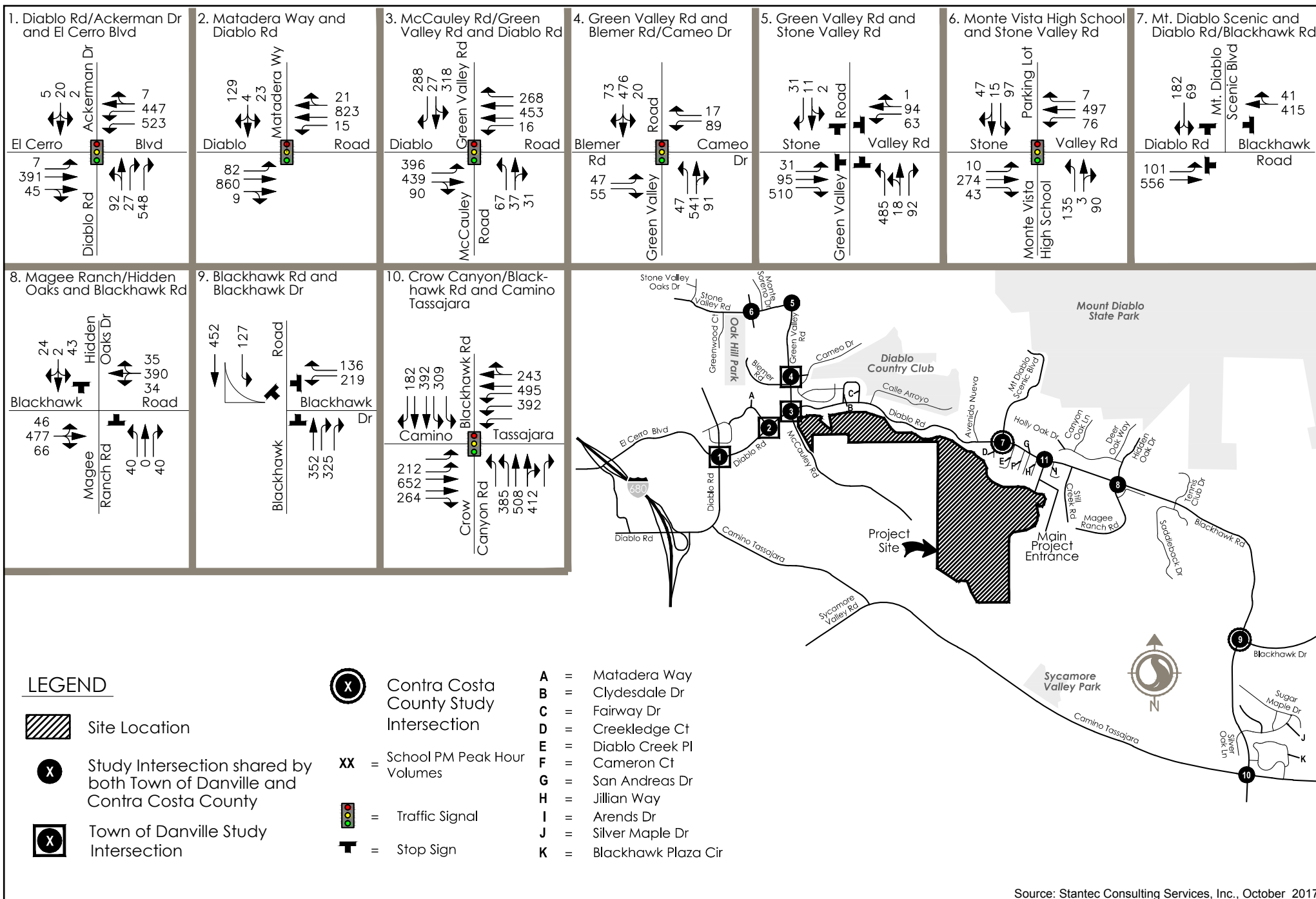
Title:

Existing Lane Configurations and AM and PM Peak Hour Traffic Volumes



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Figure
4.3-3



Source: Stantec Consulting Services, Inc., October 2017

Title: Existing School PM Peak Hour Traffic Volumes



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Figure
4.3-4

Table 4.3-4
Peak Hour Intersection LOS & V/C for Existing Conditions

ID	Intersection	Traffic Control	AM Peak			School PM Peak			PM Peak		
			Average Delay (sec) ³	LOS ³	V/C ⁴	Average Delay (sec) ³	LOS ³	V/C ⁴	Average Delay (sec) ³	LOS ³	V/C ⁴
1	Diablo Rd/El Cerro Blvd & Diablo Rd/Ackerman Dr	Signal	21.4	C	0.486	18.5	B	0.404	19.0	B	0.493
2	Diablo Rd & Matadera Wy	Signal	18.4	B	0.583	13.5	B	0.497	5.8	A	0.344
3	Diablo Rd & McCauley Rd/Green Valley Rd	Signal	47.1	D	0.746	33.6	C	0.672	32.4	C	0.650
4 ¹	Blemer Rd & Green Valley Rd	Signal	40.6	D	1.097	14.0	B	0.961	10.3	B	0.962
	Cameo Dr & Green Valley Rd		27.7	C		12.6	B		8.3	A	
5 ⁵	Stone Valley Rd & Green Valley Rd	AWSC	143.0	F	1.471	102.4	F	1.429	37.1	E	0.908
6	Stone Valley Rd & Monte Vista H.S. Main Drwy	Signal	25.3	C	0.470	35.2	D	0.612	22.0	C	0.631
7 ⁵	Diablo Rd/Blackhawk Rd & Mt. Diablo Scenic Blvd	AWSC	41.6	E	1.043	66.0	F	1.164	22.5	C	0.807
8 ^{5,6}	Blackhawk Rd & Magee Ranch Rd/Hidden Oak Dr	TWSC	20.1	C	0.299	22.8	C	0.228	17.1	C	0.133
9 ^{2,5}	Blackhawk Dr & Blackhawk Rd	AWSC	18.0	C	0.700	15.4	C	0.681	24.1	C	0.892
10 ¹	Camino Tassajara & Crow Canyon Rd/Blackhawk Rd	Signal	41.0	D	0.648	42.6	D	0.639	42.4	D	0.663

Notes: Delay is presented in seconds per vehicle

LOS = Level of Service

Bold indicates unacceptable operations.

¹ Intersection configuration not supported by HCM 2010 methodology. These locations are analyzed using HCM 2000.

² Analysis considers AWSC at the location with removal of southbound through vehicles, who have free movement at the intersection.

³ Values reported from Synchro 9 software outputs using HCM 2010 methods, unless otherwise noted.

⁴ Values reported from TRAFFIX software outputs using CCTALOS methods.

⁵ Reported V/C ratios are control (worst) HCM Lane V/C Ratios, per HCM 2010 methodology.

⁶ Intersection analyzed separately due to non-standard geometry using HCM 2010 TWSC analysis methodology.

Source: Stantec, June 2018

Bicycle Level of Service Conditions

Analysis was conducted to determine the existing weekday and weekend peak BLOS on Diablo Road/Blackhawk Road between McCauley Road/Green Valley Road and Magee Ranch Road/Hidden Oak Drive. As presented in Table 4.3-5, the results for existing conditions show acceptable levels of operation on most segments during all peak hours, except between Avenida Nueva and Diablo Creek Place in both directions during all peak hours. The deficient segment is highly impacted by the number of right-turn vehicular access points created by numerous residential driveways. A parallel path is a proposed project element that would cover this segment and be available to the public for walking and bicycling.

**Table 4.3-5
Peak Hour Roadway Segment
Bicycle Level of Service for Existing Conditions**

Roadway	From	To	Direction	AM Peak		School PM Peak		PM Peak		Weekend Peak	
				BLOS Score	BLOS	BLOS Score	BLOS	BLOS Score	BLOS	BLOS Score	BLOS
Diablo Rd	McCauley Rd/ Green Valley Rd	Calle Arroyo	EB	3.68	D	3.72	D	3.65	D	3.63	D
			WB	3.50	C	3.48	C	3.47	C	3.45	C
Diablo Rd	Calle Arroyo	Alameda Diablo	EB	3.61	D	3.68	D	3.57	D	3.53	D
			WB	3.68	D	3.64	D	3.64	D	3.53	D
Diablo Rd	Alameda Diablo	Avenida Nueva	EB	3.73	D	3.81	D	3.68	D	3.64	D
			WB	3.81	D	3.78	D	3.78	D	3.69	D
Diablo Rd/ Blackhawk Rd	Avenida Nueva	Diablo Creek Pl	EB	4.76	E	4.82	E	4.73	E	4.69	E
			WB	4.84	E	4.83	E	4.82	E	4.76	E
Blackhawk Rd	Diablo Creek Pl	Magee Ranch Rd/ Hidden Oak Dr	EB	3.80	D	3.88	D	3.82	D	3.77	D
			WB	3.42	C	3.40	C	3.41	C	3.36	C

Source: Stantec, June 2018

Weekend Bicycle Level of Service Analysis

For purposes of the weekend BLOS analysis, vehicle and bicycle volumes are taken from a typical Saturday during the “bicycle peak” hours (i.e., the time with highest bicycle activity, regardless of vehicular traffic volumes).

To determine project impacts, a weekend vehicle trip generation rate was determined based on the existing housing development located south of Blackhawk Road at Magee Ranch Road. The Town provided a total number homes in the development (259 units), which was compared with the weekend peak hour volumes at the intersection of Blackhawk Road & Magee Ranch Road/Hidden Oak Drive. The comparison yielded a trip generation rate per unit for a typical Saturday, which was then applied to the proposed 69 residential units. Table 4.3-6 summarizes the anticipated weekend trip generation. The vehicle trips were distributed to the roadway system considering the trip distribution assumptions made for the PM peak period to illustrate how the project would affect BLOS on weekends.

Table 4.3-6 Weekend Vehicle Trip Generation for Saturday BLOS Analysis					
Land Use	Size	Saturday Bicycle Peak Hour			
		Rate	In	Out	Total
Single Family Homes	69 DU	0.48	14	19	33
Source: Stantec, June 2018					

Bicycle Collision

Bicycle collision history for the Diablo Road/Blackhawk Road corridor was provided by Town staff from California Highway Patrol's (CHP's) Statewide Integrated Traffic Record System (SWITRS) and Danville Police Department records from January 2005 to December 2017 to assure that all reported collisions were accounted for. Additionally, it should be noted that not all collisions are reported, so the total may not include near-misses or minor collisions not recorded by a police officer. The identified bicycle collision records are provided in Appendix E.

During the nearly 13-year study period, ten (10) collisions involving bicyclists were recorded, resulting in an average bicycle collision rate of 0.8 per year. Of the ten (10) collisions, six (6) collisions along the Diablo Road corridor study area involved bicycles vs. vehicles. Of the six (6) collisions, five (5) were the fault of a driver and one (1) was the fault of a bicyclist.

The Diablo Road/Blackhawk Road corridor has not experienced a substantial number of bicycle/vehicle collisions over the past nearly 13 years.

Regulatory Environment

Regional

Metropolitan Transportation Commission (MTC). The MTC is the transportation planning, coordinating, and financing agency for the San Francisco Bay Area. The MTC functions as both the state-mandated regional transportation planning agency and the federally-mandated metropolitan planning organization for the region. As such, it is responsible for regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of transportation facilities within the region. The MTC also screens requests from local agencies for state and federal grants for transportation projects to determine their compatibility with the plan. Transportation 2035, the most recent version of the long-range plan, was adopted on April 22, 2009. MTC is also responsible for updating and prioritizing projects within the Regional Transportation Improvement Program.

Contra Costa Transportation Authority (CCTA). The CCTA was originally formed in 1988 to manage the funds generated by the transportation sales tax established by Measure C and later renewed by Measure J in 2004. As Contra Costa's transportation sales tax agency, the CCTA oversees the design and construction of the transportation projects contained in the Measure C and J expenditure plans, carries out the programs included in the expenditure plans, and provides the financial structure that ensures the optimum use of the sales tax dollars.

In 1990 the CCTA took on the role of Contra Costa County's Congestion Management Agency (CMA). In that capacity, CCTA is the County's primary transportation planning agency. As the CMA, the CCTA prepares the county's Congestion Management Program, monitors levels of service on the county's

roadways and works with other CMAs and agencies to address regional issues. HCM 2010 is the primary methodology used to analyze traffic impacts per the CCTA Technical Procedures, January 2013.

Tri-Valley Transportation Council (TVTC). The TVTC includes the Town of Danville, Cities of Dublin, Livermore, Pleasanton and San Ramon, and unincorporated areas of Alameda and Contra Costa Counties. Founded in 1991, the TVTC completed the first Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance (TV TP/AP) in 1995. The TV TP/AP establishes shared traffic service objectives and presents a list of high-priority transportation improvement projects to ease regional traffic congestion. The Tri-Valley Transportation Development Fee on new developments will fund these improvements. Since 1995, the TV TP/AP has been updated several times, most recently in September 2017. The current TV TP/AP provides the applicable significance criteria for Intersection 10 – Camino Tassajara & Crow Canyon Road/Blackhawk Road.

Local

Town of Danville General Plan. The Town of Danville’s 2030 General Plan outlines transportation goals. Per the General Plan, level of service (LOS) D is generally considered the acceptable LOS threshold. Policy 14.03, with explanatory text in italics, provides:

“Maintain LOS standards for Danville streets which balance vehicle speed and travel time objectives with other considerations, such as the safety and comfort of pedestrians, bicyclists, and transit users. Standards may vary according to roadway function and the character of surrounding uses.”

LOS standards for designated Routes of Regional Significance will be consistent with those established by the CCTA. On local roads, LOS “D” will remain the threshold, except in locations (to be specifically identified through the California Environmental Quality Act process) where the Town determines that LOS D cannot be maintained due to traffic originating outside of Danville.

Thresholds of Significance

For purposes of this study and the Town’s significance criteria, the project would result in a significant adverse impact on the environment if it would:

- cause a signalized intersection to fall from LOS D (or better) to LOS E (or worse);
- cause an increase in the V/C ratio of 5 percent or more at a signalized or unsignalized intersection that is already, and projected to continue, operating at LOS E (or worse);
- cause a signalized intersection along a Route of Regional Significance to exceed the Multi-modal Transportation Service Objectives (MTSOs) established by the TV TP/AP;
- cause unsafe conditions for pedestrians or bicyclists;
- cause a substantial increase in hazards due to design feature(s) (e.g., sharp curves, dangerous intersections, etc.) or incompatible use; or
- conflict with adopted policies, plans, or programs supporting alternative transportation.

The Town considers a bicycle safety impact to be significant if a project causes BLOS to fall from acceptable BLOS D or better to BLOS E or F, or if a segment is operating at BLOS E or F without the project, and the project causes a degradation in BLOS score of five percent or more. This is consistent with the Town’s project-specific threshold of significance used for the analysis of vehicular traffic on Diablo Road.

Impacts and Mitigation

Project Access

The project proposes two new access points, one driveway on Blackhawk Road and the second on McCauley Road. The main driveway from Blackhawk Road (Appaloosa Street) would provide primary access to 66 lots, and the driveway from McCauley Road (Cinch Court) would provide access for three lots (refer to the site plans in Figure 3-4)

A westbound approach through-lane extension is planned at the intersection of Diablo Road and McCauley Road/Green Valley Road. The through lanes currently provide approximately 60 feet of storage; with the extension, they would provide approximately 310 feet of storage.

Project Vehicle Trip Generation

The estimated traffic generated by a project and the locations where that traffic will occur are based on the following: 1) trip generation, 2) trip distribution, and 3) trip assignment. To determine trip generation for the proposed project, the amount of traffic entering and exiting the site was estimated for the AM, School PM, and PM peak hours. To determine project trip distribution, an estimate was made of the directions to and from which the project trips would travel. For the trip assignment, the project trips were assigned to specific streets and intersections.

Most communities use standard trip generation rates published by the Institute of Transportation Engineers (ITE), which has compiled the results of trip generation research from land use studies throughout the U.S. and Canada. For common land uses, the ITE has established standard trip generation rates that can be applied to help predict future traffic from new development. The Town of Danville has compiled its own, more conservative residential trip generation rates (“Danville Rates”). These rates are collected locally and more accurately reflect the predicted trip generation rates of similar residential projects in the Danville area, with and without second dwelling units.

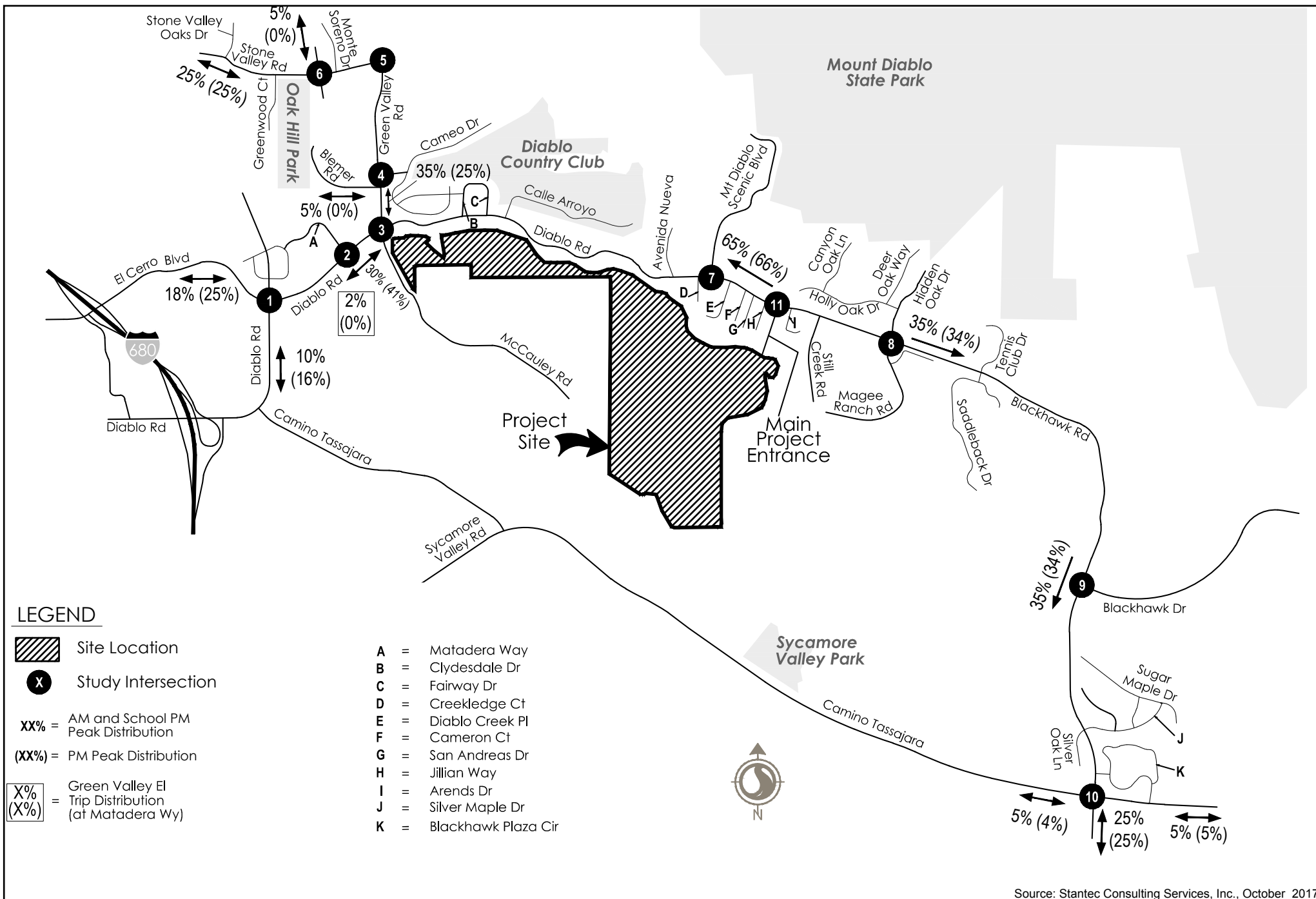
Trip generation for project was determined using the “Danville Rate (with Second Dwelling Unit (DU))” based on the results of a traffic count survey of residential projects in Danville with second dwelling units (Victoria Place and Valerosa) conducted in 2012. The projects reviewed were approved at the time that the Town required a minimum of 25% of residential properties to include second units to satisfy the affordable housing requirements, i.e.; these projects could build more than 25% of the properties with a second unit. The Town’s current affordable housing requirements allow projects to include a minimum of 10% of the properties with second units. A comparison of the trip generation rates is presented in Table 4.3-7.

Table 4.3-7 Residential Trip Rate Comparisons				
Sources	Daily	Peak Hour		
		AM	School PM	PM
ITE Rates ¹	9.52	0.75	N/A	1.00
Danville Rates ²	10.20	1.06	N/A	1.02
Danville Rates (No Second DU) ³	8.50	N/A	0.81	N/A
Danville Rates (With Second DU) ⁴	12.17	1.40	1.25	1.02
Note: Development sizes provided by Town staff. Sources: Hexagon, 2012 ¹ Single-Family Detached Housing (210), ITE Trip Generation, 9 th Edition, 2012 average rates. ² Town of Danville observed local residential trip rates for the daily, AM and PM peak hours. ³ Observed 3-day local residential trip rates at one similar development without second DU: Hidden Valley on McCauley Rd – 216 SF Units – Count dates: Oct 26-28, 2010. ⁴ Observed 3-day local residential trip rates at two similar developments with second DU: Victoria Place – 24 SF units plus 5 casitas – Count dates: May 17-19, 2011. Valerosa on Fairwood Ct – 20 SF units plus 4 casitas – Count dates: May 17-19, 2011.				

Using the most conservative assumptions, the traffic study applied the “Danville Rate (with Second DU)” at 12.17 daily trips to the project’s daily AM, School PM and PM peak hours as shown in Table 4.3-8. Based on these more conservative rates, the project (with 25% of the properties assumed to include second dwelling units) would generate 841 daily trips, including 98 AM peak hour trips (33 inbound and 65 outbound), 87 School PM peak hour trips (52 inbound and 35 outbound), and 72 PM peak hour trips (46 inbound and 26 outbound).

Table 4.3-8 Project Trip Generation															
Land Use	Size	Daily		AM Peak Hour				School PM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total	Rate	In	Out	Total
Single Family Homes	66 DU	12.17	804	1.4	31	62	93	1.25	50	33	83	1.02	43	25	68
	3 DU		37	1.4	2	3	5		2	2	4		3	1	4
Totals	69 DU		841		33	65	98		52	35	87		46	26	72
Source: Danville Rate (with Second DU); Stantec, June 2018															

Figures 4.3-5a and 4.3-5b show the project trips distributed to the area roadway network. Figure 4.3-6 presents the AM and PM peak hour turning movement volumes under the Existing plus Project Conditions resulting from the assignment of project trips. Figure 4.3-7 illustrates the volumes under the Existing plus Project School PM Peak Hour Conditions.



Source: Stantec Consulting Services, Inc., October 2017

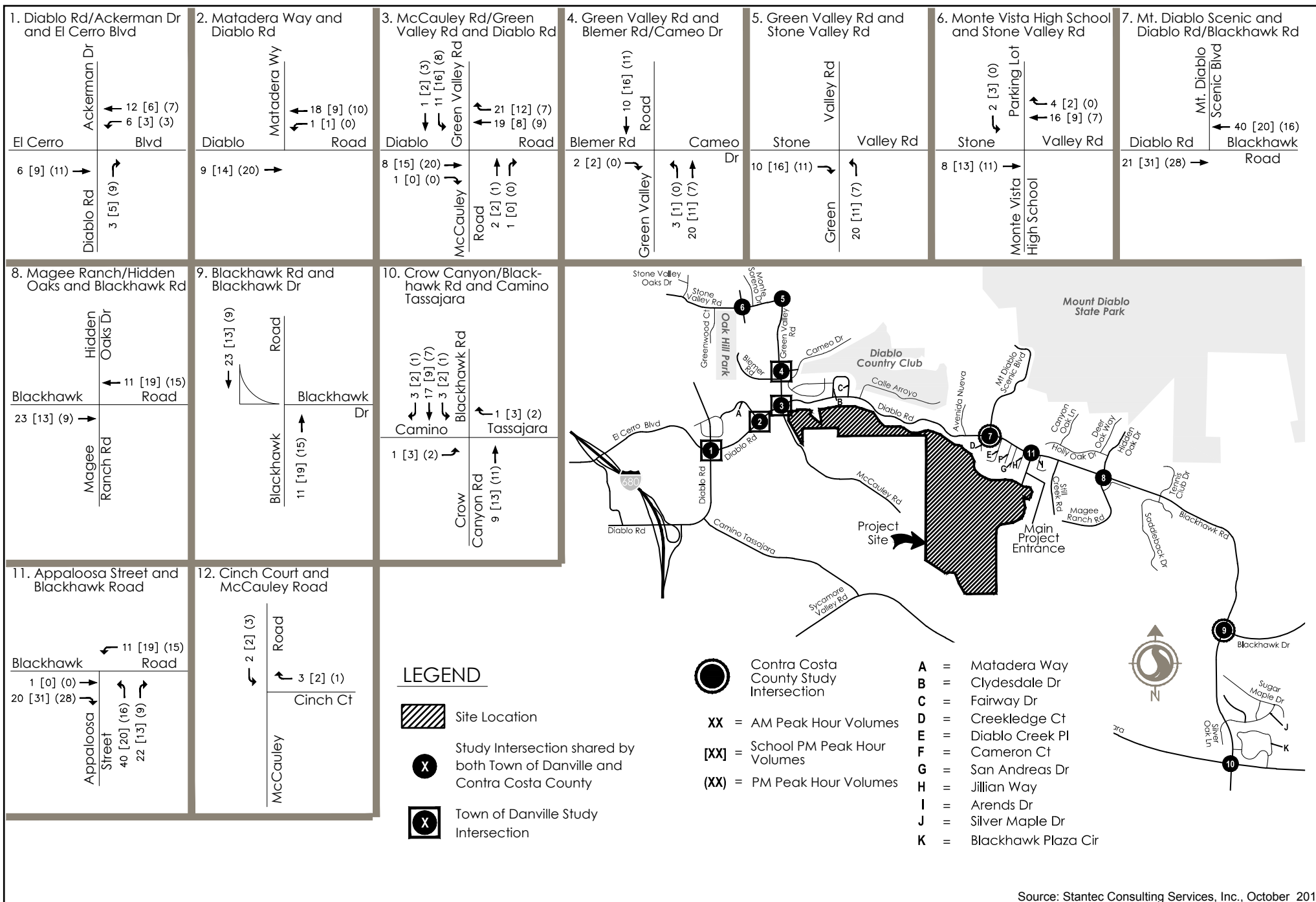
Title:

Project Trip Distribution



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 Environmental Consultants Resource Planners
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Figure
4.3-5a



Source: Stantec Consulting Services, Inc., October 2017

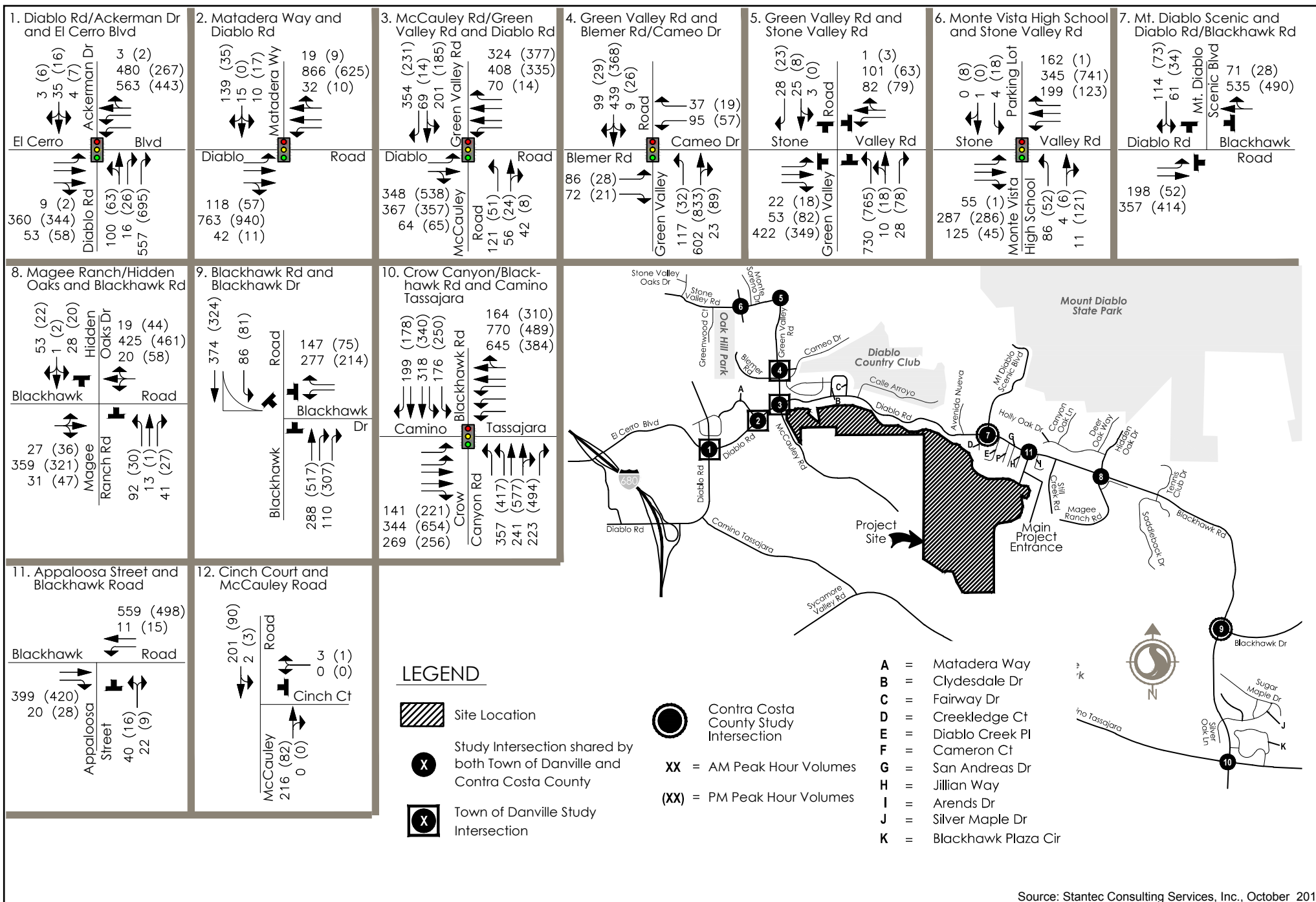
Title:

Project Trip Distribution



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Figure
4.3-5b



Title:

Existing plus Project Lane Configurations and AM and PM Peak Hour Traffic Volumes



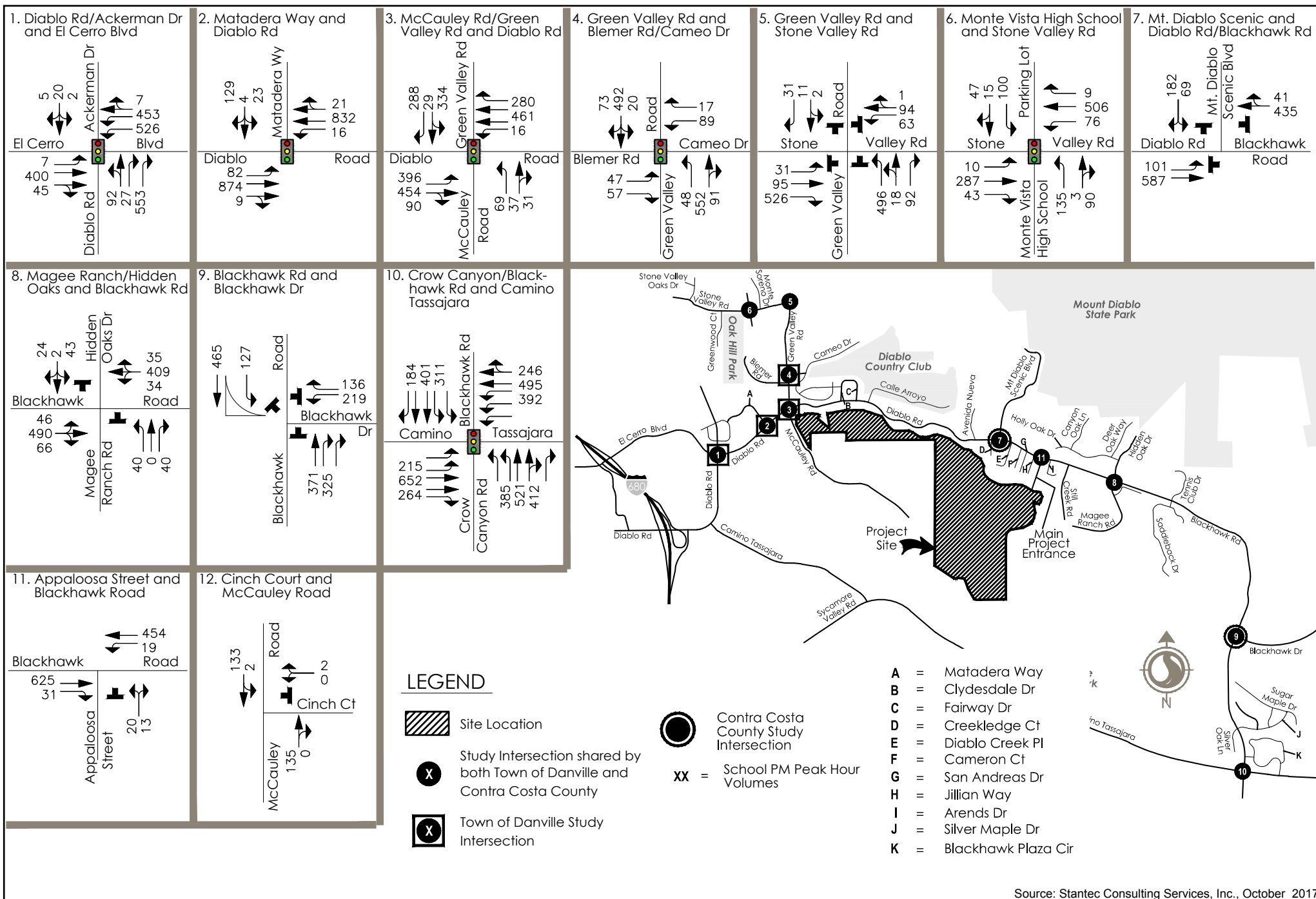
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Figure
4.3-6



Source: Stantec Consulting Services, Inc., October 2017

Title:
**Existing plus Project School PM Peak
Hour Traffic Volumes**



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Figure
4.3-7

Existing Plus Project Traffic Congestion Conditions

Tables 4.3-9 and 4.3-10 summarize peak hour LOS and V/C ratios, respectively, at the study intersections under Existing plus Project Conditions. As shown in the tables all study intersections currently operating acceptably are expected to continue operating at LOS D or better with the addition of project trips. The following intersections currently operate at unacceptable levels and would continue to do so with the proposed project:

- Intersection 4: Blemer Road/Cameo Drive & Green Valley Road (Signal) operates with a V/C ratio > 1.0 during the AM peak hour, as under Existing Conditions.
- Intersection 5: Stone Valley Road & Green Valley Road (AWSC) operates at LOS F during the AM and School PM peak hours, and LOS E during the PM peak hour, as under Existing Conditions.
- Intersection 7: Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard (AWSC) operates at LOS F during the AM and School PM peak hours and has an increase in V/C ratio greater than 5 percent during the AM and School PM peak hours.

No study intersections are projected to degrade from acceptable LOS D or better to unacceptable LOS E or worse due to the project. However, per the Town's significance criteria, the intersection at Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard experiences a significant impact due to an increase in V/C ratio greater than 5 percent. Installation of a traffic signal at the Diablo Road/Blackhawk Road and Mt. Diablo Scenic Boulevard intersection would improve operations to acceptable LOS during the significantly impacted peak hours.

Impact: The project trips added to the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard under Existing plus Project Conditions will increase the V/C ratio by more than 5 percent during the AM and School PM peak hours, which constitutes a significant impact based on the established thresholds of significance. This represents a significant, potentially unavoidable impact.

Mitigation

- 4.3-1 Install a traffic signal at the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard at the applicant's expense. With signalization, the intersection would operate at LOS B under all scenarios.

The above mitigation would reduce the traffic impact to a less-than-significant level. However, this intersection is within the responsibility and jurisdiction of Contra Costa County and not the Town. If the County does not implement this measure, the traffic impact will be significant and unavoidable.

Table 4.3-9
Peak Hour Intersection LOS – Existing plus Project Conditions

ID	Intersection	Existing Conditions						Existing plus Project Conditions					
		AM Peak		School PM Peak		PM Peak		AM Peak		School PM Peak		PM Peak	
		Delay (sec) ³	LOS ³	Delay (sec) ³	LOS ³	Delay (sec) ³	LOS ³	Delay (sec) ³	LOS ³	Delay (sec) ³	LOS ³	Delay (sec) ³	LOS ³
1	Diablo Rd/El Cerro Blvd & Diablo Rd/Ackerman Dr	21.4	C	18.5	B	19.0	B	21.5	C	18.8	B	19.5	B
2	Diablo Rd & Matadera Wy	18.4	B	13.5	B	5.8	A	18.5	B	13.7	B	5.8	A
3	Diablo Rd & McCauley Rd/Green Valley Rd	47.1	D	33.6	C	32.4	C	49.5	D	<u>35.3</u>	<u>D</u>	33.1	C
4 ¹	Blemer Rd & Green Valley Rd	40.6	D	14.0	B	10.3	B	43.2	D	14.5	B	10.3	B
	Cameo Dr & Green Valley Rd	27.7	C	12.6	B	8.3	A	29.8	C	13.1	B	8.4	A
5	Stone Valley Rd & Green Valley Rd	143.0	F	102.4	F	37.1	E	155.4	F	112.7	F	39.5	E
6	Stone Valley Rd & Monte Vista H.S. Main Drvwy	25.3	C	35.2	D	22.0	C	25.7	C	36.1	D	22.2	C
7	Diablo Rd/Blackhawk Rd & Mt. Diablo Scenic Blvd	41.6	E	66.0	F	22.5	C	<u>54.5</u>	<u>F</u>	81.1	F	<u>25.7</u>	<u>D</u>
8	Blackhawk Rd & Magee Ranch Rd/Hidden Oak Dr	20.1	C	22.8	C	17.1	C	20.6	C	23.4	C	17.4	C
9 ²	Blackhawk Dr & Blackhawk Rd	18.0	C	15.4	C	24.1	C	18.8	C	16.2	C	<u>26.4</u>	<u>D</u>
10 ¹	Camino Tassajara & Crow Canyon Rd/Blackhawk Rd	41.0	D	42.6	D	42.4	D	41.6	D	42.9	D	42.6	D
11	Blackhawk Rd & Appaloosa St (Main Project Drvwy)							23.0	C	25.6	D	20.2	C
12	Cinch Ct (Project Drvwy) & McCauley Rd							9.5	A	9.0	A	8.7	A
Notes: Delay is presented in seconds per vehicle LOS = Level of Service Bold indicates unacceptable operations. <u>Underline</u> indicates one LOS letter-grade deterioration from “no Project” to “plus Project” Conditions. ¹ Intersection configuration not supported by HCM 2010 methodology. These locations are analyzed using HCM 2000. ² Analysis considers AWSC at the location with removal of southbound through vehicles, who have free movement at the intersection. ³ Values reported from Synchro 9 software outputs using HCM 2010 methods, unless otherwise noted. Source: Stantec, June 2018													

Table 4.3-10
Peak Hour Intersection V/C Ratio – Existing plus Project Conditions

ID	Intersection	Existing Conditions			Existing Plus Project Conditions					
		AM Peak	School PM Peak	PM Peak	AM Peak		School PM Peak		PM Peak	
		V/C Ratio ³			V/C Ratio ³	%Diff ⁴	V/C Ratio ³	Diff ⁴	V/C Ratio ³	%Diff ⁴
1	Diablo Rd/El Cerro Blvd & Diablo Rd/Ackerman Dr	0.486	0.404	0.493	0.494	1.63%	0.408	0.99%	0.500	1.41%
2	Diablo Rd & Matadera Wy	0.583	0.497	0.344	0.589	1.02%	0.500	0.60%	0.351	2.01%
3	Diablo Rd & McCauley Rd/Green Valley Rd	0.746	0.672	0.650	0.762	2.12%	0.696	3.51%	0.657	1.07%
4 ¹	Blemer Rd & Green Valley Rd	1.097	0.961	0.962	1.113	1.45%	0.981	2.06%	0.974	1.24%
	Cameo Dr & Green Valley Rd									
5	Stone Valley Rd & Green Valley Rd	1.471	1.429	0.908	1.515	2.95%	1.471	2.90%	0.926	1.96%
6	Stone Valley Rd & Monte Vista H.S. Main Drvwy	0.470	0.612	0.631	0.476	1.27%	0.623	1.78%	0.635	0.63%
7	Diablo Rd/Blackhawk Rd & Mt. Diablo Scenic Blvd	1.043	1.164	0.807	1.124	<u>7.48%</u>	1.235	<u>5.92%</u>	0.840	4.01%
8	Blackhawk Rd & Magee Ranch Rd/Hidden Oak Dr	0.299	0.228	0.113	0.305	1.99%	0.234	2.60%	0.136	2.23%
9	Blackhawk Dr & Blackhawk Rd	0.700	0.681	0.892	0.725	3.51%	0.718	5.29%	0.917	2.76%
10 ²	Camino Tassajara & Crow Canyon Rd/Blackhawk Rd	0.648	0.639	0.663	0.655	1.07%	0.642	0.47%	0.667	0.60%
11	Blackhawk Rd & Appaloosa St (Project Drvwy)				0.179		0.111		0.068	
12	Cinch Ct (Project Drvwy) McCauley Rd				0.004		0.002		0.002	

Notes: **Bold** indicates unacceptable volume-to-capacity ratio.

Underline indicates V/C ratio increase greater than 5 percent.

¹ Intersection configuration not supported by HCM 2010 methodology. These locations are analyzed using HCM 2000.

² Analysis considers AWSC at the location with removal of southbound through vehicles, who have free movement at the intersection.

³ Values reported from TRAFFIX software outputs using CCTALOS methods. Values reported from TRAFFIX software outputs using CCTALOS methods.

⁴ % Diff. represents difference in V/C ratio between “no Project” and “plus Project” Conditions.

Source: Stantec, June 2018

Bicycle Safety

Existing Plus Project Conditions - Bicycle LOS

Table 4.3-11 summarizes the weekday BLOS analysis results under Existing plus Project Conditions. With the project, the Diablo Road/Blackhawk Road corridor is expected to continue operating at an acceptable BLOS D or better on all segments during all weekday peak hours, except between Avenida Nueva and Diablo Creek Place in both directions during all weekday peak hours.

Table 4.3-12 shows the weekend (Saturday) BLOS analysis results under Existing plus Project Conditions. With the project, the Diablo Road/Blackhawk Road corridor is expected to operate at acceptable BLOS D or better on all segments during the peak hours, except between Avenida Nueva and Diablo Creek Place in both directions during weekend (Saturday) conditions.

As noted under Existing Conditions, the deficient segment between Avenida Nueva and Diablo Creek Place is mainly impacted by the right-turn access-point traffic generated by existing residential driveways, which is a critical variable in BLOS calculation using the HCM 2010 methodology. Consistent with enhancing bicyclist comfort and safety in the vicinity, the project includes a trail system parallel to the deficient segment available to the bicyclist community that could improve bicyclist comfort and safety through the worst segment of the study corridor.

Cumulative Conditions

Vehicle traffic estimated under Cumulative Conditions is based on the latest countywide Decennial Model. The traffic study calculated the difference between 2010 and 2040 model link volumes to estimate a 30-year growth increment. This increment was used to estimate 23-year growth between 2017 and 2040. The growth was then added to the existing turning movement volumes proportionately based on the existing turning movement distribution pattern at each study intersection to calculate turning movements. Figures 4.3-8 and 4.3-9 show the resulting Cumulative Conditions turning movement volumes.

Intersection Operations – Cumulative Conditions

Table 4.3-13 shows the intersection peak hour levels of service at the study intersections under Cumulative Conditions. LOS worksheets are provided in Appendix E. Under Cumulative Conditions, the following intersections are expected to operate unacceptably at LOS E or LOS F under Cumulative Conditions:

- Intersection 3: Diablo Road & McCauley Road/Green Valley Road (Signal) is expected to operate at LOS E during the AM peak hour.
- Intersection 4: Blemer Road/Cameo Drive & Green Valley Road (Signal) is expected to operate with a V/C ratio greater than 1.0 during the AM and PM peak hours.
- Intersection 5: Stone Valley Road & Green Valley Road (AWSC) is expected to operate at LOS F during all three peak hours.
- Intersection 7: Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard (AWSC) is expected to operate at LOS F during the AM and School PM peak hours and LOS E during the PM peak hour.

Table 4.3-11
Weekday Peak Hour Roadway Segment
Bicycle Level of Service – Existing plus Project Conditions

Roadway	From	To	Direction	AM Peak			School PM Peak			PM Peak		
				BLOS Score	BLOS	%Diff.	BLOS Score	BLOS	%Diff.	BLOS Score	BLOS	%Diff.
Diablo Rd	McCauley Rd/ Green Valley Rd	Calle Arroyo	EB	3.69	D	0.27%	3.73	D	0.27%	3.66	D	0.27%
			WB	3.50	C	0.00%	3.48	C	0.00%	3.48	C	0.29%
Diablo Rd	Calle Arroyo	Alameda Diablo	EB	3.62	D	0.28%	3.70	D	0.54%	3.58	D	0.28%
			WB	3.70	D	0.54%	3.65	D	0.27%	3.64	D	0.00%
Diablo Rd	Alameda Diablo	Avenida Nueva	EB	3.74	D	0.27%	3.82	D	0.26%	3.70	D	0.54%
			WB	3.82	D	0.26%	3.79	D	0.26%	3.79	D	0.26%
Diablo Rd/ Blackhawk Rd	Avenida Nueva	Diablo Creek Pl	EB	4.77	E	0.21%	4.83	E	0.21%	4.74	E	0.21%
			WB	4.85	E	0.21%	4.84	E	0.21%	4.82	E	0.00%
Blackhawk Rd ¹	Diablo Creek Pl	Magee Ranch Rd/ Hidden Oak Dr	EB	3.81	D	0.26%	3.88	D	0.00%	3.82	D	0.00%
			WB	3.42	C	0.00%	3.40	C	0.00%	3.41	C	0.00%

Notes: BLOS = Bicycle Level of Service EB = Eastbound; WB = Westbound

Bold indicates unacceptable operations.

Underline indicates unacceptable operations.

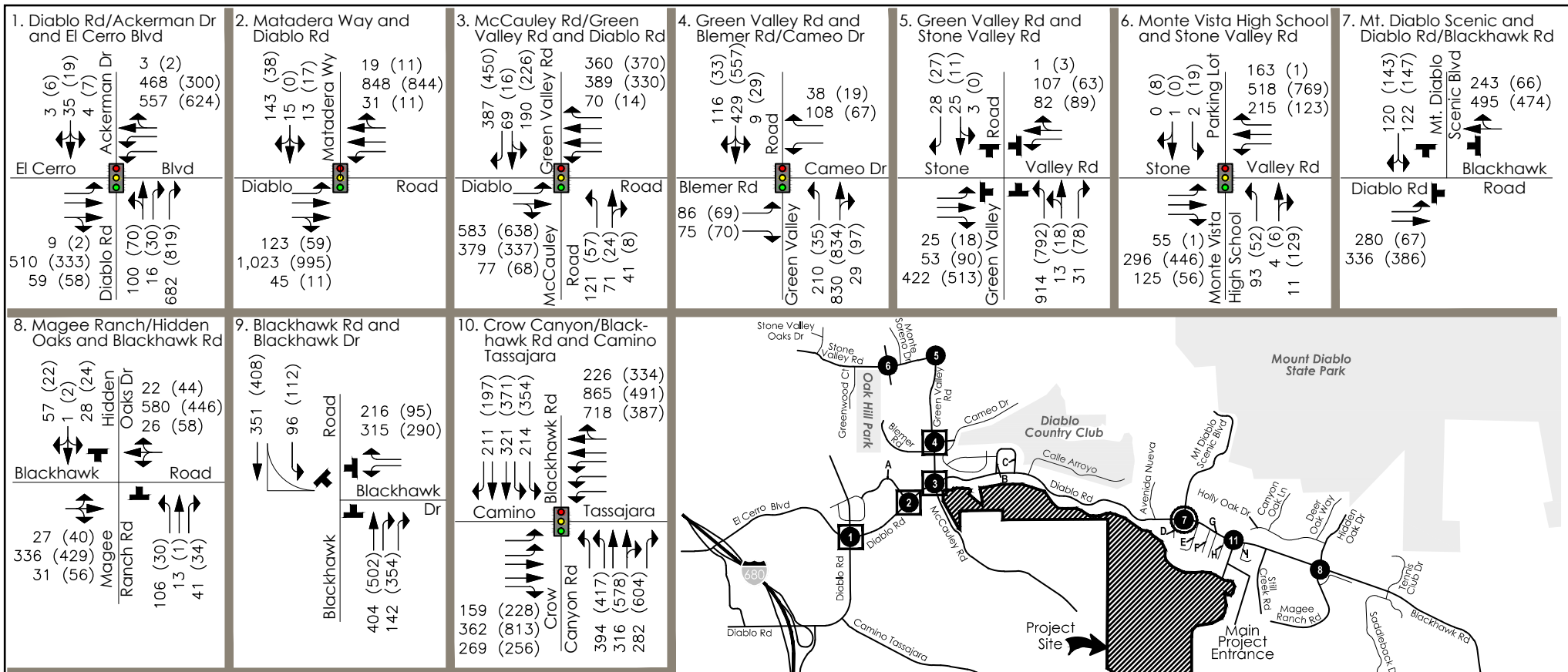
%Diff. represents difference in BLOS Score between “no Project” and “plus Project” Conditions.

¹Analysis performed prior to installation of bicycle lanes along study segment; however BLOS will not deteriorate with new bicycle facilities.

Source: Stantec, June 2018

Table 4.3-12
Weekend Peak Hour Roadway Segment BLOS – Existing and Existing plus Project Condition

Roadway	From	To	Direction	Existing Conditions		Existing plus Project Conditions		%Diff.
				BLOS Score	BLOS	BLOS Score	BLOS	
Diablo Rd	McCauley Rd/ Green Valley Rd	Calle Arroyo	EB	3.63	D	3.63	D	0.00%
			WB	3.45	C	3.45	C	0.00%
Diablo Rd	Calle Arroyo	Alameda Diablo	EB	3.53	D	3.53	D	0.00%
			WB	3.53	D	3.53	D	0.00%
Diablo Rd	Alameda Diablo	Avenida Nueva	EB	3.64	D	3.65	D	0.27%
			WB	3.69	D	3.70	D	0.27%
Diablo Rd/ Blackhawk Rd	Avenida Nueva	Diablo Creek Pl	EB	4.69	E	4.69	E	0.00%
			WB	4.76	E	4.76	E	0.00%
Blackhawk Rd	Diablo Creek Pl	Magee Ranch Rd/ Hidden Oak Dr	EB	3.77	D	3.77	D	0.00%
			WB	3.36	C	3.37	C	0.30%
Notes: BLOS= Bicycle Level of Service; EB = Eastbound; WB = Westbound Bold indicates unacceptable operations. %Diff. represents difference in BLOS Score between “no Project” and “plus Project” Conditions. ¹ Analysis performed prior to installation of bicycle lanes along study segment; however, BLOS will not deteriorate with new bicycle facilities. Source: Stantec, June 2018								



LEGEND

Site Location

Study Intersection shared by both Town of Danville and Contra Costa County

Town of Danville Study Intersection



Contra Costa County Study Intersection

XX(XX) = AM(PM) Peak Hour Volumes

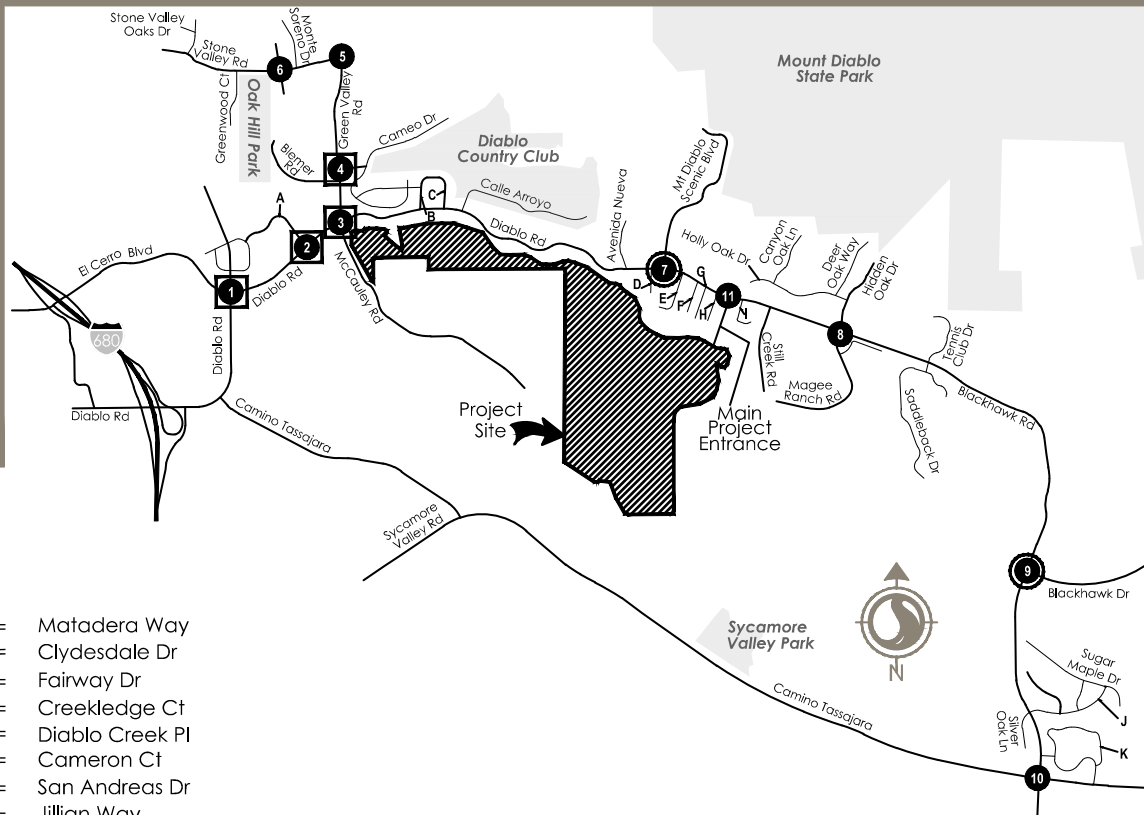


Traffic Signal



Stop Sign

A = Matadera Way
B = Clydesdale Dr
C = Fairway Dr
D = Creekledge Ct
E = Diablo Creek Pl
F = Cameron Ct
G = San Andreas Dr
H = Jillian Way
I = Arends Dr
J = Silver Maple Dr
K = Blackhawk Plaza Cir



Source: Stantec Consulting Services, Inc., October 2017

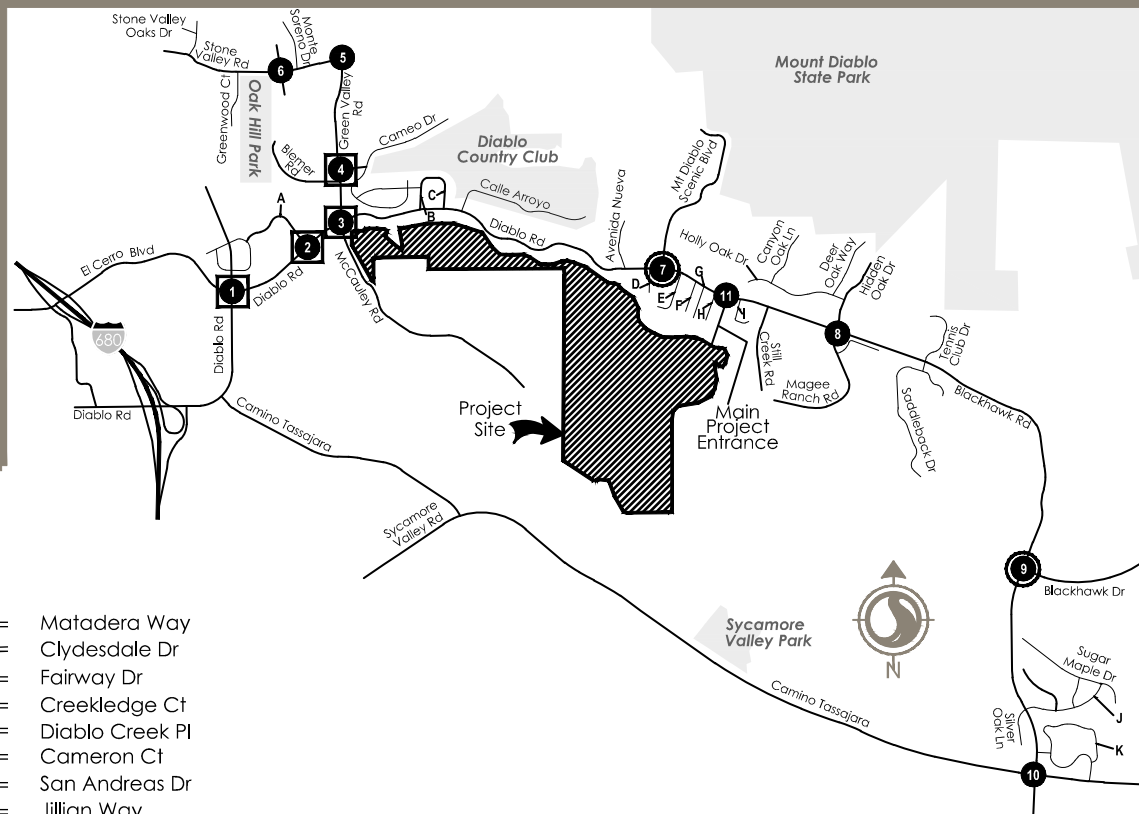
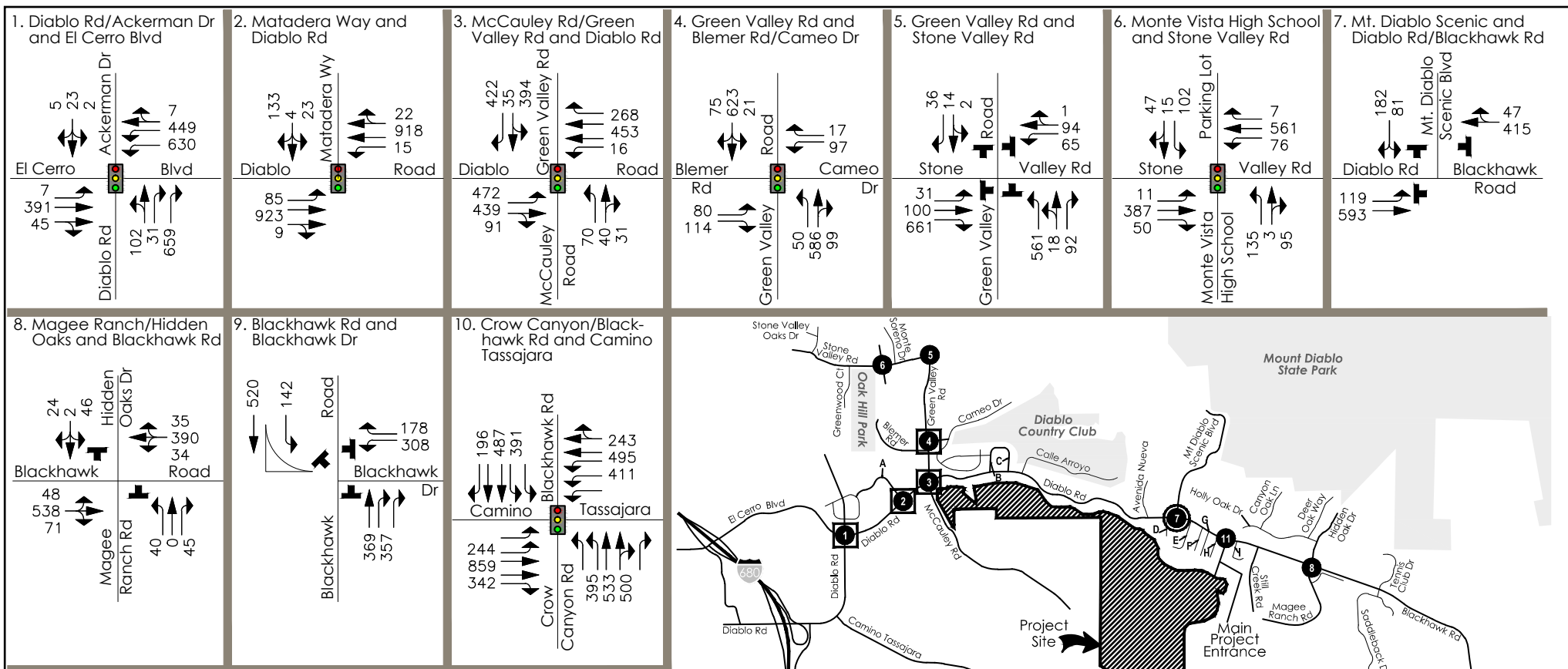
Title:

Cumulative Lane Configurations and AM and PM Peak Hour Traffic Volumes



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Figure
4.3-8



LEGEND



Site Location



Study Intersection shared by both Town of Danville and Contra Costa County



Town of Danville Study Intersection



Contra Costa County Study Intersection



School PM Peak Hour Volumes



Traffic Signal



Stop Sign

A = Matadera Way
 B = Clydesdale Dr
 C = Fairway Dr
 D = Creekledge Ct
 E = Diablo Creek Pl
 F = Cameron Ct
 G = San Andreas Dr
 H = Jillian Way
 I = Arends Dr
 J = Silver Maple Dr
 K = Blackhawk Plaza Cir

Source: Stantec Consulting Services, Inc., October 2017

Title:

Cumulative School PM Peak Hour Traffic Volumes



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Figure
4.3-9

Table 4.3-13
Peak Hour Intersection LOS and V/C – Cumulative Conditions

ID	Intersection	Traffic Control	AM Peak			School PM Peak			PM Peak		
			Average Delay (sec) ³	LOS ³	V/C ⁴	Average Delay (sec) ³	LOS ³	V/C ⁴	Average Delay (sec) ³	LOS ³	V/C ⁴
1	Diablo Rd/El Cerro Blvd & Diablo Rd/Ackerman Dr	Signal	50.5	D	0.632	20.2	C	0.509	22.8	C	0.577
2	Diablo Rd & Matadera Way	Signal	19.3	B	0.611	14.1	B	0.534	6.4	A	0.371
3	Diablo Rd & McCauley Rd/Green Valley Rd	Signal	62.3	E	0.936	44.1	D	0.839	34.5	C	0.758
4 ¹	Blemer Rd & Green Valley Rd	Signal	57.5	E	1.323	24.6	C	0.777	17.2	B	1.158
	Cameo Dr & Green Valley Rd		48.7	D		17.9	B		12.8	B	
5 ⁵	Stone Valley Rd & Green Valley Rd	AWSC	224.5	F	1.669	212.2	F	1.924	87.4	F	1.266
6	Stone Valley Rd & Monte Vista H.S. Main Drvwy	Signal	31.7	C	0.559	51.3	D	0.672	24.4	C	0.663
7 ⁵	Diablo Rd/Blackhawk Rd & Mt. Diablo Scenic Blvd	AWSC	109.8	F	1.431	82.1	F	1.250	43.5	E	1.020
8 ⁵	Blackhawk Rd & Magee Ranch Rd/Hidden Oak Dr	TWSC	37.0	E	0.518	27.6	D	0.288	18.2	C	0.088
9 ^{2,5}	Blackhawk Dr & Blackhawk Rd	AWSC	87.7	F	1.317	111.0	F	1.518	83.4	F	1.248
10 ¹	Camino Tassajara & Crow Canyon Rd/Blackhawk Rd	Signal	43.9	D	0.737	53.4	D	0.765	71.2	E	0.751

Notes: Delay is presented in seconds per vehicle

LOS = Level of Service

Bold indicates unacceptable operations.

¹ Intersection configuration not supported by HCM 2010 methodology. These locations are analyzed using HCM 2000.

² Analysis considers AWSC at the location with removal of southbound through vehicles, who have free movement at the intersection.

³ Values reported from Synchro 9 software outputs using HCM 2010 methods, unless otherwise noted.

⁴ Values reported from TRAFFIX software outputs using CCTALOS methods.

⁵ Reported V/C ratios are control (worst) HCM Lane V/C ratios, per HCM 2010 methodology.

Source: Stantec, June 2018

- Intersection 8: Blackhawk Road & Magee Ranch Road/Hidden Oak Drive (TWSC) is expected to operate at LOS E during the AM peak hour.
- Intersection 9: Blackhawk Drive & Blackhawk Road (AWSC) is expected to operate at LOS F during all three peak hours.

Projected Intersection Deficiencies

Some study intersections are expected to operate at unacceptable levels of service without the project. Of the six deficient intersections, four operate with stop control and two operate with a traffic signal.

The four stop-controlled intersections have been evaluated with a peak hour signal warrant analysis to determine if traffic signal control is warranted per CA MUTCD. The results of the analyses are as follows for Cumulative Conditions:

- Intersection 5: Stone Valley Road & Green Valley Road – peak hour signal warrant is satisfied during the AM, School PM and PM peak hours.
- Intersection 7: Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard – peak hour signal warrant is satisfied during the AM, School PM and PM peak hours.
- Intersection 8: Blackhawk Road & Magee Ranch Road/Hidden Oak Drive – peak hour signal warrant is satisfied during the AM peak hour.
- Intersection 9: Blackhawk Drive & Blackhawk Road – peak hour signal warrant is satisfied during the School PM peak hour.

The two signalized intersections that are expected to operate at unacceptable levels without the project have also been evaluated for potential improvements.

The Diablo Road & McCauley Road/Green Valley Road intersection is expected to operate at unacceptable LOS E during the AM peak hour. The Town has improvements planned at this study intersection to lengthen the westbound approach lanes, and the improvements are incorporated in the analysis model. As part of the project, the applicant would construct these improvements. In addition to the planned improvements, modifications to the northbound and southbound lane geometries would be necessary to improve operations at the intersection to acceptable LOS D during the AM peak hour. The northbound approach would need an additional left-turn pocket, and the southbound approach would need to provide a left-turn pocket, through lane and right turn trap lane. Adjustments to the southbound approach would require widening of Green Valley Road to provide a second lane between Diablo Road and Blemer Road.

The Blemer Road/Cameo Drive & Green Valley Road intersection is expected to operate unacceptably due to the AM and PM peak hour V/C ratios exceeding 1.0. To improve operations at this location, intersection capacity would need to be increased via additional through or turning lanes. Signal timing adjustment may result in slight improvements to delay, but would not improve operations to acceptable levels of service or V/C ratio.

Bicycle Level of Service – Cumulative Conditions

Table 4.3-14 summarizes BLOS analysis results under Cumulative Conditions. Considering anticipated traffic growth, the Diablo Road/Blackhawk Road corridor is expected to operate at acceptable BLOS D or better on all segments during all peak hours, except between Avenida Nueva and Diablo Creek Place in both directions during all peak hours. As under Existing Conditions, the deficient segment is mainly impacted by the number of right-turn vehicular access points created by numerous residential driveways. The project proposes to include a parallel path for this segment, which would be available to the public for walking and bicycling.

Cumulative plus Project Conditions

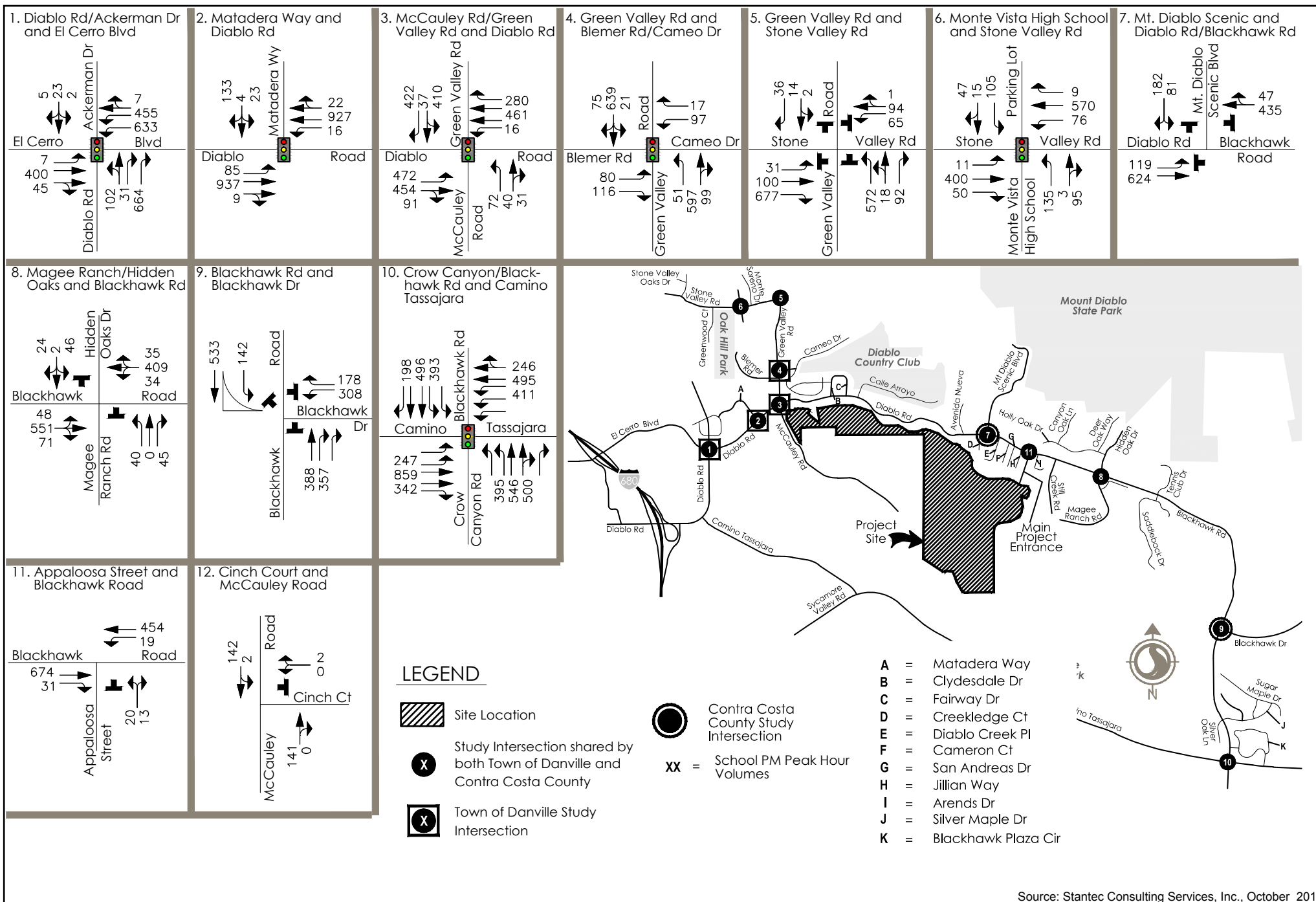
This scenario adds project traffic to the Cumulative scenario. Figures 4.3-10 and 4.3-11 show the intersection volumes under the Cumulative plus Project Conditions.

Intersection Operations

Tables 4.3-15 and 4.3-16 show the intersection peak hour levels of service and V/C ratios at the study intersections under Cumulative plus Project Conditions. Under Cumulative plus Project Conditions the intersections are projected to operate at unacceptable LOS as summarized below:

- Intersection 3 – Diablo Road & McCauley Road/Green Valley Road (Signal) is expected to operate at LOS E during the AM peak hour, as under Cumulative Conditions.
- Intersection 4 – Blemer Road/Cameo Drive & Green Valley Road (Signal) is expected to operate with a V/C ratio greater than 1.0 during the AM and PM peak hours, as under Cumulative Conditions.
- Intersection 5 – Stone Valley Road & Green Valley Road (AWSC) is expected to operate at LOS F during all three peak hours, as under Cumulative Conditions.
- Intersection 7 – Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard (AWSC) is expected to operate at LOS F during all three peak hours and experience a V/C ratio increase greater than 5 percent during the AM and School PM peak hours.
- Intersection 8 – Blackhawk Road & Magee Ranch Road/Hidden Oak Drive (TWSC) is expected to operate at LOS E during the AM peak hour, as under Cumulative Conditions.
- Intersection 9 – Blackhawk Drive & Blackhawk Road (AWSC) is expected to operate at LOS F during all three peak hours, as under Cumulative Conditions.

No study intersections are projected to degrade from acceptable LOS D or better conditions to unacceptable LOS E or worse conditions because of the project. However, per the Town's significance criteria, the project would increase the V/C ratio by more than 5 percent during the AM and School PM peak hours at the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard, which represents a significant impact. The five other intersections that are expected to operate unacceptably with or without the project would not be significantly impacted, since the change in V/C ratio would be less than 5 percent.



Source: Stantec Consulting Services, Inc., October 2017

Title:

Cumulative plus Project School PM Peak Hour Traffic Volumes



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Figure
4.3-11

Table 4.3-14 Peak Hour Roadway Segment Bicycle Level of Service – Cumulative Conditions											
Roadway	From	To	Direction	AM Peak		School PM Peak		PM Peak		Weekend Peak	
				BLOS Score	BLOS	BLOS Score	BLOS	BLOS Score	BLOS	BLOS Score	BLOS
Diablo Rd	McCauley Rd/ Green Valley Rd	Calle Arroyo	EB	3.70	D	3.74	D	3.66	D	3.63	D
			WB	3.50	D	3.48	D	3.48	D	3.46	C
Diablo Rd	Calle Arroyo	Alameda Diablo	EB	3.63	D	3.71	D	3.58	D	3.54	D
			WB	3.70	D	3.66	D	3.66	D	3.54	D
Diablo Rd	Alameda Diablo	Avenida Nueva	EB	3.75	D	3.83	D	3.70	D	3.65	D
			WB	3.83	D	3.80	D	3.79	D	3.70	D
Diablo Rd/ Blackhawk Rd	Avenida Nueva	Diablo Creek Pl	EB	4.78	E	4.84	E	4.74	E	4.70	E
			WB	4.85	E	4.84	E	4.83	E	4.77	E
Blackhawk Rd ¹	Diablo Creek Pl	Magee Ranch Rd/ Hidden Oak Dr	EB	3.81	D	3.89	D	3.83	D	3.77	D
			WB	3.43	C	3.41	C	3.49	C	3.37	C
Notes: BLOS = Bicycle Level of Service; EB = Eastbound; WB = Westbound Bold indicates unacceptable operations ¹ Analysis performed prior to installation of bicycle lanes along study segment; however, BLOS will not deteriorate with new bicycle facilities. Source: Stantec, June 2018											

Table 4.3-15
Peak Hour Intersection LOS – Cumulative plus Project Conditions

ID	Intersection	Cumulative Conditions						Cumulative plus Project Conditions					
		AM Peak		School PM Peak		PM Peak		AM Peak		School PM Peak		PM Peak	
		Delay (sec) ³	LOS ³	Delay (sec) ³	LOS ³	Delay (sec) ³	LOS ³	Delay (sec) ³	LOS ³	Delay (sec) ³	LOS ³	Delay (sec) ³	LOS ³
1	Diablo Rd/El Cerro Blvd & Diablo Rd/Ackerman Dr	50.5	D	20.2	C	22.8	C	52.3	D	20.5	C	23.5	C
2	Diablo Rd & Matadera Wy	19.3	B	14.1	B	6.4	A	19.6	B	14.4	B	6.5	A
3	Diablo Rd & McCauley Rd/Green Valley Rd	62.3	E	44.1	D	34.5	C	67.5	E	46.2	D	<u>35.1</u>	<u>D</u>
4 ¹	Blemer Rd & Green Valley Rd	57.5	E	24.6	C	17.2	B	58.8	E	25.6	C	17.3	B
	Cameo Dr & Green Valley Rd	48.7	D	17.9	B	12.8	B	75.3	E	18.7	B	13.3	B
5	Stone Valley Rd & Green Valley Rd	224.5	F	212.2	F	87.4	F	237.5	F	225.1	F	90.7	F
6	Stone Valley Rd & Monte Vista H.S. Main Drvwy	31.7	C	51.3	D	24.4	C	32.9	C	53.9	D	24.7	C
7	Diablo Rd/Blackhawk Rd & Mt. Diablo Scenic Blvd	109.8	F	82.1	F	43.5	E	128.0	F	98.5	F	<u>51.6</u>	<u>F</u>
8	Blackhawk Rd & Magee Ranch Rd/Hidden Oak Dr	37.0	E	27.6	D	18.2	C	38.7	E	28.7	D	18.5	C
9 ²	Blackhawk Dr & Blackhawk Rd	87.7	F	111.0	F	83.4	F	99.3	F	121.3	F	89.4	F
10 ¹	Camino Tassajara & Crow Canyon Rd/Blackhawk Rd	43.9	D	53.4	D	71.2	E	44.4	D	53.9	D	71.9	E
11	Blackhawk Rd & Appaloosa St (Main Project Drvwy)							33.8	D	27.4	D	23.2	C
12	Cinch Ct (Project Drvwy) & McCauley Rd							9.6	A	9.0	A	8.8	A

Notes: Delay is presented in seconds per vehicle

LOS = Level of Service

Bold indicates unacceptable operations.

Underline indicates one LOS letter-grade deterioration from “no Project” to “plus Project” Conditions.

¹ Intersection configuration not supported by HCM 2010 methodology. These locations are analyzed using HCM 2000.

² Analysis considers AWSC at the location with removal of southbound through vehicles, who have free movement at the intersection.

³ Values reported from Synchro 9 software outputs using HCM 2010 methods, unless otherwise noted.

Source: Stantec, June 2018

Table 4.3-16
Peak Hour V/C Ratio – Cumulative plus Project Conditions

ID	Intersection	Cumulative Conditions			Cumulative plus Project Conditions					
		AM Peak	School PM Peak	PM Peak	AM Peak		School PM Peak		PM Peak	
		V/C Ratio ³			V/C Ratio ³	%Diff. ⁴	V/C Ratio ³	%Diff. ⁴	V/C Ratio ³	%Diff. ⁴
1	Diablo Rd/El Cerro Blvd & Diablo Rd/Ackerman Dr	0.632	0.509	0.577	0.637	0.79%	0.515	1.17%	0.585	1.38%
2	Diablo Rd & Matadera Wy	0.611	0.534	0.371	0.615	0.65%	0.537	0.56%	0.378	1.87%
3	Diablo Rd & McCauley Rd/Green Valley Rd	0.936	0.839	0.758	0.952	1.69%	0.856	2.01%	0.770	1.57%
4 ¹	Blemer Rd & Green Valley Rd	1.323	0.777	1.158	1.347	1.80%	0.792	1.91%	1.170	1.03%
	Cameo Dr & Green Valley Rd									
5	Stone Valley Rd & Green Valley Rd	1.669	1.924	1.266	1.695	1.55%	1.962	1.96%	1.297	2.42%
6	Stone Valley Rd 7 Monte Vista H.S. Main Drvwy	0.559	0.672	0.663	0.572	2.30%	0.683	1.62%	0.668	0.75%
7	Diablo Rd/Blackhawk Rd & Mt. Diablo Scenic Blvd	1.431	1.250	1.020	1.516	<u>5.77%</u>	1.335	<u>6.58%</u>	1.052	3.09%
8	Blackhawk Rd & Magee Ranch Rd/Hidden Oak Dr	0.518	0.288	0.088	0.532	2.67%	0.297	3.08%	0.089	1.13%
9 ²	Blackhawk Dr & Blackhawk Rd	1.317	1.518	1.248	1.368	3.80%	1.585	4.32%	1.283	2.77%
10 ¹	Camino Tassajara & Crow Canyon Rd/Blackhawk Rd	0.737	0.765	0.751	0.744	0.95%	0.769	0.52%	0.754	0.40%
11	Blackhawk Rd & Appaloosa St (Project Drvwy)				0.259		0.119		0.081	
12	Cinch Ct (Project Drvwy) & McCauley Rd				0.004		0.002		0.002	

Notes: **Bold** indicates unacceptable volume-to-capacity ratio.

Underline indicates increase in V/C ratio greater than 5 percent; significant project impact.

¹ Intersection configuration not supported by HCM 2010 methodology. These locations are analyzed using HCM 2000.

² Analysis considers AWSC at the location with removal of southbound through vehicles, which have free movement at the intersection.

³ Values reported from TRAFFIX software outputs using CCTALOS methods.

⁴ %Diff. represents percent difference in V/C ratio between “no Project” and “plus Project” Conditions; basis for significant impact determination.

Source: Stantec, June 2018

No study intersections are projected to degrade from acceptable LOS D or better conditions to unacceptable LOS E or worse conditions because of the project. However, per the Town's significance criteria, the project would increase the V/C ratio by more than 5 percent during the AM and School PM peak hours at the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard, which represents a significant impact. The five other intersections that are expected to operate unacceptably with or without the project would not be significantly impacted, since the change in V/C ratio would be less than 5 percent.

As under Cumulative Conditions, traffic signals are warranted at three deficient stop-controlled intersections under Cumulative plus Project Conditions, as listed below. However, installation of traffic signals at these intersections is not the responsibility of the project sponsor, since the intersections currently operate at unacceptable levels of service without the project.

- Intersection 5 – Stone Valley Road & Green Valley Road: Peak Hour Signal Warrant satisfied for all three peak hours under Existing Conditions.
- Intersection 8 – Blackhawk Road & Magee Ranch Road/Hidden Oak Drive: Peak Hour Signal Warrant satisfied for AM Peak Hour under Cumulative Conditions.
- Intersection 9 – Blackhawk Drive & Blackhawk Road: Peak Hour Signal Warrant satisfied for School PM peak hour under Cumulative Conditions.

The addition of project traffic does not cause any unsignalized intersection to require a traffic signal where it was not warranted under Cumulative (No Project) Conditions. Installation of traffic signals would be expected to improve operations to LOS B or better under Cumulative plus Project Conditions during all peak hours at each deficient location.

Impact: **The project trips added to the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard under Cumulative plus Project Conditions will increase the V/C ratio by more than 5 percent during the AM and School PM peak hours, which constitutes a significant impact based on the established thresholds of significance. This represents a significant, potentially unavoidable impact.**

Mitigation

See Mitigation 4.3-1 above for Existing plus Project Conditions: Install a traffic signal at the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard at the applicant's expense. With signalization, the intersection would operate at LOS B under all scenarios. This mitigation would reduce the traffic impact to a less-than-significant level. However, the intersection is within the responsibility and jurisdiction of Contra Costa County and not the Town of Danville. If the County does not implement this measure, the traffic impact will be significant and unavoidable.

Bicycle Level of Service – Cumulative plus Project Conditions

Table 4.3-17 summarizes weekday peak hour BLOS analysis results and Table 4.3-18 summarizes weekend peak hour results under Cumulative plus Project Conditions. With the project, the Diablo Road/Blackhawk Road corridor is expected to continue operating at acceptable BLOS D or better on most segments during all peak hours, except between Avenida Nueva and Diablo Creek Place in both directions during all peak hours.

Table 4.3-17
Peak Hour Roadway Segment Bicycle Level of Service – Cumulative plus Project Conditions

Roadway	From	To	Direction	AM Peak			School PM Peak			PM Peak		
				BLOS Score	BLOS	%Diff.	BLOS Score	BLOS	%Diff.	BLOS Score	BLOS	%Diff.
Diablo Rd	McCauley Rd/ Green Valley Rd	Calle Arroyo	EB	3.70	D	0.00%	3.75	D	0.27%	3.67	D	0.27%
			WB	3.51	D	0.29%	3.49	C	0.29%	3.48	C	0.00%
Diablo Rd	Calle Arroyo	Alameda Diablo	EB	3.64	D	0.28%	3.72	D	0.27%	3.60	D	0.56%
			WB	3.72	D	0.54%	3.68	D	0.54%	3.67	D	0.27%
Diablo Rd	Alameda Diablo	Avenida Nueva	EB	3.76	D	0.27%	3.85	D	0.52%	3.71	D	0.27%
			WB	3.84	D	0.26%	3.80	D	0.00%	3.80	D	0.26%
Diablo Rd/ Blackhawk Rd	Avenida Nueva	Diablo Creek Pl	EB	4.79	E	0.21%	4.85	E	0.21%	4.75	E	0.21%
			WB	4.86	E	0.21%	4.85	E	0.21%	4.84	E	0.21%
Blackhawk Rd	Diablo Creek Pl	Magee Ranch Rd/ Hidden Oak Dr	EB	3.82	D	0.26%	3.90	D	0.26%	3.83	D	0.00%
			WB	3.43	C	0.00%	3.41	C	0.00%	3.49	C	0.53%

Notes: BLOS = Bicycle Level of Service; EB = Eastbound; WB = Westbound
Bold indicates unacceptable operations
Underline indicates one LOS letter-grade deterioration from “no Project” to “plus Project” Conditions.
%Diff. represents difference in BLOS Score between “no Project” and “plus Project” Conditions.
¹Analysis performed prior to installation of bicycle lanes along study segment; however, BLOS will not deteriorate with new bicycle facilities.
Source: Stantec, June 2018

Table 4.3-18 Weekend Peak Hour Roadway Segment BLOS – Cumulative and Cumulative plus Project Condition								
Roadway	From	To	Direction	Cumulative Conditions		Cumulative plus Project Conditions		%Diff.
				BLOS Score	BLOS	BLOS Score	BLOS	
Diablo Rd	McCauley Rd/ Green Valley Rd	Calle Arroyo	EB	3.63	D	3.64	D	0.28%
			WB	3.46	C	3.46	C	0.00%
Diablo Rd	Calle Arroyo	Alameda Diablo	EB	3.54	D	3.54	D	0.00%
			WB	3.54	D	3.55	D	0.28%
Diablo Rd	Alameda Diablo	Avenida Nueva	EB	3.65	D	3.66	D	0.27%
			WB	3.70	D	3.71	D	0.27%
Diablo Rd/ Blackhawk Rd	Avenida Nueva	Diablo Creek Pl	EB	4.70	E	4.70	E	0.00%
			WB	4.77	E	4.77	E	0.00%
Blackhawk Rd	Diablo Creek Pl	Magee Ranch Rd/ Hidden Oak Dr	EB	3.77	D	3.78	D	0.26%
			WB	3.37	C	3.38	C	0.30%
Notes: BLOS= Bicycle Level of Service; EB = Eastbound; WB = Westbound Bold indicates unacceptable operations. %Diff. represents difference in BLOS Score between “no Project” and “plus Project” Conditions. ¹ Analysis performed prior to installation of bicycle lanes along study segment; however, BLOS will not deteriorate with new bicycle facilities. Source: Stantec, June 2018								

As noted under Cumulative Conditions, the deficient segment is mainly impacted by the right-turn access-point density generated by existing residential driveways. Consistent with enhancing bicyclist comfort and safety in the vicinity, the project will provide a trail system parallel to the deficient segment available to the bicyclist community that could improve bicyclist comfort and safety through the worst segment of the study corridor.

Traffic Operations Analysis

The traffic operations analysis is based on vehicle queuing for high-demand movements at the intersection of Diablo Road and McCauley Road/Green Valley Road. Vehicle queues were estimated using Synchro 9 software, which estimates the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement. This analysis provides a basis for estimating future storage requirements at intersections under the assumption that all signal timings are optimized under Cumulative Conditions. The vehicle queuing estimates as compared with existing available storage are provided in Table 4.3-19.

Table 4.3-19 Vehicle Queuing and Storage Capacity at Diablo Road & McCauley Road/ Green Valley Road Intersection									
Scenario	NBL (330-foot Storage)			SBT/L (290-foot Storage)			WBR (310-foot Storage)		
	AM Peak	School PM Peak	PM Peak	AM Peak	School PM Peak	PM Peak	AM Peak	School PM Peak	PM Peak
Existing Conditions	207	84	93	390	505	237	137	46	88
Existing Plus Project Conditions	210	86	96	415	542	253	162	47	87
Cumulative Conditions	<u>162</u>	91	<u>88</u>	431	581	328	270	66	91
Cumulative plus Project Conditions	162	92	89	458	616	348	301	68	92
Notes: Queue and Storage measurements reported in feet from Synchro 9 software. Bold indicates 95 th percentile queue reported exceeds existing storage. <u>Underline</u> indicates a reduction in 95 th percentile queue length resultant of signal timing optimization for Cumulative Conditions Analysis. Source: Stantec, June 2018									

Diablo Road & McCauley Road/Green Valley Road – Northbound Left Turn. Under Existing Conditions, there is approximately 330 feet of storage capacity for the northbound left-turn lane at the intersection of Diablo Road & McCauley Road/Green Valley Road. The storage capacity is measured as the distance between the intersection crosswalk and the taper of the left-turn pocket. Beyond this, vehicles would queue south into the through lane. Under no scenario is the northbound left-turn lane projected to exceed provided storage, and under no scenario would the northbound queue extend to the project driveway, Cinch Court.

Diablo Road & McCauley Road/Green Valley Road – Southbound Shared Through/Left-Turn. Under Existing Conditions, there is approximately 290 feet of storage capacity for the southbound shared through/left-turn lane at the intersection. The storage capacity is measured as the distance between the intersection crosswalk and the taper of the adjacent right-turn lane. Beyond this, vehicles can queue north of the taper up to the signalized cross-street of Blemer Road. The queue for this movement is projected to exceed the existing storage in all scenarios except for during the PM peak hour of Existing Conditions and Existing plus Project Conditions. It was observed that the vehicle queues for this movement are heavy under

Existing Conditions, and frequently spill-back beyond Leonard Court. The project would add approximately one or two vehicles per signal cycle to the 95th percentile queue during each peak hour.

While the southbound shared through/left-turn movement at the intersection of Diablo Road would not accommodate the 95th percentile queue under most conditions, the project contribution to this queue would be only one or two vehicles per signal cycle. By definition, the 95th percentile queue only occurs one out of every 20 traffic signal cycles for a very brief period at the end of the signal cycle.

Signal timing and coordination could help improve the already deficient operations for this movement, and would require an additional engineering study that is outside the scope of the traffic analysis for the project.

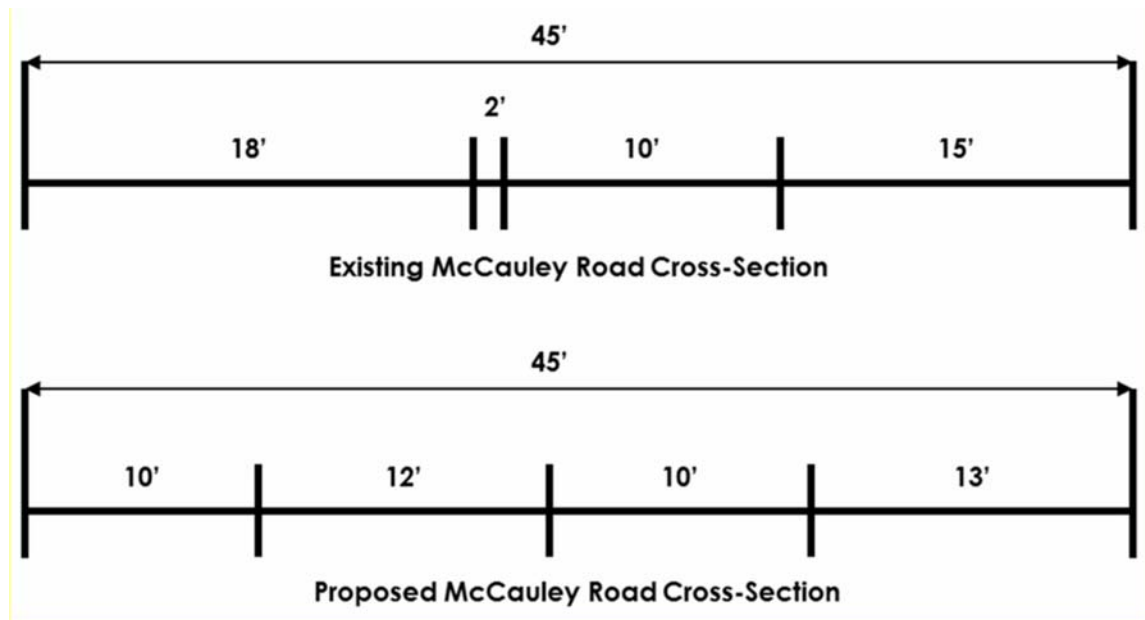
Diablo Road & McCauley Road/Green Valley Road – Westbound Right Turn. Under Existing Conditions, there is approximately 310 feet of storage capacity for the westbound right-turn lane at the intersection of Diablo Road & McCauley Road/Green Valley Road. The storage capacity is measured as the distance between the intersection crosswalk and the taper of the right-turn pocket. Beyond this, vehicles would queue east into the through lane. Under no scenario is the westbound right-turn lane projected to exceed existing storage.

Site Access and Circulation

The traffic study includes an on-site circulation and access evaluation based on the project's site plan. The site plan shows new project driveway intersections proposed along Blackhawk Road and McCauley Road. Proposed Appaloosa Street, located off Blackhawk Road, would provide access to 66 residential lots. This street consists of one 20-foot inbound lane and two 11-foot outbound lanes (exclusive left- and right-turn pockets) with a 20-foot landscaped median and minor-street stop sign control. A crosswalk is proposed on the west leg of the intersection to facilitate north-south pedestrian crossing. Supplemental flashing beacon treatment may also be included to enhance the crossing. The traffic study concluded that sight distance along Blackhawk Road appears to be adequate and does not pose safety issues.

A second driveway is proposed along McCauley Road approximately 235 feet south of Diablo Road (Cinch Street) to provide access to the remaining three residential lots. This street consists of one 12-foot inbound lane and one 12-foot outbound lane with minor-street stop sign control. Sight distance along McCauley Road appears adequate and does not pose safety concerns. Queuing from northbound vehicles at the intersection of Diablo Road & McCauley Road/Green Valley Road could impact proposed driveway operations as vehicles making left-turns into the driveway would have to cross two lanes of oncoming traffic, but northbound left-turn queues at Diablo Road & McCauley Road/Green Valley Road are not expected to spill back into the northbound through lanes.

Modifications to the roadway striping along McCauley Road is recommended from Diablo Road to approximately 350 feet south. The modified striping would include reconfiguring the existing cross-section that provides an 18-foot southbound lane, 2-foot center median, 10-foot northbound turn lane and 15-foot northbound lane to provide a 10-foot southbound shoulder, 12-foot southbound lane, 10-foot northbound turn lane and 13-foot northbound lane. The existing and recommended cross-sections for McCauley Road are illustrated below.



The site plan also shows proposed landscaping near the Appaloosa Street driveway location near the existing access to Jillian Way; this landscaping should be no greater than three feet in height. The access points should be free and clear of any obstructions to optimize sight distance. Clear sight visibility helps ensure exiting vehicles can see pedestrians, bicyclists, and other vehicles travelling on the main roadway (Blackhawk Road or McCauley Road). Landscaping and parking should not conflict with a driver's ability to locate a gap in traffic. Prior to final design, adequate corner sight distance should be provided at the site access points in accordance with Caltrans standards and reviewed by the Town.

Emergency Access

The project includes emergency access to the project site via the EVA. The project does not propose any physical changes to the roadway system that would affect emergency response times, but it would add traffic to intersections already operating at a poor LOS. All of the signals within the Town of Danville and project study area are equipped with preemption devices which allow emergency vehicles to avoid long delays through intersections. Emergency vehicles are somewhat affected by traffic congestion, but typically use lights and sirens to clear a path.

Traffic Hazards

Beyond the issues described in the analysis above, the project would not introduce any features that would substantially increase traffic hazards in the area (e.g., dangerous intersections or sharp curves), nor would it introduce uses that are incompatible with existing roadway conditions (e.g., farm equipment) as per the CEQA thresholds.

4.4 ENERGY

Introduction

In April 2018, Ramboll prepared an energy use assessment for both construction and operation of the project. This assessment included the following: 1) diesel fuel use for construction off-road equipment, 2) diesel and gas use for construction on-road vehicles, 3) diesel and gas use from vehicle trips generated by the project, 4) operational natural gas use, and 5) operational electricity consumption. This assessment is contained in Appendix F.

Setting

Pacific Gas & Electric Co. (PG&E) provides gas and electric service to the project site. Natural gas is measured in British thermal units (Btu).¹ Electricity is measured in kilowatt hours (kWh). A kilowatt (kw) is a measure of power produced through sources of generation at 3,413 Btu/kw-hour. Most electricity is produced by consuming other primary energy sources and converting them into electricity. PG&E operates a grid distribution system that transmits electricity with a vast network of transmission and distribution lines throughout the service area to the users.

Thresholds of Significance

While no quantitative thresholds related to energy are included in CEQA Guidelines, Appendix G, Part I of Appendix F of the CEQA Guidelines states as follows: “The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:

- decreasing overall per capita energy consumption,
- decreasing reliance on natural gas and oil, and
- increasing reliance on renewable energy resources.”

Appendix F states that an EIR should discuss the general energy impacts of a project, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. For the purposes of this analysis, impacts to energy resources are considered to be significant if the project would result in the wasteful, inefficient or unnecessary consumption of energy resources during project construction or operation.

Impacts and Mitigation

Ramboll estimated energy consumption for both construction and operation of the project, which included the following: 1) diesel fuel use for construction off-road equipment; 2) diesel and gasoline fuel use for construction on-road vehicles; 3) diesel and gasoline fuel use from vehicle trips generated by the project; 4) operational natural gas usage; and 5) operational electricity consumption.²

¹ The quantity of heat necessary to raise the temperature of one pound of water one degree Fahrenheit.

² Seven casitas (second homes) are proposed as part of the project. For the operational energy use analysis, 10 additional casitas, for a total of 17 total second homes, were included as a conservative approach.

Construction Energy

Ramboll estimated diesel fuel usage from off-road construction equipment using the project's construction schedule, construction equipment list, and other characteristics (see EIR Appendix F). Equipment horsepower and load factor were assumed using default data from CalEEMod version 2016.3.1.³ CalEEMod provides appropriate default values that can be used if site-specific information is not available.

Fuel use associated with construction vehicle trips generated by the project was also estimated; trips include construction worker trips, haul trucks trips for material import, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the project was based on the projected number of trips that the project would generate (CalEEMod default values), default average trip distance by land use in CalEEMod, and fuel efficiencies estimated in CARB's EMFAC2014 model.⁴

Operational Energy

Energy use consumed by the proposed development and its residents at full buildout was estimated in the energy assessment. This included natural gas and electricity consumption as well as fuel for vehicle trips. Ramboll estimated the natural gas consumption using energy intensities by building type from CalEEMod and corrected for the most recent 2016 Title 24 standards.

The project proposes electric vehicle (EV) charging stations in the homes. Electricity use from the charging of EVs was calculated outside of CalEEMod (see EIR Appendix F). The project applicant has indicated that all residences would be zero net electricity homes, in accordance with the California Energy Commission's 2019 Title 24 standards. Because these homes would generate as much clean renewable electricity as they consume over the course of a year, electricity use for these homes was assumed to be zero over the course of one year. Natural gas emissions were conservatively assumed to be in accordance with 2016 Title 24.

Fuel use associated with vehicle trips generated by the project operation was also calculated. This was based on the projected number of trips the project would generate (obtained from the traffic study), average trip distance by land use in CalEEMod and fuel efficiencies estimated in the EMFAC2014 model. These calculations account for the reductions in fuel use associated with the assumed increase in EV use as a result of providing EV charging stations in the project.

A summary of overall fuel consumption from both project construction and operation is shown in Table 4.4-1. The total fuel use for construction is estimated to be 146,264 gallons of diesel and 17,025 gallons of gasoline for off-road equipment and on-road vehicles. The total diesel fuel use from project-generated operational traffic is 362 gallons per year and the total gasoline use is 47,929 gallons per year. Natural gas consumption and electricity consumption are expected to be 24,971 therms per year and 136 megawatt hours (MWh) per year, respectively.

³ CalEEMod is a statewide program designed to calculate both air pollutant emissions for development projects in California using land use data. See 4.1 Air Quality & Greenhouse Gas.

⁴ The EMFAC emissions model is developed and used by CARB to assess emissions from on-road vehicles.

Table 4.4-1 Energy Use Summary¹					
Construction		Building Energy Use		Vehicular Travel	
Diesel Fuel (gal)	Gasoline (gal)	Electricity (MWh/year)	Natural Gas (therms/year)	Diesel Fuel (gal/year)	Gasoline (gal/year)
146,264	17,025	136	24,971	362	47,929
¹ Energy use calculations provided in Appendix F. gal = gallon MWh = megawatt hour					

Energy Impacts

The project would not cause inefficient, wasteful, or unnecessary consumption of energy. First, the project would be located within the boundaries of the Town of Danville and adjacent to other residential development, thereby reducing per capita vehicle miles traveled compared to development outside urbanized areas. Second, homes would be clustered on seven percent of the project site, encouraging non-motorized transportation within the neighborhood. Third, all homes, including those that obtain building permits prior to the effective date of January 1, 2020, would comply with the 2019 Building Energy Efficiency Standards, which will require zero net electricity homes and solar power generation. Fourth, the project includes a new trail parallel to Diablo Road and Blackhawk Road, which would be accessible to the public and encourage pedestrian and bicycle travel. Fifth, the project would install an electric vehicle charging station at each proposed home to encourage the use of electric vehicles; this advances the goal of decreasing reliance on natural gas and oil and increasing reliance on natural gas and oil and increasing reliance on renewable energy resources. With these features, the project would avoid or reduce inefficient, wasteful, and unnecessary consumption of energy.

Cumulative Energy Impacts

See above discussion. The project would have a less-than-significant project and cumulative impact on energy use and supply.

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5.0 CEQA CONSIDERATIONS

5.1 GROWTH INDUCEMENT

CEQA requires that an EIR discuss the ways in which the proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment (CEQA Section 15126.2(d).) Included in this evaluation are elements of the project that would remove obstacles to population growth, such as unavailability of major utility capacity or infrastructure. Recognizing the inherent difficulties involved in forecasting the extent and type of development that might be fostered by a particular project, CEQA calls for a general assessment of possible growth-inducing impacts rather than a detailed analysis of a project's specific impacts on growth.

Growth inducement may be considered detrimental, beneficial, or insignificant under CEQA. Typically, induced growth is considered a significant adverse impact if it:

- Provides infrastructure or capacity to accommodate growth beyond the levels currently permitted in applicable local and regional plans and policies.
- Encourages growth or a concentration of population in excess of what is planned for in the applicable general plan or other land use plan, or in projections made by regional planning agencies such as the Association of Bay Area Governments (ABAG).
- Adversely affects the ability of agencies to provide needed public services or infrastructure.
- In some other way significantly affects the environment, such as through a substantial increase in traffic congestion or deterioration of air quality.

Potential Growth Related to the Project

The Town of Danville's current population is approximately 44,631. The project would result in the ultimate development of 69 single family residential units and between 7 and 17 accessory dwelling units. As noted in Section 4.1, the project would generate approximately 216 residents. Increases in population can create additional demand for services and infrastructure, requiring construction of new facilities that may, in turn, induce growth or otherwise cause significant environmental effects. The project would result in a very small increase in the Town's overall population, representing a 0.48% increase. While the project would increase the number of persons occupying the site, this small increase does not constitute substantial population growth. The proposed residential project would not generate any new employment, except during the construction phase.

The project site is located within the Town of Danville and would not result in an expansion of urban services beyond the project site or the pressure to expand beyond the Town's existing Sphere of Influence. It would not open additional undeveloped land to future growth or provide expanded utility capacity to serve future development that was not already contemplated. While portions of the project site are not in the current service area for EBMUD and CCCSD, it is located within their ultimate service boundaries, and growth associated with development of the project site was anticipated within their long-term service plans. Instead, it would facilitate the proposed development in a relatively urban setting that is provided with urban services. The project would also permanently set aside approximately 380 acres of the 410-acre project site for open space.

The scale of population growth would not constitute significant or adverse growth inducement. The proposed utilities and related infrastructure would be planned and sized to accommodate the project

requirements and would not include oversized components designed to facilitate other development or further extensions of utilities or services. Adequate infrastructure and public services are generally available to meet the increased demands of the project. No significant additional impacts on services (such as water, wastewater, storm drainage, flood control, police, fire, parks and recreation) are expected beyond what has been planned for by the proposed project. The additional infrastructure for the project does not exceed what is necessary to serve and/or mitigate impacts of the project and will not provide additional capacity to accommodate significant growth.

Finally, the project does not allow for development that creates population or other growth beyond what is currently permitted under the Town of Danville 2030 General Plan.

Based upon the above discussion, the project would not result in significant growth-inducing impacts.

5.2 CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed project when the project's incremental effect is cumulatively considerable. Cumulative impacts refer to two or more individual effects that, when combined, are considerable or that compound or increase other environmental impacts. Cumulative impacts associated with the project for the areas addressed in this EIR are found within their respective sections.

5.3 SIGNIFICANT UNAVOIDABLE IMPACTS

The project would result in a significant and potentially unavoidable impact at the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard under Existing plus Project and Cumulative plus Project Conditions. The impact would be less than significant with signalization of this intersection, but it is unknown whether Contra Costa County, which has jurisdiction over this intersection, would approve this mitigation measure.

5.4 IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126(f) of the State CEQA Guidelines requires EIRs to include a discussion of significant, irreversible environmental changes that would result from project implementation. CEQA Section 15126.2(c) identifies irreversible environmental changes as those involving a large commitment of nonrenewable resources or irreversible damage resulting from environmental accidents.

The project would develop residential uses on a portion of the project site. The environmental changes produced by the project would occur mainly as a result of the alteration of the physical environment from conversion of about 30 acres of the 410-acre project site to residential uses. This would result in long-term commitment of the developed portions of the site to urban uses. The project would also result in a permanent alteration of portions of the site's topography from proposed grading activities.

Irreversible changes associated with the project include the use of nonrenewable resources during construction, including building materials (such as concrete and glass) and use of petroleum products. During the operational phase of the project, the project would incrementally reduce existing supplies of fuel, such as oil, natural gas, and gasoline, although to a lesser extent than a project that lacked this project's energy demand reducing characteristics. This represents a long-term commitment to consumption of essentially nonrenewable resources.

6.0 ALTERNATIVES

6.1 INTRODUCTION

CEQA Guidelines §15126.6 requires the consideration of a range of reasonable alternatives to the proposed project that could feasibly attain most of the objectives of the project. The Guidelines further require that the discussion focus on alternatives capable of eliminating significant adverse impacts of the project or reducing them to a less-than-significant level. The key provisions of the CEQA Guidelines regarding analysis of alternatives are presented below:

- The analysis should focus on alternatives to the project including alternative locations that are capable of avoiding or substantially lessening the significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly.
- The No Project alternative shall be evaluated along with its impact. The No Project analysis shall discuss the existing conditions at the time the Notice of Preparation is published, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved based on current plans.
- The range of alternatives required in an EIR is governed by a "rule of reason" that considers only those alternatives necessary to permit a reasoned choice. The alternatives are limited to those that would avoid or substantially lessen the significant environmental effects of the project. The CEQA Guidelines do not specify a precise number of alternatives to be evaluated in an EIR.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives analysis is intended to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to an alternative site, per CEQA Guidelines §15126.6(f)(I).

An EIR must briefly describe the rationale for selection and rejection of alternatives. The lead agency may make an initial determination of which alternatives are feasible and merit in-depth consideration, and which are infeasible (see CEQA Guidelines §15126.6(f)(3)). Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet project objectives, are infeasible, or do not avoid any significant environmental effects.

Alternatives Considered and Rejected

The following discussion addresses alternatives that were considered and rejected, along with the rationale, in accordance with CEQA Guidelines §15126.6(e) and 15126(f).

Alternative Location. Other than the project site, there are no single sites remaining within the Town of Danville that could accommodate the proposed residential subdivision. The project site is recognized in the Town's General Plan as an Area of Special Concern that has the capacity to accommodate more than 69 residential lots without a General Plan amendment. No other sites are located within the Town of Danville that would allow the development of a project of this scale with its unique characteristics, including the preservation of more than 380 acres in open space. For these reasons, this EIR does not examine in detail an alternative location for the proposed project.

2013 EIR Alternative 5. This Revised Draft EIR also does not carry forward for analysis the 78-unit, 20,000-square-foot-lot alternative analyzed as Alternative 5 in the 2013 EIR. That alternative would increase rather than decrease environmental impacts compared to the proposed project, and the range of potential environmental impacts to the proposed project is adequately represented by the four alternatives described in detail below.

Alternatives Selected for Further Analysis

The following section discusses the alternatives evaluated in this Draft EIR and the comparative environmental effects of each. The alternatives considered in this analysis are as follows:

1. No Project/No Build
2. No Project/Build without Subdivision
3. More Clustered Alternative/Minimum 5,000 SF Lots
4. Non-Clustered Alternative

The alternatives chosen for this analysis, beyond those mandated by CEQA, were developed to avoid or substantially reduce the significant impacts of the project. A summary of the components and rationale for each of the selected alternatives is presented below in Table 6-1.

Table 6-1 Summary of Project Alternatives			
Alternative	Description	Rationale	Lot Configuration
1. No Project/No Build	Project is eliminated and ranching uses maintained	Per CEQA	N/A
2. No Project/Build without Subdivision	Development without subdivision	Per CEQA	7 lots; one unit per existing parcel
3. More Clustered Alternative/ 5,000 SF Lots	Development of 5,000 SF lots within a smaller development footprint	Reduce overall site disturbance	Magee West: 3 lots <u>Magee East: 66 lots</u> Total 69 lots
4. Non-Clustered Alternative	Development of primarily 5 acre lots with some 13,000 square foot lots opposite Fairway Drive consistent with zoning designations	Requested by commenters; no PUD required since consistent with existing zoning designations	Magee West: 24 lots <u>Magee East: 54 lots</u> Total 78 lots

The following analysis describes the potential impacts of each project alternative compared to the proposed 69-lot subdivision. For those areas where the impacts are not reduced or changed from those of the proposed project, the analysis is abbreviated. A summary of the comparison of the impacts for each alternative is presented in Table 6-2.

Table 6-2 Comparison of Impacts – Project Alternatives				
Impact	No Project/ No Build	No Project/ Build	5 KSF Lot Alternative	Non-Clustered Alternative
Aesthetics	<	<	<	>
Agricultural/Forest Resources	=	=	=	=
Air Quality	<	<	=	>
Biological Resources	<	<	<	>
Energy	<	>	=	>
Cultural Resources	<	<	<	>
Geotechnical	<	<	<	>
Hazards & Hazardous Materials	<	<	=	=
Hydrology & Water Quality	<	<	=	>
Land Use & Planning	>	>	=	>
Noise	<	<	=	>
Public Services & Utilities	<	<	=	>
Transportation/Circulation	<	<	=	>

6.2 SUMMARY OF PROJECT OBJECTIVES AND SIGNIFICANT IMPACTS

Objectives

The primary objectives of the project proponent, as described in 3.0 Project Description of this Draft EIR, are as follows:

- Develop a residential project that is consistent with the Town of Danville’s General Plan land use designations for the site of Public and Open Space - Agricultural, Public and Open Space - General Open Space, Residential - Rural Residential, and Residential-Single Family-Low Density as well as the General Plan’s Magee Ranch Special Concern Area language.
- Provide 69 residential lots, including 66 home sites at the east end of site south of Blackhawk Road and three home sites near the southeast corner of the Diablo Road/McCauley Road intersection.
- Design the project to cluster development on the lower portions of the site to minimize visual impacts and limit disturbance on the property.
- Provide for a minimum of 10% of the 69 lots to include a second dwelling unit (“casita”) to satisfy the Town’s affordable housing requirements.
- Preserve approximately 381 acres of the project site as permanent open space.
- Preserve significant features of scenic hillsides and major ridgeline areas.

Significant Impacts

The proposed project would result in potentially significant impacts in the following categories, as described in Sections 4.1 through 4.4 of this Revised Draft EIR, the 2017 IS/Environmental Checklist, and the 2013 EIR: aesthetics, biological resources, cultural resources, geology and soils, hazardous materials, water quality, public services, traffic, and utilities. All project impacts can be reduced to a less-than-significant level with implementation of mitigation identified in this Draft EIR, with the possible exception of the project's traffic impacts at one study intersection (Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard).

6.3 NO PROJECT/NO BUILD ALTERNATIVE

Description

CEQA requires the discussion of the No Project Alternative “to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.” For the purposes of this analysis the No Project Alternative represents the “no development” scenario in which the site is left in its current generally undeveloped condition (per CEQA Guidelines Section 15126.6(e)(3)) and existing ranching uses continuing to operate. This alternative would eliminate the preservation of over 380 acres of the site in permanent open space proposed by the project, as well as the provision of a new multi-user trail and dedication of right-of-way for an additional potential trail that is being separately considered by the Town.

Impacts

The No Project Alternative would avoid the adverse effects of the proposed project. The No Project Alternative would avoid the significant or potentially significant environmental impacts of the project in the following areas: aesthetics, biological resources, cultural resources, geology, hazards, water quality, public services, traffic, and utilities, as well as the project's less than significant air quality, GHG and noise impacts. These impacts can be mitigated with identified measures, with the possible exception of traffic impacts to one study intersection.

Summary

The No Project Alternative would avoid all of the environmental impacts of the proposed project. The No Project Alternative would result in the continued operation of ranching uses on the site. The No Project Alternative would fail to meet the project objectives to build a residential community on the site consistent with the existing zoning and General Plan and to preserve over 380 acres in permanent open space.

6.4 NO PROJECT/BUILD WITHOUT SUBDIVISION

Description

The No Project/Build Alternative consists of eliminating the proposed subdivision and developing the project site with one residential lot per existing parcel. Since the site currently contains seven buildable parcels, this alternative would result in the construction of a total of seven residential homes on the project site. This alternative would require the provision of infrastructure to each individual parcel, including roads, water, power, and potentially sanitary sewer. It is possible that each lot would require its own water well and septic system, although it may be technically possible to connect these parcels to the public system via lengthy lateral extensions. This alternative would eliminate the preservation of over 380 acres of the site in

permanent open space proposed by the project, as well as the provision of a new multi-user trail and dedication of right-of-way for an additional potential trail that is being separately considered by the Town.

Impacts

Aesthetics. This alternative would reduce the magnitude of visual changes compared to the proposed subdivision due to the vast reduction in lots. This would minimize the overall visual effects of the project at some locations by eliminating the majority of development on the site. However, depending on the ultimate locations of the home sites, some hillside or ridgeline development could potentially occur under this alternative. The effects from new light and glare sources would be minimal for this alternative, although new light sources might be more noticeable because development would not be clustered. The overall impacts of this alternative on aesthetics would be less than those of the proposed project by reducing the magnitude of potential visual changes associated with the project, although this alternative would still have some visual effects depending on the location of development.

Air Quality. This alternative would reduce air pollutant emissions in accordance with the decrease in residential units and associated vehicle trips, including decreases in regional and greenhouse gas emissions (although greenhouse gas emissions per resident would likely increase somewhat because of the longer driveways and distance to homes from lack of clustering). This alternative would generate temporary emissions of diesel exhaust and dust during construction; however, fewer sensitive receptors would be affected given the decrease in units and the non-clustered development footprint. The overall impacts of this alternative on air quality would be considerably less than those of the proposed project.

Biological Resources. This alternative would reduce the 30 acres of development on the project site, decreasing impacts to riparian habitat, special status species, trees, and other biotic resources. This alternative could result in biological impacts such as tree removal from the development of access roads and extension of infrastructure improvements to serve the parcels. The overall impacts of this alternative to biological resources would still be expected to be considerably less than those of the proposed project.

Cultural Resources. This alternative would greatly decrease development on the site, reducing potential disturbance to cultural resources despite the need for additional long driveways. The overall potential impacts of this alternative to cultural resources would be considerably less than those of the proposed project.

Energy. This alternative would cause greater energy impacts in terms of wasteful use of energy than those of the proposed project because only seven residential lots would be provided in this infill location. The lack of clustered development would cause more wasteful use of energy due to the need for long driveways in place of shared streets near the existing Diablo Road and Blackhawk Road. In addition, this alternative would not be required to include electric vehicle chargers in each residence and, depending on its date of construction, might not be subject to the 2019 Title 24 Building Energy Efficiency Standards.

Geology/Soils. The proposed project's only geology/soils impact would be from soil erosion due to construction. Because this alternative would reduce soil disturbance, its geology/soils impact would be less than that of the proposed project.

Hazards and Hazardous Materials. The Magee East portion of the project site may contain hazardous substances in subsurface soils that could be exposed during construction. Site characterization for each of the seven home sites would likely be required prior to construction and appropriate remediation implemented as needed, similar to that required for the proposed project. Because this alternative would require less soil disturbance, its hazards and hazardous materials impacts would be less than those of the proposed project.

Hydrology/Water Quality. Development under this alternative would be subject to all legal requirements to manage storm water from development (building) sites, thereby avoiding significant drainage and water quality impacts. This alternative would likely minimize potential alterations to the hydrologic regime compared to the project due to the smaller unit count. However, the hydrologic impacts of the project were determined to be less-than-significant with the project as proposed. This alternative would minimize water quality impacts by reducing the overall development envelope (grading, etc.). Best management practices would avoid impacts to water quality under this alternative and the project.

Land Use. This alternative would result in limited on-site residential development. While the project would significantly reduce the extent of development compared to the proposed project, this alternative could, depending on final design, result in potential land use conflicts with applicable Town of Danville General Plan policies related to avoiding ridgeline development and the clustering of development on the flatter, less visible portions of the site.

Noise. This alternative would generate temporary noise during construction activities; however, fewer sensitive receptors would be affected given the decrease in units and the non-clustered development footprint. The overall impacts of this alternative on noise would be considerably less than those of the proposed project.

Public Services & Utilities. This alternative would reduce the overall demand on services and utilities by decreasing the number of residential units on the site. This alternative would correspondingly reduce demands on police and fire services, parks, water, sanitary sewer, and solid waste disposal services, as well as energy. However, this alternative would require the provision of infrastructure to each individual parcel, including roads, water, power, and sanitary sewer. It is possible that some lots could conceivably connect to the public systems via lengthy lateral extensions assuming site constraints are minimal, but some lots may require their own water well and/or septic system. The overall public services and utilities impacts of this alternative would be less than those of the proposed project, although this alternative could require substantial site disturbance to allow for the physical provision of services.

Transportation. This alternative would reduce traffic trips in accordance with the decrease in residential units. The development of seven units would result in the generation of approximately 85 average daily vehicle trips, compared with over 800 for the proposed project. This would reduce all transportation impacts of the proposed project and reduce the significant and potentially unavoidable impact to the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard to less-than-significant.

Summary

Overall, this alternative would lessen the environmental impacts of the project by decreasing total unit count from 69 lots to seven lots. This alternative would not be consistent with the project's objectives to develop a 69-lot residential community on the project site and preserve over 380 acres in permanent open space.

6.5. MORE CLUSTERED ALTERNATIVE/MINIMUM 5,000 S.F. LOTS

Description

This alternative consists of the development of the project site with 69 lots sized a minimum of 5,000 square feet, within a smaller development footprint than the proposed project (refer to Figures 6-1a and 6-1b). This alternative would eliminate development on approximately eight acres, primarily within the south portion of Magee East, by eliminating the southernmost portion of Court F (Red Tail Court on the proposed project plans). This area of development was eliminated to provide a logical boundary for the smaller footprint scenario, primarily from an engineering perspective. This alternative includes three lots on Magee West and 66 lots on Magee East. This alternative is intended to reduce overall site disturbance compared with the proposed project.

Impacts

Aesthetics. This alternative would potentially decrease the visual effects of the project by reducing the development footprint and loss of undeveloped ranchland, primarily on the south portion of Magee East (due to the elimination of the south extension of Court F/Red Tail Court). Development of the reconfigured subdivision would be denser, since the minimum lot sizes on the majority of lots would be reduced from 10,000 square feet to 5,000 square feet. This may somewhat intensify visual effects at some locations, particularly for surrounding existing homes that are primarily on larger lots. Overall the 5,000 square foot lot alternative would result in a reduction of visual impacts from distant vantage points including along Mt. Diablo Scenic Boulevard in Mt. Diablo State Park.

Air Quality. This alternative would result in the development of 69 lots. This would result in regional and greenhouse gas emissions that are comparable to the proposed project. In addition, this alternative would generate temporary emissions of diesel and dust during construction. Emissions during construction may be somewhat reduced in accordance with the reduction in the area of disturbance (eight acres). The overall impacts of this alternative on air quality would be somewhat less than the proposed project for construction emissions but comparable for regional, mobile source emissions during operations and GHG emissions (both total and per service population) during operations.

Biological Resources. The reduced development footprint would avoid impacts where lots would be eliminated on the south portion of Magee East (where the southern extension of Court F is removed). This would avoid filling of a small existing drainage; however, this drainage was not identified in the biological investigation as wetlands or Waters of the U.S. The 5,000 square foot lot alternative would still involve development on approximately 22 acres of the 410-acre project compared to approximately 30 acres for the proposed project. This would include reduced potential impacts to riparian habitat, special status species, and trees. The overall impacts of this alternative to biological resources would be somewhat less but generally comparable to those of the proposed project.

Cultural Resources. Because of its reduced development footprint, this alternative would result in reduced potential impacts to any unknown buried archaeological resources. The overall potential impacts of this alternative to cultural resources would be somewhat less than those of the proposed project.

Energy. Because of its reduced lot sizes and resulting reduction in construction activity, this alternative would be slightly superior to the proposed project in terms of avoiding wasteful use of energy during construction; less energy would be used to produce the same number of residences as the proposed project would provide. During operations, this alternative would have the same locational benefits as the proposed project but would not use energy as efficiently if it did not include electric vehicle chargers and construction under 2019 Title 24 Building Energy Efficiency Standards.

Geology/Soils. The proposed project's only geology/soils impact would be from soil erosion due to construction. Because this alternative would reduce soil disturbance, its geology/soils impact would be less than that of the proposed project. Remedial actions for landslide area #4 and possibly #3 may be avoided by the alternative due to elimination of development on the south portion of Magee East (the south extension of Court F/Red Tail Court).

Hazards and Hazardous Materials. The potential for hazardous substances in onsite soils from the ranching activities and the presence of former fuel tanks and has been identified on portions of the project site (primarily Magee East). Although the development footprint under this alternative would be smaller than the proposed project, the areas identified as potentially impacted by hazardous substances would still be affected under this plan. The overall impacts related to hazardous materials and possible remediation efforts associated with this alternative would be generally comparable to those of the proposed project.

Hydrology/Water Quality. This alternative would reduce the amount of impervious area introduced onto the project site, potentially reducing the amount of storm water runoff generated compared to the proposed project. However, because development under this alternative would be subject to all legal requirements for management of storm water runoff, significant drainage and water quality impacts would be avoided. For both the proposed project and this alternative, water quality impacts would be minimized through implementation of standard best management practices. The overall hydrology and water quality impacts of this alternative would be somewhat less or generally equal to those of the proposed project.

Land Use. Like the proposed project, this alternative would conform to the Town's General Plan land use designations for the site, since it reduces allowed development by nine units. This alternative is also consistent with the General Plan's goals related to clustering of development in the least visually sensitive area of the site.

Noise. This alternative would result in largely the same construction and operational noise sources associated with the project due to the comparable number of residential lots. The reduced development footprint could reduce grading requirements (primarily in the south portion of Magee East) and associated noise during construction. However, this portion of the site where development has been eliminated is not located adjacent to existing sensitive receptors. The overall noise impacts of this alternative would be generally comparable to those of the proposed project.

Public Services & Utilities. This alternative would result in demands for services and utilities that are comparable to the proposed project, in the areas of school services, recreational facilities, provision of water, and energy consumption. The overall public services and utilities impacts of this alternative would be equal to those of the proposed project.

Transportation. This alternative would generate the same number of vehicle trips as the proposed project. The proposed project would cause a significant and potentially unavoidable impact to the intersection of Diablo Road/Blackhawk Road & Mt. Diablo Scenic Boulevard. The traffic impacts for this alternative would be equal to those of the proposed project.

Summary

The 5,000 SF lot alternative would lessen some impacts of the proposed development associated with site disturbance since the development footprint would be reduced. These areas include aesthetics, cultural resources, and geology/soils. For many areas, the impact is unchanged due to the same number of residential units. This alternative is generally consistent with project objectives but would create an abrupt change in density compared to existing residential neighborhoods adjoining the project site.

6.6. NON-CLUSTERED ALTERNATIVE

Description

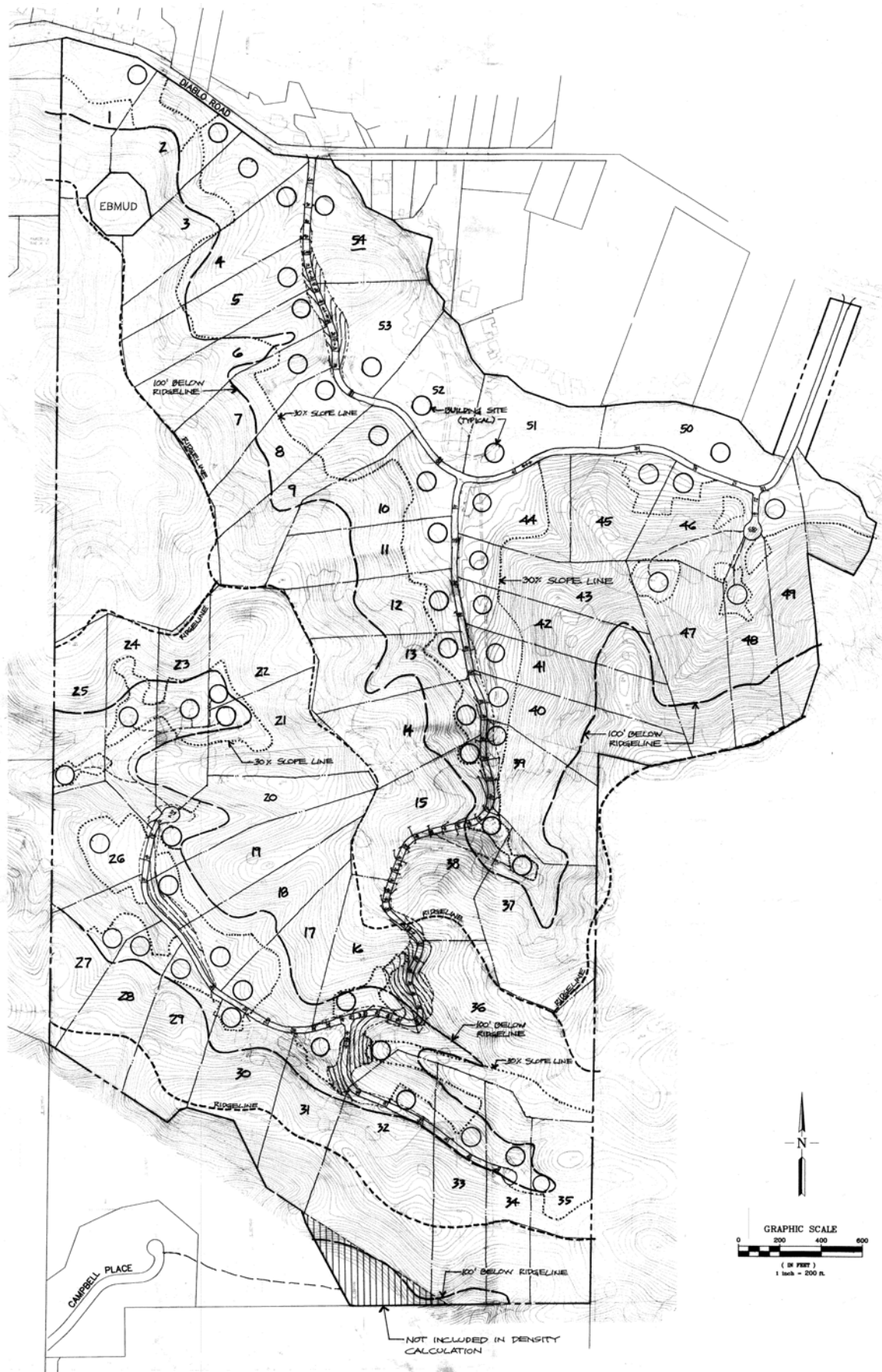
This alternative consists of the development of the project site with 78 lots, with most lots sized a minimum of five acres (refer to Figures 6-2A and B). This alternative comprises 67 five-acre lots on the portions of the site covered by the Town's Residential – Rural Residential or Public and Open Space – Agricultural General Plan land use designations. The five acre portion of the site covered with the Town's Residential – Single Family – Low Density General Plan land use designation (opposite Fairway Drive) contains 11 lots with a minimum size of 13,000 square feet. This alternative would eliminate the preservation of over 380 acres of the site in permanent open space proposed by the project.

This alternative would not cluster development on the flatter portions of the site but rather develop the majority of the project site with five-acre “ranchettes.” This alternative consists of 24 lots on Magee West and 54 lots on Magee East. The lot configuration under this alternative would not allow for preservation of large portions of the project site in open space. This alternative is being carried forward for evaluation because it was requested by members of the community at the 2012 EIR scoping meeting and would avoid the need for creation of new zoning for the site through a new P-1; Planned Unit Development District. This alternative would not, however, conform to the Town's General Plan policies that recommend development be concentrated on the flatter, less visible portions of the project site.

Impacts

Aesthetics. This alternative would result in substantially greater visual effects than the proposed project by spreading development throughout the majority of the 400+ acre project site. This would include 78 non-clustered home sites requiring additional grading, an extensive roadway system, and additional project infrastructure to provide service and access to each lot. This configuration would increase visual impacts from vantage points along Mt. Diablo Scenic Boulevard in Mt. Diablo State Park compared to the proposed project by increasing the development footprint and decreasing open space (refer to Figure 6-3). This could also increase significant ridgeline development and introduce new visual impacts in areas adjacent to the site that are unaffected under the proposed project, as follows: 1) along Diablo Road, due to multiple new lots along the road and opposite Fairway Drive, 2) at McCauley Road/Diablo Road, 3) from Brightwood Lane, and 4) possibly from adjacent residential neighborhoods to the north, south, and east. The overall aesthetic/visual impacts under this alternative would be substantially greater than those of the proposed project.

Air Quality. This alternative would result in greater air pollutant and GHG emissions than the project due to the addition of nine residential lots, associated construction, traffic trips, and residential energy use, and less compact development. Overall, the air quality and GHG impacts of this alternative would be slightly greater than those of the proposed project.



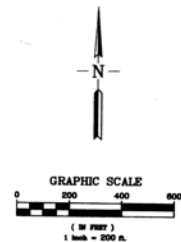
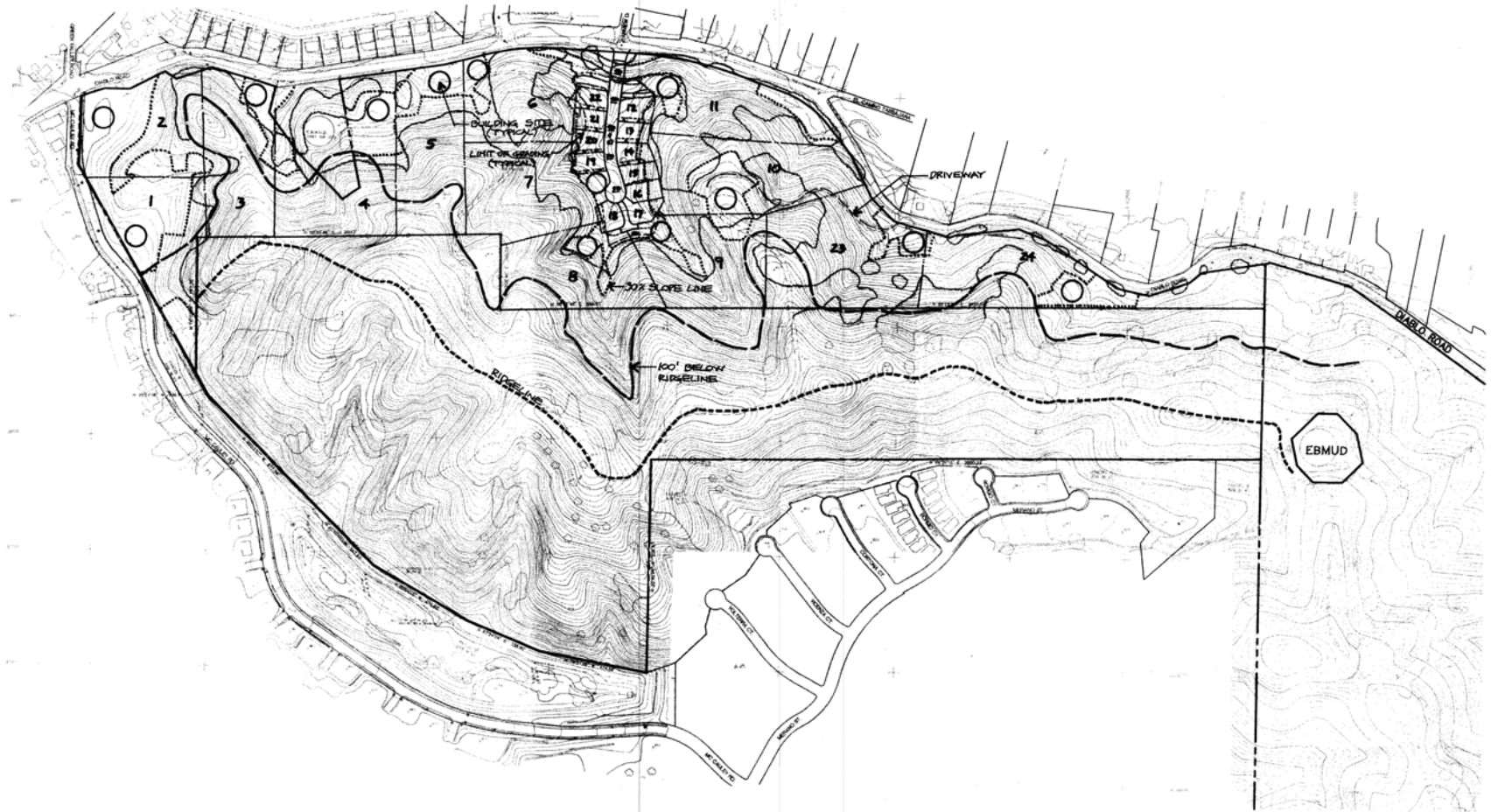
Source: Ruggeri-Jensen-Azar, 2012

Non-Clustered Alternative - Magee East



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Figure
6-2a



Source: Ruggeri-Jensen-Azar, 2012

Non-Clustered Alternative - Magee West



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Figure
 6-2b



Proposed Project



Non-Clustered Alternative

Source: Digital Imaging Studio, 2012

Visual Simulation Comparing Non-Clustered Alternative with Project



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Figure
6-3

Biological Resources. This alternative would involve more widespread development on the project site, which would impact a greater area of undeveloped land. This would increase impacts to biological resources compared to the proposed project, including additional impacts to riparian habitat, special status species, and trees. Additionally, this alternative would greatly decrease the amount of area for mitigation of impacts to biological resources including special status species and wetlands. The overall impacts of this alternative to biological resources would be substantially greater than those of the proposed project.

Cultural Resources. This alternative would involve more widespread development on the project site, which would impact a greater area of undeveloped land. This could increase impacts on any unknown buried archaeological resources. Mitigation is available for these impacts; however, the potential overall impacts of this alternative to cultural resources would be greater than those of the proposed project.

Energy. Because its increased lot sizes and lack of clustering would increase construction activity per lot, this alternative would be slightly inferior to the proposed project in terms of avoiding wasteful use of energy during construction. During operations, the lack of clustering would result in slightly more energy use for transportation than the proposed project. In addition, unless this alternative included electric vehicle chargers and compliance with 2019 Title 24 Building Energy Efficiency Standards, this alternative would use energy less efficiently than would the proposed project.

Geology/Soils. The proposed project's only potentially significant geology/soils impact would be from soil erosion due to construction. Because this alternative would increase soil disturbance, its geology/soils impact would be greater than that of the proposed project.

Hazards and Hazardous Materials. The potential for hazardous substances in onsite soils from the ranching activities and the presence of former fuel tanks and has been identified on portions of the project site (primarily Magee East). Although development for this alternative would be much more widespread, the areas of suspected hazardous material contamination would remain unchanged. The overall impacts related to hazardous materials associated with this alternative would be generally comparable to those of the proposed project.

Hydrology/Water Quality. This alternative could increase the amount of impervious area introduced onto the project site due to the increased roadway and other infrastructure needs, potentially increasing the amount of storm water runoff compared to the proposed project. However, because development under this alternative would be subject to all legal requirements for management of storm water runoff, significant drainage and water quality impacts would be avoided. For both the proposed project and this alternative, water quality impacts would be minimized through implementation of standard best management practices. The overall hydrology and water quality impacts of this alternative would be comparable to those of the proposed project.

Land Use. The General Plan strongly discourages development as proposed in this alternative. Rather, the General Plan encourages future site development that transfers the overall number of units permitted on-site under existing zoning to less sensitive portions of the property in a more clustered pattern of development, as is provided under the proposed project. This alternative would be inconsistent with the Town's General Plan policies, resulting in greater land use impacts than the proposed project.

Noise. This alternative would result in greater construction noise than the proposed project due to more widespread development, and grading and construction for additional roadways and other required infrastructure. In some locations, noise from operations would be introduced into areas that would not be affected by the proposed project configuration (e.g., opposite Fairway Drive). The overall noise impacts of this alternative would be greater than those of the proposed project.

Public Services & Utilities. This alternative would result in demands for services and utilities that are somewhat greater than those of the proposed project since this alternative proposes additional residential lots. This includes potential impacts to school services, recreational facilities, provision of water, and energy consumption. The overall public services and utilities impacts of this alternative would be greater than or equal to those of the proposed project.

Transportation. This alternative would add trips to the local roadway network from the increase in residential lots compared to the proposed project (approximately 110 average trips per day for the nine additional lots). The traffic analysis identified significant traffic impacts at one intersection under Project and Cumulative Conditions; the alternative would increase the severity of that significant impact. By adding vehicle traffic, the alternative would slightly increase congestion at other intersections and would slightly increase impacts to bicyclists under the BLOS analysis. Overall, the transportation impacts for this alternative would somewhat increase compared to the proposed project.

Summary

This alternative would generally increase all of the environmental impacts of the proposed project by adding nine units (the General Plan maximum) and introducing non-clustered development on the entire site. This would result in substantially greater, significant aesthetic impacts due to viewshed alteration. It would result in greater land disturbance impacts by requiring additional grading, an extensive roadway system, and additional project infrastructure to provide service and access to each lot. The overall impacts of this alternative would be substantially greater than those of the proposed project. This alternative would not meet the project objectives to cluster development on the flatter portions of the site and minimize grading and infrastructure requirements.

6.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative to the proposed project be specified, if one is identified. In general, the environmentally superior alternative is one which minimizes adverse environmental impacts while achieving the basic objectives of the project. The No Project/No Build alternative would be considered environmentally superior because all of the adverse impacts associated with the project would be avoided. In addition, the No Project/Build without Subdivision would substantially decrease impacts by reducing the number of units constructed on the site. However, neither of the No Project alternatives would satisfy the primary project objective to provide a 69-lot residential subdivision on the site in accordance with the allowable development capacity per the existing General Plan and zoning designations. In addition, CEQA Guidelines §15126.6(e)(2) 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.”

The 5,000 SF Lot/More Clustered alternative would lessen the impacts of the project associated with overall site disturbance by reducing the development footprint and lot sizes. For some areas, the impact is relatively unchanged due to the similar magnitude of development (69 lots for both). However, given its smaller footprint, the 5,000 SF Lot alternative is considered the environmentally superior alternative since it would minimize and/or otherwise reduce the extent of potential physical effects associated with the project, including impacts to aesthetics, biology, cultural resources, and geology.

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