CITY OF MENLO PARK

CONNECTMENLO
menlo park land use & mobility update

June 1, 2016 | Public Review Draft EIR | SCH # 2015062054





ConnectMenlo:
General Plan Land Use & Circulation Elements and M-2 Area Zoning Update

for the City of Menlo Park

PLACEWORKS

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Table of Contents

TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF FIGURES

TABLE OF CONTENTS

LIST OF TABLES

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

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1. Introduction

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, Chapter 14 California Code of Regulations, Section 15378[a], the City of Menlo Park General Plan (Land Use & Circulation Elements) and M-2 Area Zoning Update, also known as ConnectMenlo, is considered a "project" subject to environmental review as its implementation is "an action [undertaken by a public agency] which has the potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment." For the purpose of this report, the term Bayfront Area is used to describe the location in a geographic context and the M-2 Area in the zoning context. The M-2 Area is the City's current General Industrial Zoning District. This Draft Environmental Impact Report (Draft EIR) provides an assessment of the potential environmental consequences of adoption and implementation of the project, herein referred to as "proposed project." Additionally, this Draft EIR identifies goals, policies, programs, and zoning ordinances as well as mitigation measures and alternatives to the proposed project that would avoid or reduce significant impacts. This Draft EIR compares the development of the proposed project with the existing baseline condition, described in detail in each section of Chapter 4.0, Environmental Analysis. The City of Menlo Park (City) is the lead agency for the proposed project. This assessment is intended to inform the City's decision-makers, other responsible agencies, and the public-at-large of the nature of the proposed project and its effect on the environment.

1.1 PROPOSED ACTION

The proposed Land Use and Circulation Elements replace the City's existing Land Use and Circulation Elements, which were last comprehensively updated in 1994. The proposed Land Use and Circulation Elements are intended to guide development and conservation in Menlo Park through the 2040 buildout horizon of this General Plan. These two elements are central components of the General Plan because they describe which land uses should be allowed in the city, where those land uses should be located, how those land uses may be accessed and connected, and how development of those uses should be managed so as to minimize impacts and maximize benefits to the city and its residents. The Land Use Element frames the type and scale of potential development that may occur over the next 24 years, particularly in the Bayfront Area. The Circulation Element addresses transportation issues throughout the city. Both updated elements have been written to be consistent with the other General Plan Elements and the 2012 El Camino Real/Downtown Specific Plan.

This Draft EIR also assesses the proposed zoning provisions for the Bayfront Area to implement the updated General Plan programs, including development regulations and design standards for the Bayfront Area. The Bayfront Area is the focus of future land use changes under the proposed project.

1.2 ENVIRONMENTAL REVIEW PROCESS

1.2.1 DRAFT EIR

Pursuant to CEQA Section 21080(d) and CEQA Guidelines Section 15063, the City determined that the proposed project could result in potentially significant environmental impacts and that an EIR would be required. In compliance with CEQA Section 21080.4, the City circulated the Notice of Preparation (NOP) of an EIR for the proposed project to the Office of Planning and Research (OPR) State Clearinghouse (SCH) and interested agencies and persons on June 18, 2015 for a 30-day review period. A public Scoping Meeting was held on September 21, 2015 at 7:00 p.m. at the Menlo Park City Council Chambers. The NOP and scoping process solicited comments from responsible and trustee agencies, as well as interested parties regarding the scope of the Draft EIR. Appendix A of this Draft EIR contains the NOP, as well as the comments received by the City in response to the NOP.

The scope of this EIR was established by the City of Menlo Park through the EIR scoping process and includes an analysis of both the proposed project's impact and the cumulative impacts in the following issue areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation and Circulation
- Utilities and Service Systems
- CEQA- Mandated Assessment Conclusions:
  - Impacts Found Not To Be Significant
  - Significant Unavoidable Impacts
  - Growth-Inducing Impacts
  - Significant Irreversible Changes

The implementation of the proposed project was found to have no impacts related to Agricultural and Forestry Resources, and Mineral Resources. A complete discussion of the impacts to Agricultural and Forestry Resources, and Mineral Resources is provided in Chapter 6, CEQA-Mandated Assessment, of this Draft EIR.

This Draft EIR will be available for review by the public and interested parties, agencies, and organizations for a 45-day comment period starting Wednesday, June 1, 2016 and ending Friday, July 15, 2016. During the comment period, the public is invited to provide written comments via mail or e-mail on the Draft EIR to the City of Menlo Park Planning Division by 5:00 p.m. on Friday, July 15, 2016.

Written comments should be submitted to:

Deanna Chow, Principal Planner
City of Menlo Park, Planning Division
701 Laurel Street
Menlo Park, CA 94025
Phone: (650) 330-6733
Email: connectmenlo@menlopark.org with "Menlo Park General Plan Update EIR" as the subject.

1.2.2 FINAL EIR

Upon completion of the 45-day review period for the Draft EIR, the City will review all written comments received and prepare written responses to each comment on the adequacy of the Draft EIR. A Final EIR will then be prepared, which contains all of the comments received, responses to comments raising environmental issues, and any changes to the Draft EIR. The Final EIR will then be presented to the City of Menlo Park for certification as the environmental document for the proposed project. All persons who commented on the Draft EIR will be notified of the availability of the Final EIR and the date of the public hearing before the City.

All responses to comments submitted on the Draft EIR by agencies will be provided to those agencies at least 10 days prior to certification of the EIR. The City Council will make findings regarding the extent and nature of the impacts as presented in the EIR. The EIR will need to be certified as having been prepared in compliance with CEQA by the City prior to making a decision to approve or deny the proposed project. Public input is encouraged at all public hearings before the City.

After the City Council certifies the EIR, it may then consider action on the proposed project. If approved, the City Council will adopt and incorporate into the project all feasible mitigation measures identified in the EIR and may also require other feasible mitigation measures.

In some cases, the City Council may find that certain mitigation measures are outside the jurisdiction of the City to implement, or that no feasible mitigation measures have been identified for a given significant impact. In that case, the City Council will have to adopt a statement of overriding considerations that determines that economic, legal, social, technological, or other benefits of the proposed project outweigh the unavoidable, significant effects on the environment.

1.2.3 MITIGATION MONITORING

CEQA Section 21081.6 requires that the lead agency adopt a Mitigation Monitoring and Reporting Program (MMRP) for any project for which it has made findings pursuant to CEQA Section 21081 or adopted a Negative Declaration pursuant to CEQA Section 21080(c). Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Negative Declaration. The MMRP for the proposed project will be completed as part of the environmental review process.

1.3 PROGRAM LEVEL EIR

This Draft EIR is a program level EIR that analyzes the adoption and implementation of the proposed project. CEQA and the CEQA Guidelines allow lead agencies to prepare a number of types of EIRs. Different types of EIRs are used for varying situations and intended uses. As described in Section 15161 of the CEQA Guidelines, the most common type of EIR is a *project* EIR, which examines the environmental impacts of a specific development project. As described in Section 15168 of the CEQA Guidelines, *program* EIRs are appropriate when a project consists of a series of actions related to the issuance of rules, regulations, and other planning criteria.

In this case, the proposed project that is the subject of this EIR consists of long-term plans that will be implemented over a 24-year buildout horizon (e.g., 2016 to 2040) as policy documents guiding future development activities and City actions. No specific development projects are proposed as part of the project. Therefore, this EIR is a program-level EIR that analyzes the potential significant environmental effects of the adoption of the proposed project.

Where the program EIR addresses the program's effects as specifically and comprehensively as is reasonably possible and future development projects are within scope of the effects examined in the program EIR, then additional environmental review may not be required for those future projects. When a program EIR is relied on for a subsequent future development project, the lead agency must incorporate feasible mitigation measures and alternatives developed in the program EIR into the subsequent activities (CEQA Guidelines Section 15168[c][3]).

However, as stated above, this program EIR is not project-specific, and does not evaluate the impacts of individual projects that may be proposed in the future. All future development projects in Menlo Park that qualify as a "project" under CEQA are subject to compliance with CEQA, which may require additional, project-specific environmental analysis. Under a program level EIR approach, in order to identify whether additional analysis would be necessary when a future development project is proposed, the City, acting as the lead agency, will need to determine the following:

- Whether the planned characteristics of the project are substantially different from those defined in the programmatic EIR;
- Whether the project would require additional mitigation measures; or
- Whether specific impacts were not evaluated in sufficient detail in the programmatic EIR.

If any of these conditions apply and the subsequent activity would have effects that are not within the scope of the program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, a Mitigated Negative Declaration, or an EIR unless the activity qualifies for an exemption from the CEQA process.

For all subsequent environmental review documents, within or outside of the scope of the General Plan, this program EIR will serve as the first-tier environmental analysis, which may serve to streamline future environmental review of subsequent projects.

1.4 STREAMLINED ENVIRONMENTAL REVIEW

1.4.1 TIERING PROCESS

The CEQA concept of "tiering" refers to the evaluation of general environmental matters in a broad program-level EIR, with subsequent focused environmental documents for individual projects. CEQA and the CEQA Guidelines encourage the use of tiered environmental documents to reduce delays and excessive paperwork in the environmental review process. This is accomplished in tiered documents by eliminating repetitive analyses of issues that were adequately addressed in the program EIR and by incorporating those analyses by reference.

Section 15168(d) of the State CEQA Guidelines provides for simplifying the preparation of environmental documents by incorporating by reference analyses and discussions. Where an EIR has been prepared or certified for a program or plan, the environmental review for a later activity consistent with the program or plan should be limited to effects that were not analyzed as significant in the prior EIR or that are susceptible to substantial reduction or avoidance (CEQA Guidelines Section 15152[d]).

By tiering from the General Plan EIR, the environmental analysis for a future project would rely on the General Plan EIR for the following:

- a discussion of general background and setting information for environmental topic areas;
- overall growth-related issues;
- issues that were evaluated in sufficient detail in the General Plan EIR for which there is no significant new information or change in circumstances that would require further analysis;
- assessment of cumulative impacts; and
- mitigation measures adopted and incorporated into the General Plan.

As previously stated, an Initial Study could be prepared for future projects to evaluate the potential environmental impacts of the future projects with respect to the General Plan EIR to determine what level of additional environmental review, if any, is appropriate.

1.4.2 INFILL PROJECTS

1.4.2.1 INFILL PROJECT STREAMLINING

Senate Bill (SB) 226 (2011) revised the Public Resources Code to allow for streamlining in the environmental review process for certain infill projects. In response to SB 226, the CEQA Guidelines were revised to include Section 15183.3, Appendix M, and Appendix N. The streamlining allowed by SB 226 allows for a full exemption from CEQA or for a more narrowed, project-specific CEQA document.

To be eligible, an infill project must:

- Be located in an urban area on a previously developed site or a site that adjoins existing qualified urban uses on at least 75 percent of its perimeter.
- Satisfy the performance standards in CEQA Guidelines Appendix M.
- Be consistent with the sustainable communities' strategy, as defined in CEQA Guidelines Section 18183.3(b)(3).

Streamlining allows for CEQA to not apply to an infill project's effect in the following circumstances:

- If the effect was addressed as a significant impact in a previous program-level EIR (even if that significant impact was not reduced to a less-than-significant level).
- If the effect was not addressed, or if the infill project's impact would be more severe than was analyzed in the previous EIR, the lead agency can make a finding that uniformly applicable development standards and policies would mitigate the effect.

If it is determined that additional environmental review is required for the infill project, such review can be focused to the effects that have not been evaluated in the previous EIR and that would not be mitigated by uniformly applicable development standards and policies.

The Bayfront Area and the majority of Menlo Park is an urbanized area and future development under the proposed project would be located on previously disturbed, infill sites. Therefore, development under the proposed project may be eligible for streamlining under SB 226.

1.4.2.2 INFILL PROJECT EXEMPTIONS

Section 15332 of the CEQA Guidelines describes infill projects that are categorically exempt from the provisions of CEQA. To be exempt, infill projects must:

- Be consistent with the applicable General Plan designation and all applicable General Plan policies, as well as with the applicable zoning designation and regulations.
- Occur within the city limits on a project site of no more than 5 acres substantially surrounded by urban uses.
- Have no value as habitat for endangered, rare, or threatened species.
- Not result in any significant effects relating to traffic, noise, air quality, or water quality.
- Be able to be adequately served by all required utilities and public services.

Because of the urban characteristics of the Bayfront Area and many areas in Menlo Park, future projects in Menlo Park may be eligible for categorical exemptions under Section 15332 of the CEQA Guidelines.

2. Executive Summary

This chapter presents an overview of the proposed City of Menlo Park General Plan (Land Use and Circulation Elements) and M-2 Area Zoning Update, also known as ConnectMenlo, herein referred to as "proposed project." This executive summary also provides a summary of the alternatives to the proposed project, identifies issues to be resolved, areas of controversy, and conclusions of the analysis contained in Chapters 4.0 through 4.14 of this Draft Environmental Impact Report (Draft EIR). For a complete description of the proposed project, see Chapter 3, Project Description, of this Draft EIR. For a discussion of alternatives to the proposed project, see Chapter 5, Alternatives to the Proposed Project, of this Draft EIR.

This Draft EIR addresses the environmental effects associated with the implementation of the proposed project. The California Environmental Quality Act (CEQA) requires that local government agencies, prior to taking action on projects over which they have discretionary approval authority, consider the environmental consequences of such projects. An EIR is a public document designed to provide the public and local and State governmental agency decision-makers with an analysis of potential environmental consequences to support informed decision-making.

This Draft EIR has been prepared pursuant to the requirements of CEQA[1] and the CEQA Guidelines[2] to determine if approval of the identified discretionary actions and related subsequent development could have a significant effect on the environment (i.e., significant impact). The City of Menlo Park, as the lead agency, has reviewed and revised as necessary all submitted drafts, technical studies, and reports to reflect its own independent judgment, including reliance on applicable City technical personnel and review of all technical subconsultant reports. Information for this Draft EIR was obtained from on-site field observations; discussions with affected agencies; analysis of adopted plans and policies; review of available studies, reports, data, and similar literature in the public domain; and specialized environmental assessments (e.g., air quality, hazards and hazardous materials, hydrology and water quality, noise, and transportation and traffic).

2.1 ENVIRONMENTAL PROCEDURES

This Draft EIR has been prepared to assess the environmental effects associated with implementation of the proposed project, as well as anticipated future discretionary actions and approvals.

[1] The CEQA Statute is found at California Public Resources Code, Division 13, Sections 21000-21177.

[2] The CEQA Guidelines are found at California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387.

The main purposes of this document as established by CEQA are:

- To disclose to decision-makers and the public the significant environmental effects of proposed activities.
- To identify ways to avoid or reduce environmental damage.
- To prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
- To disclose to the public reasons for agency approval of projects with significant environmental effects.
- To foster interagency coordination in the review of projects.
- To enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation identified in the statutes and in the CEQA Guidelines. It provides the information needed to assess the environmental consequences of a proposed project, to the extent feasible. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a proposed project that has the potential to result in significant, adverse environmental impacts. An EIR is also one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Prior to approving a proposed project, the lead agency must consider the information contained in the EIR, determine whether the EIR was properly prepared in accordance with CEQA and the CEQA Guidelines, determine that it reflects the independent judgment of the lead agency, adopt findings concerning the project's significant environmental impacts and alternatives, and must adopt a Statement of Overriding Considerations if the proposed project would result in significant impacts that cannot be avoided.

2.1.1 REPORT ORGANIZATION

This Draft EIR is organized into the following chapters:

- Chapter 1: Introduction. Provides an overview describing the Draft EIR document.
- Chapter 2: Executive Summary. Summarizes the environmental consequences that would result from implementation of the proposed project the alternatives to the proposed project, the recommended mitigation measures, and indicates the level of significance of environmental impacts with and without mitigation.
- Chapter 3: Project Description. Describes the proposed project in detail, including the characteristics, objectives, and the structural and technical elements of the proposed action.
- Chapter 4: Environmental Evaluation. Organized into 14 sub-chapters corresponding to the environmental resource categories identified in Appendix G, Environmental Checklist, and Appendix F, Energy Conservation, of the CEQA Guidelines, this chapter provides a description of the physical environmental conditions in the City of Menlo Park as they existed at the time the Notice of Preparation (NOP) was published, from both a local and regional perspective, as well as an analysis of

the potential environmental impacts of the proposed project, and recommended mitigation measures, if required, to reduce their significance.

The environmental setting included in each sub-chapter provides baseline physical conditions from which the lead agency determines the significance of environmental impacts resulting from the proposed project. Each sub-chapter also includes a description of the thresholds used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the proposed project; and the potential cumulative impacts associated with the proposed project.

- Chapter 5: Alternatives to the Proposed Project. This chapter considers three alternatives to the proposed project, which are the CEQA-required "No Project" Alternative, the Reduced Non-Residential Intensity Alternative, and the Reduced Intensity Alternative.
- Chapter 6: CEQA-Mandated Assessment. Discusses growth inducement, cumulative impacts, significant unavoidable effects, and significant irreversible changes as a result of the proposed project. Additionally, this chapter identifies environmental issues that were determined not to require further environmental review during the scoping process pursuant to CEQA Guidelines Section 15128.
- Chapter 7: Organizations and Persons Consulted. Lists the people and organizations that were contacted during the preparation of this EIR for the proposed project.
- Chapter 8: Common Acronyms and Abbreviations. Lists the common acronyms and abbreviations found in this Draft EIR.
- Appendices: The appendices for this document (presented in PDF format attached to the back cover) contain the following supporting documents:
  - Appendix A: Notice of Preparation and Scoping Comments
  - Appendix B: Proposed General Plan Goals, Policies and Programs
  - Appendix C: Public Process and Participation Process
  - Appendix D: Existing Conditions Report
  - Appendix E: Air Quality and Greenhouse Gas Data
  - Appendix F: Cultural Resources Data
  - Appendix G: Noise Data
  - Appendix H: Public Services Data
  - Appendix I: ConnectMenlo Water Supply Evaluation
  - Appendix J: Housing Element Water Supply Assessment
  - Appendix K: Transportation Data

2.1.2 TYPE AND PURPOSE OF THIS DRAFT EIR

According to Section 15121(a) of the CEQA Guidelines, the purpose of an EIR is to:

> *Inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.*

Because of the long-term planning horizon of the proposed project and the permitting, planning, and development actions that are related both geographically and as logical parts in the chain of contemplated actions for implementation, this Draft EIR has been prepared as a program EIR for the proposed project, pursuant to Section 15168 of the CEQA Guidelines.

Once a program EIR has been certified, subsequent activities within the program must be evaluated to determine whether additional CEQA review needs to be prepared. However, if the program EIR addresses the program's effects as specifically and comprehensively as possible, subsequent activities could be found to be within the program EIR scope, and additional environmental review may not be required (CEQA Guidelines Section 15168[c]). When a program EIR is relied on for a subsequent activity, the lead agency must incorporate feasible mitigation measures and alternatives developed in the program EIR into the subsequent activities (CEQA Guidelines Section 15168[c][3]). If a subsequent activity would have effects that are not within the scope of a program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, a Mitigated Negative Declaration, or an EIR. For these subsequent environmental review documents, this Program EIR will serve as the first-tier environmental analysis. See Chapter 1, Introduction, for additional discussion on application of this program EIR to future development projects in Menlo Park.

2.2 SUMMARY OF PROPOSED PROJECT

With the Housing, Open Space/Conservation, Noise and Safety Elements of the General Plan having been recently updated, the focus of the proposed project is on the Land Use and Circulation Elements. The City of Menlo Park has undertaken a community-based planning process to review changes to these elements as part of a focused General Plan Update. A major focus of the proposed project is balancing potential development impacts and the provision of community benefits, especially for the Belle Haven neighborhood. Targeted community benefits include alternative transportation to alleviate severe traffic congestion, housing to support both the adjacent neighborhood and the increasing workforce, and expanded service and retail uses.

The Land Use Element frames the type and scale of potential development that may occur, particularly in the Bayfront Area, which is the area generally between US 101 and the San Francisco Bay and where most change is expected in Menlo Park over the next two decades. The proposed Land Use and Circulation Elements are intended to guide development and conservation in the city through the 2040 buildout horizon of this General Plan. These two elements are central components of the General Plan because they describe which land uses should be allowed in the city, where those land uses should be located, how those land uses may be accessed and connected, and how development of those uses should be managed so as to minimize impacts and maximize benefits to the city and its residents. The Circulation Element addresses transportation issues throughout the city, and both updated Elements will be consistent with the other General Plan Elements. The proposed project aims to improve transportation connections citywide for all modes of travel and to upgrade traffic metrics to keep up with the area's fast rate of development.

This Draft EIR also assesses the proposed zoning provisions for the Bayfront Area, which is the focus of future land use changes under the proposed project, to implement the updated General Plan programs,

including development regulations and design standards for the Bayfront Area. The updated Zoning Ordinance will include the creation of three new zoning districts in the Bayfront Area. Properties in the Bayfront Area will be rezoned with the new zoning designations for consistency with the General Plan.

2.3 SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT

This Draft EIR analyzes alternatives to the proposed project that are designed to reduce the significant environmental impacts of the proposed project and feasibly attain some of the proposed project objectives. There is no set methodology for comparing the alternatives or determining the environmentally superior alternative under CEQA. Identification of the environmentally superior alternative involves weighing and balancing all of the environmental resource areas by the City. The following alternatives to the proposed project were considered and analyzed in detail:

- No Project Alternative: Current General Plan
- Reduced Non-Residential Intensity Alternative
- Reduced Intensity Alternative

Chapter 5, Alternatives to the Proposed Project, of this Draft EIR, includes a complete discussion of these alternatives and of alternatives that were considered, but not carried forward for detailed analysis.

2.4 ISSUES TO BE RESOLVED

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR identify issues to be resolved, including the choice among alternatives and whether or how to mitigate significant impacts. With regard to the proposed project, the major issues to be resolved include decisions by the City of Menlo Park, as lead agency, related to:

- Whether this Draft EIR adequately describes the environmental impacts of the proposed project.
- Whether the benefits of the proposed project override those environmental impacts that cannot be feasibly avoided or mitigated to a level of insignificance.
- Whether the proposed land use changes are compatible with the character of the existing area.
- Whether the identified goals, policies, or mitigation measures should be adopted or modified.
- Whether there are other mitigation measures that should be applied to the proposed project besides those mitigation measures identified in the Draft EIR.

Whether there are any alternatives to the proposed project that would substantially lessen any of the significant impacts of the proposed project and achieve most of the basic objectives.

2.5 AREAS OF CONCERN

The City issued an NOP on June 18, 2015. The scoping period for this EIR was between June 18 and July 20, 2015, during which interested agencies and the public could submit comments about the proposed project. The City also held a public scoping meeting on September 21, 2015. During this time the City received 22 comment letters from ten agencies and service providers, and eight organizations and members of the public, which are included as Appendix A of this Draft EIR.

The following is a discussion of issues that are likely to be of particular concern to agencies and interested members of the public during the environmental review process. While every concern applicable to the CEQA process is addressed in this Draft EIR, this list is not necessarily exhaustive, but rather attempts to capture those concerns that are likely to generate the greatest interest based on the input received during the scoping process.

- Aesthetic: impacts from increased height, sources of light and glare
- Affordable Housing: availability of affordable housing stock
- Air Quality: operational and construction, health risk due to close proximity to major roadways
- Approved Projects: cumulative impacts from Facebook Campus Expansion Project
- Biological Resources: wetlands, human-wildlife interface
- Climate Adaptation: flood risk along Bayfront due to projected future sea level rise
- Public Services: impacts from population growth on schools and fire services
- Utilities and Service Systems: Water quality, hydrology, storm water runoff
- Vehicular Circulation: traffic impact, parking demand, safe pedestrian access, bicycle safety connections

2.6 SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Under 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 proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance.

The proposed project has the potential to generate significant environmental impacts in a number of areas. As shown in Table 2-1, some significant impacts would be reduced to a less-than-significant level if the mitigation measures identified in this Draft EIR are adopted and implemented. However, pursuant to Section 15126.2(b) of the CEQA Guidelines, which requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures, as shown in Table 2-1, significant unavoidable impacts were identified in the areas of Air Quality, Greenhouse Gas Emissions, Population and Housing (Cumulative), and Transportation and Circulation. In addition, cumulative impacts with respect to Population and Housing were found to be significant and unavoidable. For a complete summary of the significant and unavoidable impacts, please see Section 6.2 in Chapter 6, CEQA-Mandated Assessment, of this Draft EIR. As described in detail in Chapter 6, the proposed project would have no significant impact on agricultural, forestry and mineral resources due to existing conditions in the City of Menlo Park. Accordingly, these topics have not been analyzed further in this Draft EIR.

Table 2-1 summarizes the conclusions of the environmental analysis contained in this Draft EIR and presents a summary of impacts and mitigation measures identified. It is organized to correspond with the environmental issues discussed in Chapters 4.1 through 4.14. Table 2-1 is arranged in four columns: 1) environmental impact; 2) significance without mitigation; 3) mitigation measures; and 4) significance with mitigation. For a complete description of potential impacts, please refer to the specific discussions in Chapters 4.1 through 4.14.

EXECUTIVE SUMMARY

TABLE 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
Aesthetics			
AES-1: Implementation of the proposed project would not have a substantial adverse effect on a scenic vista.	LTS	N/A	N/A
AES-2: Implementation of the proposed project would not substantially degrade the view from a scenic highway, including, but not limited to, trees, rock outcroppings, and historic buildings.	LTS	N/A	N/A
AES-3: Implementation of the proposed project would not degrade the existing visual character or quality of the site and its surroundings.	LTS	N/A	N/A
AES-4: Implementation of the proposed project would not expose people on- or off- site to substantial light or glare which would adversely affect day or nighttime views in the area.	LTS	N/A	N/A
AES-5: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to aesthetics.	LTS	N/A	N/A
Air Quality			
AQ-1: Implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality plan.	LTS	N/A	N/A
AQ-2a: Despite implementation of the proposed project policies as identified in Chapter 4.2, Air Quality, Table 4.2-8, criteria air pollutant emissions associated with the proposed project would cause a substantial net increase in emissions that exceeds the Bay Area Quality Management District (BAAQMD) regional significance thresholds.	S	AQ-2a: Prior to issuance of building permits, development project applicants that are subject to CEQA and exceed the screening sizes in the BAAQMD CEQA Guidelines shall prepare and submit to the City of Menlo Park a technical assessment evaluating potential project operation-phase-related air quality impacts. The evaluation shall be prepared in conformance with the BAAQMD methodology in assessing air quality impacts. If operational-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as identified in BAAQMD's CEQA Guidelines, the City of Menlo Park Community Development Department shall require that applicants for new development	SU

LTS = Less than Significant, S = Significant, LTS/M = Less than Significant with Mitigation, SU = Significant and Unavoidable

Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		projects incorporate mitigation measures to reduce air pollutant emissions during operational activities.	
AQ-2b: Despite implementation of the proposed project policies, criteria air pollutant emissions associated with the proposed project construction activities would generate a substantial net increase in emissions that exceeds the BAAQMD regional significance thresholds.	S	AQ-2b: As part of the City's development approval process, the City shall require applicants for future development projects to comply with the current Bay Area Air Quality Management District's basic control measures for reducing construction emissions of PM_{10} (Table 8-1, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of the BAAQMD CEQA Guidelines). AQ-2b2: Prior to issuance of building permits, development project applicants that are subject to CEQA and exceed the screening sizes in the BAAQMD's CEQA Guidelines shall prepare and submit to the City of Menlo Park a technical assessment evaluating potential project construction-related air quality impacts. The evaluation shall be prepared in conformance with the BAAQMD methodology in assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as identified in the BAAQMD CEQA Guidelines, the City of Menlo Park shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during construction activities to below these thresholds (e.g., Table 8-2, Additional Construction Mitigation Measures Recommended for Projects with Construction Emissions Above the Threshold of the BAAQMD CEQA Guidelines, or applicable construction mitigation measures subsequently approved by BAAQMD). These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City's Building Division and/or Planning Division.	SU
AQ-3a: Warehousing operations could generate a substantial amount of diesel particulate matter (DPM) emissions from off-road equipment use and truck idling. In addition, some warehousing, research and development, and industrial facilities may include use of transport refrigeration units (TRUs) for cold storage that could expose sensitive receptors to substantial pollutant	S	AQ-3a: Applicants for future non-residential land uses within the city that: 1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered TRUs, and 2) are within 1,000 feet of a sensitive land use (e.g., residential, schools, hospitals, nursing homes), as measured from the property line of a proposed project to the property line of the nearest sensitive use, shall submit a health risk assessment (HRA) to	LTS

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
concentrations.		the City of Menlo Park prior to future discretionary Project approval. The HRA shall be prepared in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment and the Bay Area Air Quality Management District. If the HRA shows that the incremental cancer risk exceeds 10 in one million (10E-06), $PM_{2.5}$ concentrations exceed 0.3 $\mu g/m^3$, or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. Mitigation measures may include but are not limited to: ▪ Restricting idling on-site beyond Air Toxic Control Measures idling restrictions, as feasible. ▪ Electrifying warehousing docks. ▪ Requiring use of newer equipment and/or vehicles. ▪ Restricting off-site truck travel through the creation of truck routes. Mitigation measures identified in the project-specific HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site development plan as a component of a proposed project.	
AQ-3b: Placement of new sensitive land uses near major sources of air pollution could be exposed to elevated concentrations of air pollutants.	S	AQ-3b: Applicants for residential and other sensitive land use projects (e.g., hospitals, nursing homes, day care centers) in Menlo Park within 1,000 feet of a major sources of toxic air contaminants (TACs) (e.g., warehouses, industrial areas, freeways, and roadways with traffic volumes over 10,000 vehicle per day), as measured from the property line of the project to the property line of the source/edge of the nearest travel lane, shall submit a health risk assessment (HRA) to the City of Menlo Park prior to future discretionary Project approval. The HRA shall be prepared in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment (OEHHA) and the Bay Area Air Quality Management District. The latest OEHHA guidelines shall be used for the analysis, including age sensitivity factors, breathing rates, and body weights appropriate for children ages 0 to 16 years.	LTS

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		If the HRA shows that the incremental cancer risk exceeds ten in one million (10E-06), $PM_{2.5}$ concentrations exceed 0.3 µg/m^3, or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and non-cancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0), including appropriate enforcement mechanisms. Measures to reduce risk may include but are not limited to: ▪ Air intakes located away from high volume roadways and/or truck loading zones. ▪ Heating, ventilation, and air conditioning systems of the buildings provided with appropriately sized maximum efficiency rating value (MERV) filters. Measures identified in the HRA shall be included in the environmental document and/or incorporated into the site development plan as a component of the proposed project. The air intake design and MERV filter requirements shall be noted and/or reflected on all building plans submitted to the City and shall be verified by the City's Building Division and/or Planning Division.	
AQ-4: Implementation of the proposed project would not create or expose a substantial number of people to objectionable odors.	LTS	N/A	N/A
AQ-5: Despite implementation of the General Plan policies, criteria air pollutant emissions associated with the General Plan would generate a substantial net increase in emissions that exceeds the BAAQMD regional significance thresholds.	S	AQ-5: Implementation of Mitigation Measures AQ-2a through AQ-3b.	SU
Biological Resources			
BIO-1: Impacts to special-status species or the inadvertent loss of bird nests in active use, which would conflict with the federal Migratory Bird Treaty Act and California Fish and Game Code could occur as a result of new development potential in the Bayfront Area and from existing and ongoing development potential in the remainder of the city if adequate controls are not	S	BIO-1: Prior to individual project approval, the City shall require project applicants to prepare and submit project-specific baseline biological resources assessments on sites containing natural habitat with features such as mature and native trees or unused structures that could support special-status species and other sensitive biological resources, and common birds protected under Migratory Bird Treaty Act (MBTA). The baseline biological resources	LTS

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
implemented.		assessment shall be prepared by a qualified biologist. The biological resource assessment shall provide a determination on whether any sensitive biological resources are present on the property, including jurisdictional wetlands and waters, essential habitat for special-status species, and sensitive natural communities. If sensitive biological resources are determined to be present, appropriate measures, such as preconstruction surveys, establishing no-disturbance zones during construction, and applying bird-safe building design practices and materials, shall be developed by the qualified biologist to provide adequate avoidance or compensatory mitigation if avoidance is infeasible. Where jurisdictional waters or federally and/or State-listed special-status species would be affected, appropriate authorizations shall be obtained by the project applicant, and evidence of such authorization provided to the City prior to issuance of grading or other construction permits. An independent peer review of the adequacy of the biological resource assessment may be required as part of the CEQA review of the project, if necessary, to confirm its adequacy.	
BIO-2: Impacts to coastal salt marsh vegetation in the baylands, and possibly areas of riparian scrub and woodland along San Francisquito Creek and other drainages in the study area could occur as a result of new development potential in the Bayfront Area and from existing and ongoing development potential in the remainder of the city if adequate controls are not implemented.	S	BIO-2. Implement Mitigation Measure BIO-1.	LTS
BIO-3: Implementation of the proposed project could result in direct and indirect impacts to wetland habitat if adequate controls are not implemented.	S	BIO-3: Implement Mitigation Measure BIO-1.	LTS
BIO-4: Implementation of the proposed project could result in impacts on the movement of fish and wildlife, wildlife corridors, or wildlife nursery sites if adequate controls are not implemented.	S	BIO-4: Implement Mitigation Measure BIO-1.	LTS
BIO-5: Implementation of the proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or	LTS	N/A	N/A

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
ordinance.			
BIO-6: Impacts to sensitive habitat in the Stanford Habitat Conservation Plan (HCP) area could occur as a result of existing development potential in the study area that is located within the Stanford HCP area if adequate controls are not implemented.	S	BIO-6: Implement Mitigation Measure BIO-1.	LTS
BIO-7: Implementation of the proposed project in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to biological resources.	S	BIO-7: Implement Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4 and BIO-6.	LTS
Cultural Resources			
CULT-1: Future development in Menlo Park could lead to demolition and alteration that has the potential to change the historic fabric or setting of historic architectural resources such that the resource's ability to convey its significance may be materially impaired.	S	CULT-1: At the time that individual projects are proposed on a site with a building more than 50 years old or any site adjoining a property with a building more than 50 years old, the City shall require the project applicant to prepare a site-specific evaluation to determine if the project is subject to completion of a site-specific historic resources study. If it is determined that a site-specific historic resources study is required, the study shall be prepared by a qualified architectural historian meeting the Secretary of the Interior's Standards for Architecture or Architectural History. At a minimum, the study shall consist of a records search of the California Historical Resources Information System, an intensive-level pedestrian field survey, an evaluation of significance using standard National Register Historic Preservation and California Register Historic Preservation evaluation criteria, and recordation of all identified historic buildings and structures on California Department of Parks and Recreation 523 Site Record forms. The study shall describe the historic context and setting, methods used in the investigation, results of the evaluation, and recommendations for management of identified resources. If applicable, the specific requirements for inventory areas and documentation format required by certain agencies, such as the Federal Highway Administration and California Department of Transportation (Caltrans), shall be adhered to.	LTS

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		If the project site or adjacent properties are found to be eligible for listing on the California Register, the project shall be required to conform to the current *Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, and Restoring Historic Buildings,* which require the preservation of character defining features which convey a building's historical significance, and offers guidance about appropriate and compatible alterations to such structures.	
CULT-2a: Implementation of the proposed project could have the potential to cause a significant impact to an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	S	CULT-2a: If a potentially significant subsurface cultural resource is encountered during ground disturbing activities, all construction activities within a 100-foot radius of the find shall cease until a qualified archeologist determines whether the resource requires further study. All developers in the study area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resources found during construction activities shall be recorded on appropriate California Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of the California Environmental Quality Act (CEQA) criteria by a qualified archeologist. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant. The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources. The report shall be submitted to the City of Menlo Park, Northwest Information Center (NWIC), and State Historic Preservation Office (SHPO), if required.	LTS
CULT-2b: Future development in Menlo Park could impact archeological resources without proper consultation with Native American Tribes.	S	CULT-2b: As part of the City's application approval process and prior to project approval, the City shall consult with those Native American Tribes with ancestral ties to the Menlo Park city limits regarding General Plan Amendments and land use policy changes. Upon receipt of an application for proposed project that requires a General Plan amendment or a land use policy change, the City shall submit a request for a list of Native American Tribes to be contacted	LTS

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		about the proposed project to the Native American Heritage Commission (NAHC). Upon receipt of the list of Native American Tribes from the NAHC, the City shall submit a letter to each Tribe on the provided list requesting consultation with the Native American Tribe about the proposed project via the via the City's preferred confirmation of receipt correspondence tracking method (e.g., Federal Express, United States Postal Service Certified Mail, etc.).	
CULT-3: Implementation of the proposed project would have the potential to directly or indirectly affect a unique paleontological resource or site, or unique geologic feature.	S	CULT-3: In the event that fossils or fossil bearing deposits are discovered during ground disturbing activities, excavations within a 50-foot radius of the find shall be temporarily halted or diverted. Ground disturbance work shall cease until a City-approved qualified paleontologist determines whether the resource requires further study. The paleontologist shall document the discovery as needed (in accordance with Society of Vertebrate Paleontology standards [Society of Vertebrate Paleontology 1995]), evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the City of Menlo Park for review and approval prior to implementation, and all construction activity shall adhere to the recommendations in the excavation plan.	LTS
CULT-4: Ground-disturbing activities as a result of future development in Menlo Park could encounter human remains the disturbance of those remains could result in a significant impact under CEQA.	S	CULT-4: Procedures of conduct following the discovery of human remains have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations Section 15064.5(e) (CEQA). According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The San Mateo County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the NAHC within 24 hours,	LTS

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		who will, in turn, notify the person the NAHC identifies as the Most Likely Descendant (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.	
CULT-5: Ground-disturbing activities as a result of future development in Menlo Park could encounter Tribal Cultural Resources (TCRs) the disturbance of which could result in a significant impact under CEQA.	S	CULT-5a: Implement Mitigation Measures CULT-2a. CULT-5b: Implement Mitigation Measures CULT-2b. CULT-5c: Implement Mitigation Measures CULT-4.	LTS
CULT-6: Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would result in a significant cumulative impacts with respect to cultural resources.	S	Implement Mitigation Measures CULT-1, CULT-2a, CULT-2b, CULT-3, and CULT-4.	LTS
Geology, Soils, and Seismicity			
GEO-1: Implementation of the proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landsliding.	LTS	N/A	N/A
GEO-2: Implementation of the proposed project would not result in substantial soil erosion or the loss of topsoil.	LTS	N/A	N/A
GEO-3: Implementation of the proposed project would not result in a significant impact related to development on unstable geologic units and soils or result in lateral spreading, subsidence, liquefaction, or collapse.	LTS	N/A	N/A
GEO-4: Implementation of the proposed project would not create substantial risks to property as a result of its location on expansive soil, as defined by Section 1803.5.3 of the California Building Code.	LTS	N/A	N/A

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
GEO-5: Implementation of the proposed project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	LTS	N/A	N/A
GEO-6: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to geology, soils, and seismicity.	LTS	N/A	N/A
Greenhouse Gas Emissions			
GHG-1: The proposed project would result in a substantial increase in greenhouse gas (GHG) emissions from existing conditions by the proposed General Plan horizon year 2040 and would not achieve the 2040 efficiency target, which is based on a trajectory to the 2050 goal of an 80 percent reduction from 1990 levels pursuant to Executive Order S-03-05. Additional state and federal actions are necessary to ensure that state and federally regulated sources (i.e., sources outside the City's jurisdictional control) take similar aggressive measures to ensure the deep cuts needed to achieve the 2050 target.	S	GHG-1: Prior to January 1, 2020, the City of Menlo Park shall update the Climate Action Plan (CAP) to address the GHG reduction goals of Executive Order B-30-15 and Executive Order S-03-05 for GHG sectors that the City has direct or indirect jurisdictional control over. The City shall identify a GHG emissions reduction target for year 2030 and 2040 that is consistent with the GHG reduction goals identified in Executive Order B-30-15 and Executive Order S-03-05. The CAP shall be updated to include measures to ensure that the City is on a trajectory that aligns with the state's 2030 GHG emissions reduction target.	SU
GHG-2: While the proposed project supports progress toward the long term-goals identified in Executive Order B-30-15 and Executive Order S-03-05, it cannot yet be demonstrated that Menlo Park will achieve GHG emissions reductions that are consistent with a 40 percent reduction below 1990 levels by 2030 or an 80 percent reduction below 1990 levels by the year 2050 based on existing technologies and currently adopted policies and programs.	S	GHG-2: Implement of Mitigation Measure GHG-1.	SU

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
Hazards and Hazardous Materials			
HAZ-1: Implementation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LTS	N/A	N/A
HAZ-2: Implementation of the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	N/A	N/A
HAZ-3: Implementation of the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school.	LTS	N/A	N/A
HAZ-4: Implementation of the proposed project could occur on sites with known hazardous materials and, as a result, create a significant hazard to the public or the environment.	S	HAZ-4a: Construction at the sites with known contamination shall be conducted under a project-specific Environmental Site Management Plan (ESMP) that is prepared in consultation with the Regional Water Quality Control Board (RWQCB) or the Department of Toxic Substances Control (DTSC), as appropriate. The purpose of the ESMP is to protect construction workers, the general public, the environment, and future site occupants from subsurface hazardous materials previously identified at the site and to address the possibility of encountering unknown contamination or hazards in the subsurface. The ESMP shall summarize soil and groundwater analytical data collected on the project site during past investigations; identify management options for excavated soil and groundwater, if contaminated media are encountered during deep excavations; and identify monitoring, irrigation, or other wells requiring proper abandonment in compliance with local, State, and federal laws, policies, and regulations. The ESMP shall include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. The ESMP shall: 1) provide procedures for evaluating, handling, storing, testing, and disposing of soil and	LTS

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		groundwater during project excavation and dewatering activities, respectively; 2) describe required worker health and safety provisions for all workers potentially exposed to hazardous materials in accordance with State and federal worker safety regulations; and 3) designate personnel responsible for implementation of the ESMP. HAZ-4b: For those sites with potential residual contamination in soil, gas, or groundwater that are planned for redevelopment with an overlying occupied building, a vapor intrusion assessment shall be performed by a licensed environmental professional. If the results of the vapor intrusion assessment indicate the potential for significant vapor intrusion into an occupied building, project design shall include vapor controls or source removal, as appropriate, in accordance with regulatory agency requirements. Soil vapor mitigations or controls could include vapor barriers, passive venting, and/or active venting. The vapor intrusion assessment and associated vapor controls or source removal can be incorporated into the ESMP (Mitigation Measure HAZ-4a).	
HAZ-5: The proposed project would not be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport it results in a safety hazard for people residing or working in the study area.	LTS	N/A	N/A
HAZ-6: The proposed project would not be within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the study area.	No Impact	N/A	N/A
HAZ-7: The proposed project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.	LTS	N/A	N/A
HAZ-8: The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	LTS	N/A	N/A

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EXECUTIVE SUMMARY

Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
HAZ-9: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to hazards and hazardous materials.	S	Implement Mitigation Measures HAZ-4a and HAZ-4b.	LTS
Hydrology and Water Quality			
HYDRO-1: Implementation of the proposed project would not violate any water quality standards or discharge requirements.	LTS	N/A	N/A
HYDRO-2: Implementation of the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).	LTS	N/A	N/A
HYDRO-3: Implementation of the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the amount of surface runoff in a manner which would result in substantial erosion or siltation on- or off-site.	LTS	N/A	N/A
HYDRO-4: Implementation of the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.	LTS	N/A	N/A
HYDRO-5: Implementation of the proposed project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	LTS	N/A	N/A

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
HYDRO-6: Implementation of the proposed project would not otherwise substantially degrade water quality.	LTS	N/A	N/A
HYDRO-7: Implementation of the proposed project would place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.	LTS	N/A	N/A
HYDRO-8: Implementation of the proposed project would not place within a 100-year flood hazard area structures which would impede or redirect flood flows.	LTS	N/A	N/A
HYDRO-9: Implementation of the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a levee or dam break or flooding as a result of sea level rise.	LTS	N/A	N/A
HYDRO-10: Implementation of the proposed project would not expose people or structures to a significant risk of inundation by seiche, tsunami, or mudflow.	LTS	N/A	N/A
HYDRO-11: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to hydrology and water quality.	LTS	N/A	N/A
Land Use Planning			
LU-1: Implementation of the proposed project would not physically divide an established community.	LTS	N/A	N/A
LU-2: Future development proposals in Menlo Park could be inconsistent with the applicable goals, policies and programs in the General Plan that have been prepared to reduce and/or avoid impacts to the environment and the supporting Zoning standards.	S	LU-2: Prior to project approval, as part of the project application process, future development in Menlo Park is required to demonstrate consistency with the applicable goals, policies, and programs in the General Plan and the supporting Zoning standards to the satisfaction of the City of Menlo Park's Community Development Department. A future project is consistent with the General Plan and Zoning standards if, considering all its aspects, it will further the goals, policies and programs of the General Plan and supporting Zoning standards and not obstruct their attainment.	LTS

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EXECUTIVE SUMMARY

Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
LU-3: Implementation of the proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan.	LTS	N/A	N/A
LU-4: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to land use and planning.	S	LU-4: Implement Mitigation Measure LU-2.	LTS
Noise			
NOISE-1: Future projects in Menlo Park could result in development that exceed noise limits required under Title 24 and the City's regulations.	S	NOISE-1a: To meet the requirements of Title 24 and General Plan Program N1.A, project applicants shall perform acoustical studies prior to issuance of building permits for development of new noise-sensitive uses. New residential dwellings, hotels, motels, dormitories, and school classrooms must meet an interior noise limit of 45 dBA CNEL or L_{dn}. Developments in areas exposed to more than 60 dBA CNEL must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. Where exterior noise levels are projected to exceed 60 dBA CNEL or L_{dn} at the façade of a building, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the 45 dBA noise limit. Project applicants must perform acoustical studies for all new multi-family residential projects within the projected Ldn 60 dB noise contours, so that noise mitigation measures can be incorporated into project design and site planning. NOISE-1b: Stationary noise sources, and landscaping and maintenance activities shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code. NOISE-1c: Project applicants shall minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA review, conditions of approval and/or enforcement of the City's Noise Ordinance. Prior to issuance of demolition, grading, and/or building permits for development projects, a note shall be provided on development plans indicating	LTS

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		that during on-going grading, demolition, and construction, the property owner/developer shall be responsible for requiring contractors to implement the following measures to limit construction-related noise: ▪ Construction activity is limited to the daytime hours between 8:00 a.m. to 6:00 p.m. on Monday through Friday, as prescribed in the City's municipal code. ▪ All internal combustion engines on construction equipment and trucks are fitted with properly maintained mufflers, air intake silencers, and/or engine shrouds that are no less effective than as originally equipped by the manufacturer. ▪ Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses. ▪ Stockpiling is located as far as feasible from nearby noise-sensitive receptors. ▪ Limit unnecessary engine idling to the extent feasible. ▪ Limit the use of public address systems. ▪ Construction traffic shall be limited to the haul routes established by the City of Menlo Park.	
NOISE-2: Future projects in Menlo Park could cause exposure of people to, or generation of, excessive groundborne vibration or groundborne noise levels.	S	NOISE-2a: To prevent architectural damage as a result of construction-generated vibration: ▪ Prior to issuance of a building permit for any development project requiring pile driving or blasting, the project applicant/developer shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. The maximum levels shall not exceed 0.2 inch/second, which is the level that can cause architectural damage for typical residential construction. If maximum levels would exceed these thresholds, alternative methods such static rollers, non-explosive blasting, and drilling piles as opposed to pile driving shall be used To prevent vibration-induced annoyance as a result of construction-generated vibration: ▪ Individual projects that involve vibration-intensive construction	LTS

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		activities, such as blasting, pile drivers, jack hammers, and vibratory rollers, within 200 feet of sensitive receptors shall be evaluated for potential vibration impacts. A vibration study shall be conducted for individual projects where vibration-intensive impacts may occur. The study shall be prepared by an acoustical or vibration engineer holding a degree in engineering, physics, or allied discipline and who is able to demonstrate a minimum of two years of experience in preparing technical assessments in acoustics and/or groundborne vibrations. The study shall be submitted to and approved by the City during subsequent project-level environmental review. Vibration impacts to nearby receptors shall not exceed the vibration annoyance levels (in RMS inches/second) as follows: ▪ Workshop = 0.126 ▪ Office = 0.063 ▪ Residential Daytime (7AM–10PM)= 0.032 ▪ Residential Nighttime (10PM to 7 AM) = 0.016 If construction-related vibration is determined to be perceptible at vibration-sensitive uses, additional requirements, such as use of less-vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., nonexplosive blasting methods, drilled piles as opposed to pile driving, preclusion for using vibratory rollers, use of small- or medium-sized bulldozers, etc.). Vibration reduction measures shall be identified as mitigation measures in the environmental document and/or incorporated into the site development plan as a component of the project. NOISE-2b: To reduce long-term vibration impacts at existing or potential future sensitive uses: ▪ Locate sensitive uses away from vibration sources. ▪ Design industrial development to minimize vibration impacts on nearby uses. Where vibration impacts may occur, reduce impacts on residences and businesses through the use of setbacks and/or structural design features that reduce vibration to levels at or	

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		below the guidelines of the Federal Transit Administration near rail lines and industrial uses. ▪ Work with the railroad operators (e.g., Caltrain, Union Pacific, etc.) to reduce, to the extent possible, the contribution of railroad train noise and vibration to Menlo Park's noise environment.	
NOISE-3: Implementation of the proposed project would not cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed project.	LTS	N/A	N/A
NOISE-4: Future projects in Menlo Park could result in construction-related noise that exceeds noise limits required under the City's regulations.	S	NOISE-4: Implement Mitigation Measure NOISE-1c.	LTS
NOISE-5: Implementation of the proposed project would not cause exposure of people residing or working in the vicinity of the study area to excessive aircraft noise levels, for a project located within an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport.	LTS	N/A	N/A
NOISE-6: Implementation of the proposed project would not cause exposure of people residing or working in the project site to excessive noise levels, for a project within the vicinity of a private airstrip.	LTS	N/A	N/A
NOISE-7: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to noise.	S	NOISE-7: Implement Mitigation Measures NOISE-1a through NOISE-1c, NOISE-2a, NOISE-2b, and NOISE-4.	LTS
Population and Housing			
POP-1: Implementation of the proposed project would not induce substantial population growth, or growth, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	LTS	N/A	N/A
POP-2: Implementation of the proposed project would not displace substantial numbers of existing housing units, necessitating the construction of replacement	LTS	N/A	N/A

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
housing elsewhere.			
POP-3: Implementation of the proposed project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.	LTS	N/A	N/A
POP-4: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in a significant cumulative impact with respect to population and housing.	S	There are no available mitigation measures available to reduce this impact. However, when the regional growth projections are updated they will incorporate the proposed project, which would reduce this impact to a less-than-significant level.	SU
Public Services and Recreation			
PS-1: Implementation of the proposed project would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.	LTS	N/A	N/A
PS-2: Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would result in a less-than-significant cumulative impacts with respect to fire protection services.	LTS	N/A	N/A
PS-3: Implementation of the proposed project would not result in the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.	LTS	N/A	N/A
PS-4: Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to police services.	LTS	N/A	N/A
PS-5: Implementation of the proposed project would not result in the need for new or physically altered park	LTS	N/A	N/A

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
facilities or other recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.			
PS-6: Implementation of the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur, or be accelerated.	LTS	N/A	N/A
PS-7: Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to parks.	LTS	N/A	N/A
PS-8: Implementation of the proposed project would not result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.	LTS	N/A	N/A
PS-9: Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would not result in less-than-significant t cumulative impacts with respect to school services.	LTS	N/A	N/A
PS-10: Implementation of the proposed project would not result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.	LTS	N/A	N/A
PS-11: Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to libraries.	LTS	N/A	N/A
Transportation and Circulation			
TRANS-1a: Implementation of the proposed project would exceed the City's current impact thresholds under	S	TRANS-1a: Widen impacted roadway segments to add travel lanes and capacity to accommodate the increase in net daily trips.	SU

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
the 2040 Plus Project conditions at some roadway segments in the study area.			
TRANS-1b: Implementation of the proposed project would result in increased delay to peak hour motor vehicle traffic exceeding the significance threshold at some of the study intersections.	S	TRANS-1b: The City of Menlo Park shall update the existing Transportation Impact Fee (TIF) program to guarantee funding for roadway and infrastructure improvements that are necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward circulation improvements. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Transportation Impact fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the Transportation Impact Fees to fund construction (or to recoup fees advanced to fund construction) of the transportation improvements identified below, among other things that at the time of potential future development may be warranted to mitigate traffic impacts. It should be noted that any project proposed prior to the adoption of an updated TIF will be required to conduct a project-specific Transportation Impact Assessment to determine the impacts and necessary transportation mitigations that are to be funded by that project. As part of the update to the TIF program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the improvements and facilities required to mitigate the impacts of new development pursuant to the proposed project. The following examples of improvements and facilities would reduce impacts to acceptable level of service standards and these, among other improvements, could be included in the TIF program impact fees nexus study:	SU

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		▪ **Sand Hill Road (westbound) and I-280 Northbound On-ramp (#1)**: Modify the signal-timing plan during the PM peak hour to increase the maximum allocation of green time to the westbound approach during the PM peak hour. ▪ **Sand Hill Road (eastbound) and I-280 Northbound Off-ramp (#2)**: Add an additional northbound right-turn lane on the off-ramp to improve operations to acceptable LOS D during the AM peak hour. ▪ **El Camino Real and Ravenswood Avenue (#28):** One eastbound right-turn lane on Menlo Avenue to improve conditions. ▪ **Willow Road and Newbridge Street (#33):** Implement measures on Chilco Street south of Constitution Drive to reduce or prevent cut-through traffic through the Belle Haven neighborhood, such as peak-hour turn restrictions from Constitution Drive to southbound Chilco Street, and measures to enhance east/west circulation from Willow Road via O'Brien Drive and the proposed mixed-use collector street opposite Ivy Drive, extending east to University Avenue, to discourage use of Newbridge Street. ▪ **Willow Road and Hamilton Avenue (#36):** Provide primary access to potential future development sites east of Willow Road via O'Brien Drive and/or the proposed Mixed-Use Collector that would intersect Willow Road between Hamilton Avenue and O'Brien Drive. Implement measures on Chilco Street south of Constitution Drive to prevent cut-through traffic through the Belle Haven neighborhood, such as peak-hour turn restrictions from Constitution Drive to southbound Chilco Street. Although the provision of an eastbound left-turn lane on Hamilton Avenue where it approaches Willow Road would reduce the delay, this potential mitigation is not recommend because it would encourage cut-through traffic via Chilco Street and Hamilton Avenue, potentially affecting the Belle Haven neighborhood. Therefore, to avoid facilitating the use of Chilco Street and Hamilton Avenue as cut-through routes in the adjacent residential neighborhood, mitigating this traffic impact is not recommended at this time, consistent with City policies that	

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		discourage cut-through traffic in residential neighborhoods. The improvements should be incorporated into the updated fee program for ongoing consideration. ▪ **Bayfront Expressway and Willow Road (#37):** Evaluate the potential for grade separation to allow conflicting movements to occur simultaneously. The evaluation must consider traffic improvements, along with potential secondary impacts caused by potential right-of-way acquisition, impacts to adjacent wetlands and the Dumbarton Rail corridor, as well as potential impacts or benefits for multi-modal accommodation. If found feasible, the updated fee program should incorporate fair-share contributions from future development towards grade separation. ▪ **Bayfront Expressway and University Avenue (#38):** Evaluate the potential for grade separation to allow conflicting movements to occur simultaneously. The evaluation must consider traffic improvements, along with potential secondary impacts caused by potential right-of-way acquisition, impacts to adjacent wetlands and the Dumbarton Rail corridor, as well as potential impacts or benefits for multi-modal accommodation. If found feasible, the updated fee program should incorporate fair-share contributions from future development towards grade separation. ▪ **Chilco Street and Constitution Drive (#45):** Install a traffic signal and signalized crosswalks at the intersection. Construct three southbound lanes on the one-block segment of Chilco Street, between Bayfront Expressway and Chilco Street, to include two southbound left-turn lanes to accommodate the volume of left-turning vehicles entering the project site. In addition, during the AM peak hour, provide a "split-phase" signal operation on Chilco Street. Construct a northbound left-turn lane on Chilco Street approaching Constitution Drive. Construct two outbound lanes on Chilco Street between Constitution Drive and Bayfront Expressway. If the Facebook Campus Expansion Project is approved, this mitigation measure would be required to be constructed as a requirement of that project. ▪ **Chrysler Drive and Constitution Drive (#46):** Construct a	

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		southbound left-turn on Chrysler Drive, approaching Constitution Drive. ▪ **University Avenue and Adams Drive (#47):** Install a traffic signal at this intersection. ▪ **University Avenue and Bay Road (#51):** Realign the eastbound and westbound approaches to allow replacement of the east/west "split-phase" signal on Bay Street with standard protected signal phases in order to allow eastbound and westbound pedestrian crossings to occur simultaneously, which would allow for an increase in green time allocated to northbound/southbound movements on University Avenue and reduce peak-hour delay at this intersection. This intersection is located in the City of East Palo Alto and under the control of Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements. ▪ **University Avenue and Donohoe Street (#54):** Mitigating this impact would require providing additional westbound lane capacity on Donohoe Street, including an extended dual left-turn pocket, dedicated through lane, and dual right-turn lanes; providing a southbound right-turn lane on University Avenue and lengthening the northbound turn pockets. However, this mitigation is likely to be infeasible given right-of-way limitations, proximity to existing US 101 on- and off-ramps, and adjacent properties. In addition, this intersection is located in the City of East Palo Alto and under the control of Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements. ▪ **University Avenue and US 101 Southbound Ramps (#56):** Mitigating this impact would require modifications to the US 101 Southbound On/Off Ramps and at this location This intersection is located in the City of East Palo Alto and under the control of	

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements. ▪ **Chilco Street and Hamilton Avenue (#60):** Installation of a traffic signal would mitigate this impact to less than significant levels, but would have the undesirable secondary effect of encouraging the use of Chilco Street as a cut-through route, which conflicts with City goals that aim to reduce cut-through traffic in residential neighborhoods. Therefore, to avoid facilitating cut-through traffic, mitigating this traffic impact by increasing capacity is not recommended at this time, but should be incorporated into the updated fee program for ongoing consideration.	
TRANS-2: Implementation of the proposed project would result in impacts to Routes of Regional Significance.	S	Implement Mitigation Measure TRANS-1a.	SU
TRANS-3: Implementation of the proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.	No Impact	N/A	N/A
TRANS-4: Implementation of the proposed project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	LTS	N/A	N/A
TRANS-5: Implementation of the proposed project would not result in inadequate emergency access.	LTS	N/A	N/A
TRANS-6a: Implementation of the proposed project would not provide adequate pedestrian or bicycle facilities to connect to the area-wide circulation system.	S	TRANS-6a: The City of Menlo Park shall update the Transportation Impact Fee (TIF) program to provide funding for bicycle and pedestrian facilities that are necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward improvements that will connect development sites within the area circulation system, including the elimination of gaps	SU

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		in the citywide pedestrian and bicycle network. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Transportation Impact fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the transportation Impact fees to fund construction (or to recoup fees advanced to fund construction) of the transportation improvements identified in this mitigation measure, among other things that at the time of potential future development may be warranted to mitigate traffic impacts. It should be noted that any project proposed prior to the adoption of an updated TIF will be required to conduct a project-specific Transportation Impact Assessment to determine the impacts and necessary pedestrian or bicycle facilities mitigations that are to be funded by that project. As part of the update to the TIF program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the bicycle and pedestrian improvements and facilities required to mitigate the traffic impacts of new development pursuant to the proposed project. The following examples of pedestrian and bicycle improvements would reduce impacts to acceptable standards, and these, among others improvements, could be included in the updated TIF program, also described under TRANS-1: ▪ **US 101 Pedestrian & Bicycle Overcrossing at Marsh Road, and Marsh Road Corridor Pedestrian & Bicycle Improvements (Haven Avenue to Marsh Road/Bay Road):** Provide pedestrian and bicycle circulation between the Bayfront Area east of US 101 with the area circulation system west of US 101 along Marsh Road, including access to schools and commercial sites west of Marsh Road that are accessed via Bay Road and Florence Street. Improvements should facilitate pedestrian and bicycle circulation	

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		between Haven Avenue and across US 101 near Marsh Road. The recommended improvement would include a dedicated pedestrian and bicycle crossing adjacent to Marsh Road. Alternatively, the provision of continuous sidewalks with controlled pedestrian crossings and Class IV protected bicycle lanes on the Marsh Road overpass, if feasible, could mitigate this impact. ▪ **Ringwood Avenue Corridor Pedestrian & Bicycle Improvements (Belle Haven to Middlefield Road):** Eliminate pedestrian and bicycle facility gaps on primary access routes to the Ringwood Avenue bicycle/pedestrian overcrossing of US 101 (located near the terminus of Ringwood Avenue and Market Place). Improvements should include complete sidewalks on the north side of Pierce Road and bicycle facility improvements on the proposed Ringwood Avenue-Market Place-Hamilton Avenue bicycle boulevard (see Street Classification Map in Chapter 3, Project Description). These improvements would also enhance pedestrian and bicycle access to Menlo-Atherton High School. ▪ **University Avenue Pedestrian Improvements:** Eliminate gaps in the sidewalk network on those portions of University Avenue that are within the Menlo Park City limits. The TIF Program should also include a contribution towards elimination of sidewalk gaps outside the City limits (within the City of East Palo Alto) to ensure that continuous sidewalks are provided on the west University Avenue between Adams Drive and the Bay Trail, located north of Purdue Avenue. ▪ **Willow Road Bikeway Corridor (Bayfront Expressway to Alma Street):** Provide a continuous bikeway facility that eliminates bicycle lane gaps, provides Class IV bicycle lanes on the US 101 overpass and where Willow Road intersects US 101 northbound and southbound ramps, and upgrades existing Class II bicycle lanes to Class IV protected bicycle lanes where feasible, particularly where the speed limit exceeds 35 miles per hour (mph). ▪ **Willow Road Pedestrian Crossings (Bayfront Expressway to**	

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		Newbridge Street): Provide enhanced pedestrian crossings of Willow Road at Hamilton Avenue, Ivy Drive (including proposed new street connection opposite Ivy Drive), O'Brien Drive and Newbridge Street. Enhanced crossings should include straightened crosswalks provided on each leg, high visibility crosswalk striping, accessible pedestrian signals, and pedestrian head-start signal timing (leading pedestrian intervals) where feasible. These enhanced crossings would provide improved access between the Belle Haven neighborhood and potential future development between Willow Road and University Avenue. ▪ **Dumbarton Corridor Connections:** Through separate projects, Samtrans is currently considering the potential for a bicycle/pedestrian shared-use trail along the Dumbarton Corridor right-of-way between Redwood City and East Palo Alto, through Menlo Park. If found feasible, the City's TIF Program should incorporate walking and bicycling access and connections to the proposed trail, including a potential rail crossing between Kelly Park and Onetta Harris Community Center and Chilco Street and pedestrian and bicycle improvements on streets that connect to the Dumbarton Corridor: Marsh Road, Chilco Street, Willow Road, and University Avenue.	
TRANS-6b: The project would generate a substantial increase in transit riders that cannot be adequately serviced by existing public transit services, and the project would generate demand for transit services at sites more than one-quarter mile from existing public transit routes.	S	TRANS-6b: The City of Menlo Park shall update the existing Shuttle Fee program to guarantee funding for operations of City-sponsored shuttle service that is necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward circulation improvements and right-of-way acquisition. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Shuttle fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the Shuttle fees to fund operations of City-sponsored shuttle service to meet the increased demand.	SU

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
		As part of the update to the Shuttle Fee program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the transit improvements and facilities required to mitigate the transit impacts of new development pursuant to the proposed project. The types of transit-related improvements and facilities that would reduce impacts to acceptable standards including increasing the fleet of City-sponsored Shuttles and adding additional transit stop facilities within one-quarter mile from residential and employment centers These, among other improvements, could be included in the Shuttle Fee program impact fees nexus study.	
TRANS-6c: The project would result in increased peak-hour traffic delay at intersections on Bayfront Expressway, University Avenue and Willow Road, as identified in TRANS-1, that could decrease the performance of transit service and increase the cost of transit operations.	S	TRANS-6c: The City should continue to support the Dumbarton Corridor Study, evaluating the feasibility of providing transit service to the existing rail corridor and/or operational improvements to Bayfront Expressway, Marsh Road and Willow Road, such as a dedicated high-occupancy vehicle (HOV) lane, bus queue-jump lanes, or transit-signal priority that could reduce travel time for current bus operations.	SU
Utilities and Service Systems			
UTIL-1: Implementation of the proposed project would have sufficient water supplies available to the serve the study area from existing entitlements, conservation plans and resources, and would not require new or expanded entitlements.	LTS	N/A	N/A
UTIL-2: Implementation of the proposed project would require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.	LTS	N/A	N/A

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Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
UTIL-3: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to water service.	LTS	N/A	N/A
UTIL-4: Implementation of the proposed project would not exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board.	LTS	N/A	N/A
UTIL-5: Implementation of the proposed project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.	LTS	N/A	N/A
UTIL-6: Implementation of the proposed project would not result in the determination by the wastewater treatment provider, which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	LTS	N/A	N/A
UTIL-7: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects would result in less-than-significant cumulative impacts with respect to wastewater service.	LTS	N/A	N/A
UTIL-8: Implementation of the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs.	LTS	N/A	N/A
UTIL-9: Implementation of the proposed project would comply with federal, State, and local statutes and regulations related to solid waste.	LTS	N/A	N/A

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EXECUTIVE SUMMARY

Environmental Impact	Significance Without Mitigation	Mitigation Measures	Significance With Mitigation
UTIL-10: Implementation of the proposed project, when considered with the other jurisdictions that divert solid waste to the Ox Mountain Landfill, could result in potential lack of landfill capacity for disposal of solid waste under cumulative conditions.	S	UTIL-10: The City shall continue its reduction programs and diversion requirements in an effort to further reduce solid waste that is diverted to the landfill and lower its per capita disposal rate. In addition, the City shall monitor solid waste generation volumes in relation to capacities at receiving landfill sites to ensure that sufficient capacity exists to accommodate future growth. The City shall seek new landfill sites to replace the Ox Mountain landfills, at such time that this landfill is closed.	LTS
UTIL-11: Implementation of the proposed project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.	LTS	N/A	N/A
UTIL-12: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to stormwater infrastructure.	LTS	N/A	N/A
UTIL-13: Implementation of the proposed project would not result in a substantial increase in natural gas and electrical service demands, and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities.	LTS	N/A	N/A
UTIL-14: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to energy conservation.	LTS	N/A	N/A

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3. Project Description

This chapter of the Draft Environmental Impact Report (EIR) describes the proposed General Plan Update (Land Use and Circulation Elements) and M-2 Area Zoning Update, also known as ConnectMenlo. The proposed project includes potential new development, that would only occur in the Bayfront Area, associated with implementation of ConnectMenlo in combination with the remaining and previously approved buildout potential in the current General Plan that would be reaffirmed and carried forward to the 2040 buildout horizon upon approval of this General Plan and Zoning Update. The remaining and previously approved buildout potential in Menlo Park consists of the Housing Element sites considered in the 2013 Housing Element Update, General Plan Consistency Update, and associated Zoning Ordinance amendments Environmental Assessment,[1] the 2014 Housing Element Update (2015–2023) and Zoning Ordinance Amendment (Housing Element Implementation) Negative Declaration,[2] and the development potential considered in the 2012 El Camino Real/Downtown Specific Plan EIR.[3] The potential buildout is discussed in Section 3.7.3, Buildout Projections, of this chapter. Pursuant to the California Environmental Quality Act (CEQA),[4] the proposed project and the remaining General Plan buildout potential, together, are referred to as the "proposed project" that is the subject of this Draft EIR.

This project description provides general background about the City of Menlo Park and the proposed project, including detailed descriptions of the proposed General Plan Update and Zoning Update.

This Draft EIR has been completed in accordance with CEQA, which requires that State and local public agencies analyze proposed projects to determine potential impacts on the environment and disclose any such impacts.[5] The City of Menlo Park (City) is the lead agency for the environmental review of the proposed project. As described in more detail in Chapter 1, Introduction, this Draft EIR provides a programmatic analysis of the environmental impacts associated with projected buildout of the proposed project. Consistent with Section 15168 of the CEQA Guidelines, *program-level* environmental review documents are appropriate when a project consists of a series of actions related to the issuance of rules, regulations, and other planning criteria. The proposed project that is the subject of this EIR consists of long-term plans and zoning changes that will be implemented as policy documents guiding future development activities and City actions. Because this is a program-level EIR, this document does not evaluate the impacts of specific, individual developments that may be allowed under the General Plan. Future specific projects may require separate environmental review.

[1] The Housing Element Update, General Plan Consistency Update, and associated Zoning Ordinances amendments Environmental Assessment was approved by the Menlo Park City Council in April 2013.

[2] The Housing Element Update (2015–2023) and Zoning Ordinance Amendment (Housing Element Implementation) Negative Declaration (State Clearinghouse Number 2014022040) was approved by the Menlo Park City Council in March 2014.

[3] The El Camino Real/Downtown Specific Plan Environmental Impact Report (State Clearinghouse Number 2009122048) was certified by the Menlo Park City Council in June 2012.

[4] CEQA Guidelines Section 15126.

[5] CEQA Guidelines Section 15002(a).

3.1 BACKGROUND

Every city and county in California is required to have an adopted comprehensive long-range general plan for the physical development of the county or city and, in some cases, land outside the city or county boundaries.[6] The Menlo Park General Plan is the community's overarching policy document that defines a vision for future change and sets the "ground rules" for locating and designing new projects, expanding the local economy, conserving resources, improving public services and safety, and fostering community health. The General Plan, which includes guiding principles, goals, policies, and programs, functions as the City's primary land use regulatory tool. The General Plan is Menlo Park's constitution for future change and, together with the Zoning Ordinance and related sections of the Municipal Code, will serve as the basis for planning-related decisions made by City staff, the Planning Commission, and the City Council.

3.2 OVERVIEW

The Menlo Park General Plan is required to address the specified provisions of each of the seven mandated elements under State law, including land use, circulation, housing, conservation, open space, noise and safety, to the extent that the provisions are locally relevant. The current Menlo Park General Plan is a dynamic document consisting of elements that establish long-term goals and policies to guide daily decision-making for the development and conservation in Menlo Park through the year 2023. The elements of the current General Plan include the following:

- Land Use and Circulation (adopted December 1, 1994 with amendments though May 21, 2013)
- Housing (2013 – 2023) (adopted April 1, 2014)
- Open Space and Conservation, and Noise and Safety (adopted May 21, 2013)

Because the Housing Element and the Open Space and Conservation, and Noise and Safety Elements were recently updated and adopted, and underwent separate environmental review as part of the adoption processes, the focus of this General Plan Update is on the Land Use and Circulation Elements, as well as an update to the Zoning Ordinance to implement several programs from these Elements. In Menlo Park, Zoning and General Plan land use designations are closely aligned. The City's General Plan Land Use Diagram is integrated with the City's Zoning Map, which shows the parcel-specific delineation of the Zoning districts throughout the city and depicts the land use pattern for future development in Menlo Park. Accompanying the Zoning Map is a table showing the correspondence between the City's General Plan land use designations and Zoning districts. For properties in Menlo Park, a parcel's Zoning designation stems directly from its General Plan land use designation, with the Zoning designation acting as a means to implement the General Plan by refining the specific uses and development standards for that parcel.

The proposed Land Use and Circulation Elements, and Zoning updates were published as a Draft for Public Review concurrently with this Draft EIR. The proposed Land Use and Circulation Elements would update the City's existing Land Use and Circulation Elements and are intended to guide development sustainability, mobility and connectivity in the city through the year 2040. These two elements are central components of the General Plan because they describe which land uses should be allowed in the city,

[6] California Government Code Section 65300.

where those land uses should be located, how those land uses may be accessed and connected, and how development of those uses should be managed so as to minimize impacts and maximize benefits to the city and its residents.

The proposed Land Use Element provides the policy framework to guide the type and scale of potential development that may occur over the next 24 years (e.g., 2016 to 2040). While the policies of the Land Use Element will apply citywide, the land use designation changes proposed under this update only apply to the Bayfront Area, described below, and do not change any existing land use designations throughout the remainder of the city. The proposed Circulation Element addresses transportation issues such as mobility and connectivity for all modes of transportation throughout the city. Both updated Elements have been written to be consistent with the other General Plan Elements and are complementary to the 2012 El Camino Real/Downtown Specific Plan.

This Draft EIR also assesses the proposed zoning provisions for the Bayfront Area to implement the updated General Plan programs, including development regulations and design standards for the Bayfront Area. A targeted update to the Zoning designations within the Bayfront Area is an integral component of the proposed project.

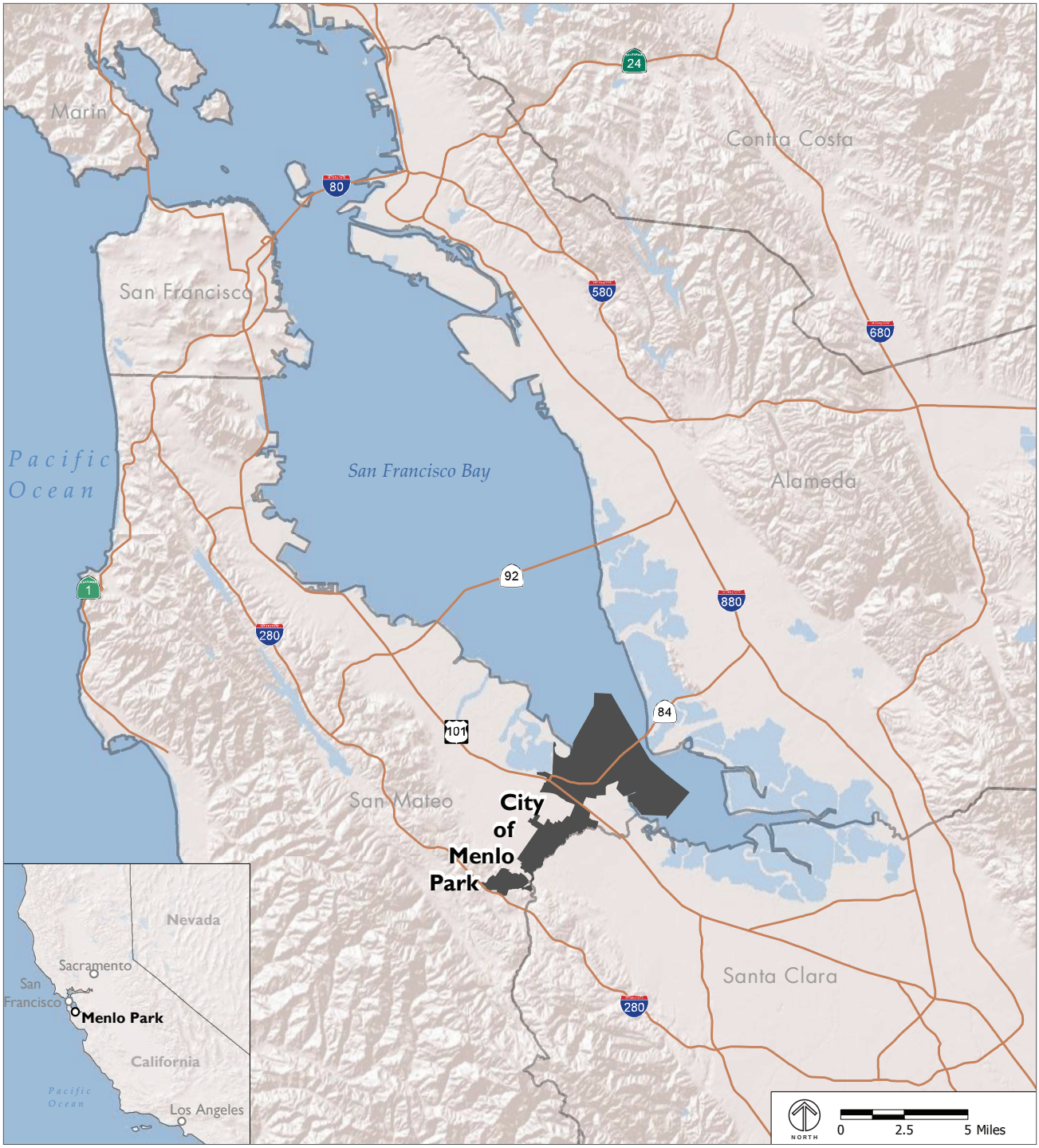
The proposed changes to General Plan Land Use and Circulation Elements, including the goals, policies and programs, would require map and text amendments to the current General Plan. A comprehensive list of proposed policies is provided in Appendix B, Proposed General Plan Goals, Policies and Programs, of this Draft EIR. In conjunction with these amendments, Title 16, Zoning, of the City's Municipal Code will be amended to codify the provisions of the proposed Bayfront Area Zoning district.

3.3 MENLO PARK LOCATION AND SETTING

3.3.1 LOCATION

As shown in Figure 3-1, Menlo Park is located at the southern edge of San Mateo County. The city is generally bounded by San Francisco Bay to the north and east; the cities of East Palo Alto and Palo Alto and Stanford University to the southeast; and Atherton, unincorporated North Fair Oaks, and Redwood City to the northwest.

The City is accessed by Interstate 280 (I-280), U.S. Highway 101 (US 101), Caltrain, Bayfront Expressway (State Route 84) via the Dumbarton Bridge, and a variety of arterial, collector and residential streets, as well as regional and local pedestrian and bicycles routes.



Source: City of Menlo Park; PlaceWorks, 2012; ESRI 2010; FHA 2002.

Figure 3-1
Regional Location

3.3.2 LOCAL SETTING

3.3.2.1 EXISTING LAND USE

Menlo Park is known for a range of urban and suburban land uses, including a variety of high-quality residential neighborhoods, an attractive Downtown, parks, established business centers, and an emerging center for innovation and technology. Figure 3-2 shows the breakdown of existing land use types in Menlo Park. Major land use types include:

- Residential. More than half of land in Menlo Park is residential. Menlo Park's residential neighborhoods represent a variety of urban forms, and architectural styles.
- Industrial/Business Park. Approximately fourteen percent of the land in Menlo Park is industrial/business park. Menlo Park hosts a number of large employers that are generally concentrated in several clusters: the Bayfront Area, the Veteran's Health Administration (VA) Medical Center, central/Downtown Menlo Park, and the Venture Capital Corridor along Sand Hill Road.
- Open Space/Conservation Area. Nearly ten percent of the city consists of open space and conservation lands.
- Commercial. Approximately seven percent of the city is commercial. Menlo Park's main commercial center is Downtown and along the El Camino Real corridor, which are characterized primarily by a mix of retail and service uses. The city also has a number of smaller retail/commercial nodes that serve the neighborhoods.

3.3.2.2 EXISTING ZONING

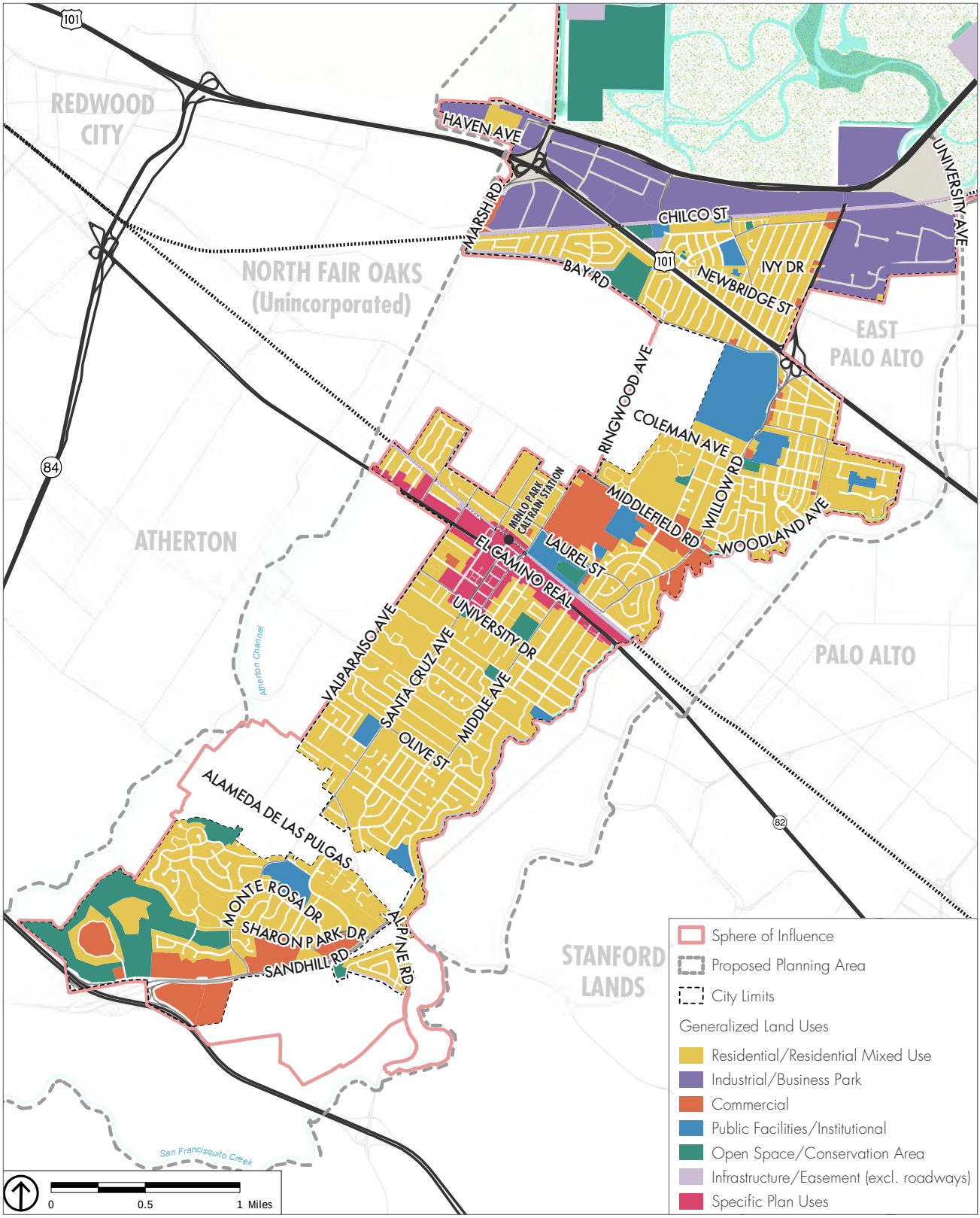
The Menlo Park Zoning Ordinance implements the land use designations in the General Plan by establishing comprehensive zoning regulations and development standards for each zoning district.

3.3.2.3 BAYFRONT AREA

As stated above, the Bayfront Area is the focus of future land use change and all of the new development potential proposed under this update would occur in this area. As shown on Figure 3-3, the Bayfront Area comprises the northern-most portion of Menlo Park. The Bayfront Area is generally bounded by San Francisco Bay to the north; Redwood City to the west; East Palo Alto to the southeast; and the Menlo Park neighborhoods of Belle Haven, Flood Triangle, Suburban Park, and Lorelei Manor to the south.

The Bayfront Area contains major regional transportation links, including US Highway 101, Bayfront Expressway (State Route 84), Willow Road (State Route 114), and University Avenue (State Route 109) all of which are utilized heavily to provide access to the Dumbarton Bridge.

The majority of the Bayfront Area is made up of the City's industrial and business park land uses and includes the City's entire existing M-2 (General Industrial) Zoning district; however, this area also includes some high-density residential land uses.



Source: PlaceWorks, 2015.

Figure 3-2
Existing General Plan Land Use Designations

Source: PlaceWorks, 2015.

Figure 3-3
Bayfront Area

As shown on Figure 3-4, the existing Zoning districts include the following:

- R-2 (Low Density Apartment Residential)
- R-4-S(AHO) (High-Density Residential District, Special, Affordable Housing Overlay)
- R-4-S (Residential)
- C-2-B (Neighborhood Commercial, Restrictive)
- C-2-S (Neighborhood Commercial, Special)
- C-4 (General Commercial)
- C-4(X) (General Commercial, Conditional)
- F-P (Flood Plain)
- M-2 (General Industrial)
- M-2(X) (General Industrial, Conditional)
- M-3 (X) (Commercial Business Park)

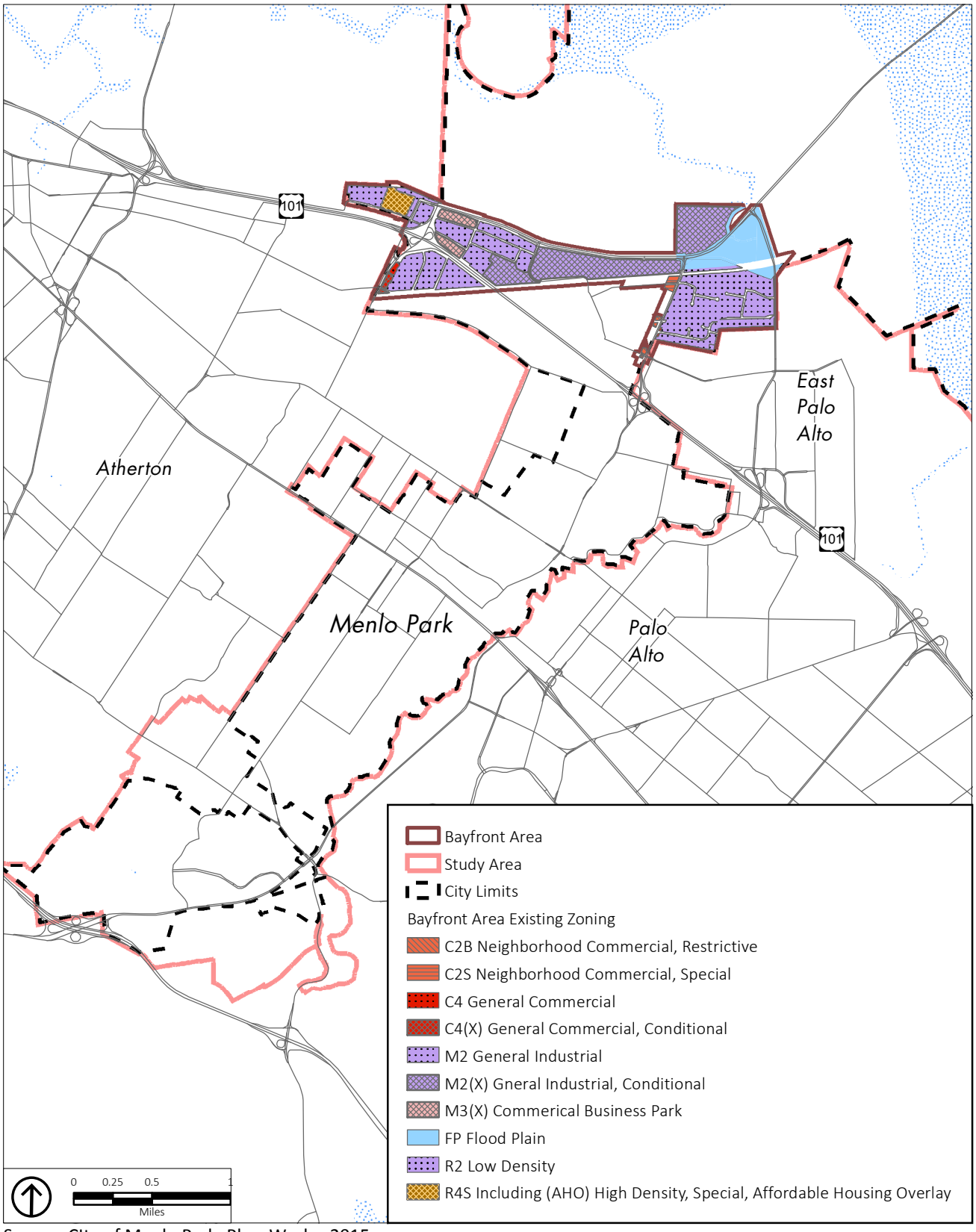
3.4 PROJECT STUDY AREA

The State of California encourages cities to look beyond their borders when undertaking the sort of comprehensive planning required of a General Plan. The City only has jurisdiction over land that is within the city limits. If land within the City's Sphere of Influence (SOI) is annexed by the City of Menlo Park, it would be under Menlo Park's jurisdiction in the future.

The EIR study area consists of all land within the City of Menlo Park, its SOI (where the City maintains a role in land use and transportation decisions through future annexations of unincorporated areas), and a proposed Planning Area (where the City believes the Menlo Park community should be able to participate in influencing land use and transportation decisions). The boundaries for the Planning Area are shown in Figure 3-5 and described below.

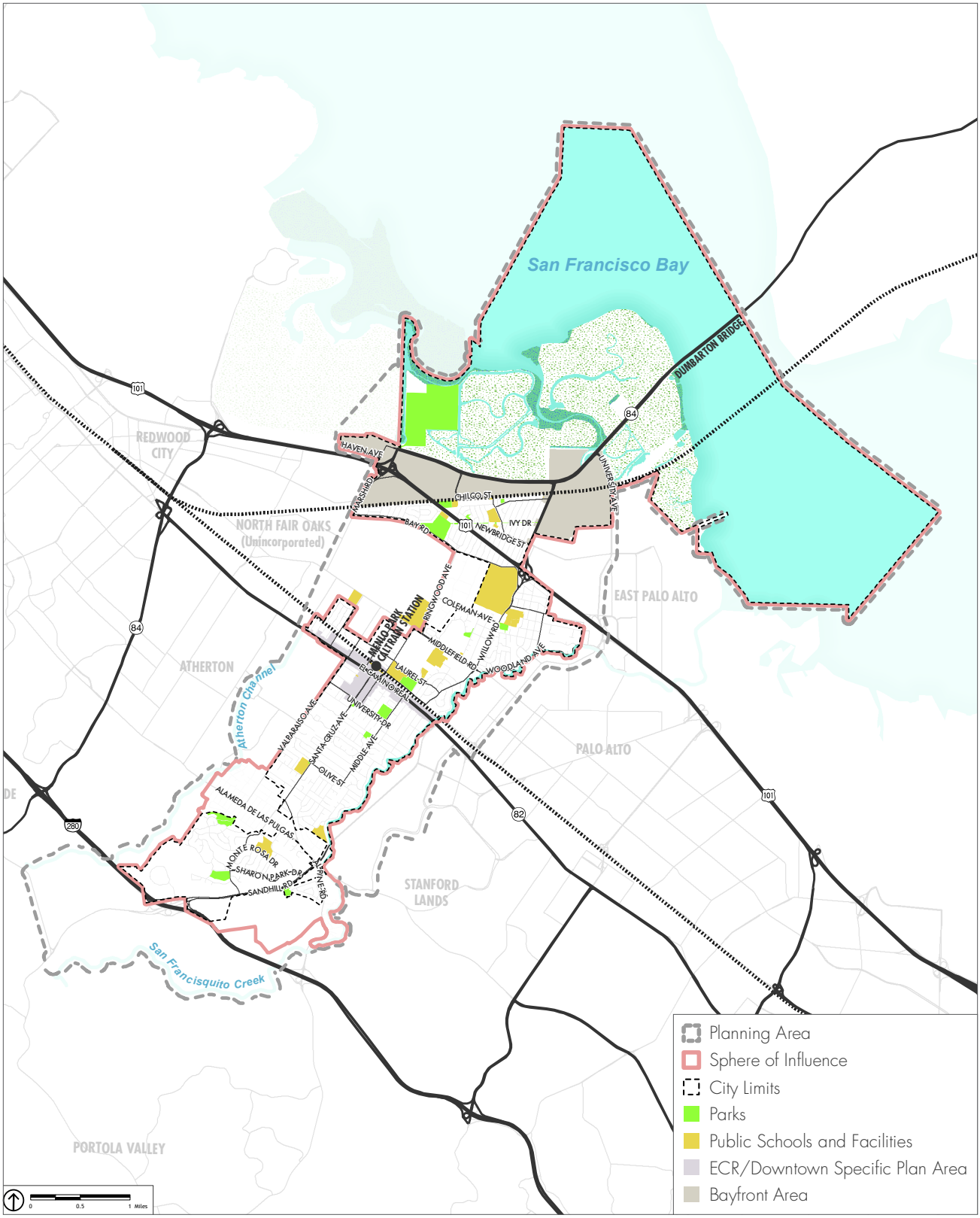
3.4.1 PLANNING AREA

The Planning Area is 25.6 square miles, and encompasses the city limits, SOI, and portions of Palo Alto, East Palo Alto, Atherton, and unincorporated San Mateo County. The purpose of including these additional areas is to capture portions of the watersheds of San Francisquito Creek and the Atherton Channel, as well as areas of adjacent communities, that could impact or be impacted by land use, development, and other changes in Menlo Park, including impacts to hydrology, traffic, and biological resources, among others. Designating the Planning Area does not give the City any regulatory power over the land outside the city limits or SOI, but it signals to the County and to other nearby local and regional authorities that Menlo Park recognizes that development within this area may have an impact on the future of the city. The City is considering annexation of two areas in the SOI. Although the Menlo Park General Plan policies and zoning codes do not currently apply in these locations, General Plan policies must consider these areas and their relationship to the incorporated areas of Menlo Park. Because the City does not currently have jurisdiction over all of the land in the Planning Area, no physical impacts on land outside the SOI or city limits but within the Planning Area are expected. See Chapter 4.0, Environmental Evaluation, for a description of the cumulative impact scope for this EIR, which may include lands within the Planning Area and beyond, depending on the environmental topic being analyzed.



Source: CIty of Menlo Park; PlaceWorks, 2015.

Figure 3-4
Bayfront Area Existing Zoning Map



Source: PlaceWorks, 2015.

Figure 3-5
Planning Area Boundaries

3.4.2 SPHERE OF INFLUENCE

The existing SOI is 19.1 square miles in size. The SOI is a boundary that identifies land that the City may annex in the future, and for which urban services, if available, could be provided upon annexation. Under State law, the SOI is established by the San Mateo County Local Agency Formation Commission (LAFCo) with input from the City. The purpose of the SOI is to identify areas where urban development can be best accommodated over the next 5 to 10 years in an orderly and efficient manner. While the City does not have jurisdiction over land within the SOI, designating an SOI sets precedence for ensuring that the City is able to comment on development proposed for lands within the SOI prior to annexation and to begin planning for future development of the area. Establishment of this boundary is necessary to determine which governmental agencies can provide services in the most efficient way to the people and property in the area. Unincorporated areas adjacent to Menlo Park fall under the planning, land use, and regulatory jurisdiction of San Mateo County. The City does not propose to annex any of these areas as part of this project; however, as stated above, two areas in the SOI are being considered for annexation separate from this project. These are discussed further in Chapter 4.0, Environmental Evaluation, of this Draft EIR. Other annexations may occur within the planning period and would be analyzed under separate environmental review.

3.4.3 CITY LIMITS

The city limits enclose an area of approximately 18 square miles, of which approximately 12 square miles consist of San Francisco Bay and wetlands. The developable area in the city is about seven square miles, of which about 20 percent is streets or other public or utilities areas. The City has primary authority over land use and other governmental actions within this area. Certain unincorporated areas outside of the city limit may still have a Menlo Park mailing address and may share certain services with the city. For example, most of the area along Alameda de las Pulgas, commonly referred to as West Menlo Park, is not actually within Menlo Park's city limit; however, it does fall within Menlo Park's SOI.

3.5 PROJECT OBJECTIVES

Because the proposed project mainly addresses growth in the Bayfront Area and applicable land use and circulation policies citywide, the City Council established the following specific objectives for the update of the Land Use and Circulation Elements:

- Establish and achieve the community's vision.
- Realize economic and revenue potential.
- Directly involve Bayfront Area property owners (as land use changes are expected only in that area).
- Streamline development review.
- Improve mobility for all travel modes.
- Preserve neighborhood character.

3.6 PLANNING PROCESS

The public outreach and participation process for ConnectMenlo began in August 2014 and has included over 60 organized events including workshops and open houses, mobile tours of Menlo Park and nearby communities, informational symposia, stakeholder interviews, focus groups, recommendations by a General Plan Advisory Committee (GPAC) composed of City commissioners, elected officials, and community members, and consideration by the City Council and Planning Commission at public meetings. A description of each of these opportunities and other information has been maintained on the City's website through a project page specifically for ConnectMenlo (www.menlopark.org/connectmenlo). A summary of these opportunities is included in Appendix B, Public Process and Participation Process, of this Draft EIR. Additional opportunities will occur throughout the remainder of the process to ensure that community members play a central role in guiding the General Plan and Zoning Ordinance updates.

3.7 PROJECT COMPONENTS

As previously stated, the proposed project includes an update to the General Plan Land Use and Circulation Elements and a targeted Zoning Ordinance update to the Bayfront Area. Each of these components is described in detail below.

3.7.1 PROPOSED GENERAL PLAN UPDATE

While much of the existing General Plan language will remain exactly the same in the updated General Plan, the project proposes a number of changes to the Land Use Element and Circulation Element. Marshes, Salt Ponds, Preserve and Landscaped Greenways, Buffers, and Parkways land use designations are consolidated into one single proposed Baylands designation. The proposed Land Use Element includes new designations in the Bayfront Area for Office, Life Sciences and Mixed Use Residential. Changes to the General Plan Land Use map are limited to the Bayfront Area, which is the area commonly referred to in its zoning context as the M-2 area. This area primarily consists of the business parks and light industrial uses between Highway 101 and the Bayfront Expressway. The proposed Land Use Element includes policies and programs that promote sustainability and complete neighborhoods, streamline environmental review for infill projects, encourage healthy communities, establish performance standards, and address climate change. Proposed General Plan programs require new or expanded development to provide community amenities such as education, transit, transportation infrastructure, neighborhood-serving amenities, child-care, housing, job training, and meaningful employment for Menlo Park youth and adults.

The proposed Circulation Element includes a new emphasis on complete streets, multi-modal transportation, and community circulation benefits from private development, transportation system safety and efficiency, and community transit services. The proposed Circulation Element includes new street classifications that adopt a multi-modal approach that establishes and promotes the suitability of streets for various travel modes and adjacent land uses.

A comprehensive list of proposed Land Use and Circulation goals, policies and programs is included in Appendix C, Proposed General Plan Goals, Policies and Programs, of this Draft EIR.

PROJECT DESCRIPTION

The proposed General Plan Update includes the following sections:

- Introduction. The Introduction sets forth the purpose, philosophy, and organization of the General Plan, and identifies the Guiding Principles that describe the place that Menlo Park wants to be while protecting the character of residential neighborhoods and expanding transportation options. The Guiding Principles address the topics of citywide equity, healthy community, competitive and innovative business destination, corporate contribution, youth support and education excellence, great transportation options, complete neighborhoods and commercial corridors, accessible open space and recreation and sustainable environmental planning. The Guiding Principles build on an overall philosophy established during the 1994 Land Use and Circulation Elements update that calls for:
  - Ensuring that development has a human scale, is pedestrian and bike friendly, and provides tangible benefits to the Menlo Park community.
  - Protecting open space and natural resources.
  - Minimizing the exposure of people and property to health and safety hazards.
  - Minimizing traffic congestion and limiting through traffic in residential neighborhoods.
  - Promoting the rehabilitation of existing housing and the upgrading of existing commercial development.
  - Enhancing the city's economic vitality and fiscal health.

  The Guiding Principles also embody the notion that sustainability involves a balanced economy and diversified business base that can survive economic cycles, as well as equity in the provision of education, and public services for all community members.
- Land Use Element. The Land Use Element provides general guidance on the physical development of the city, describing the land use designations appearing on the General Plan Land Use Diagram and outlines the general uses and standards of building density and intensity for these land use designations. Under this update, land use designations are changing in the Bayfront Area only. However, the goals, policies and programs of the Land Use Element address the topics of orderly development, neighborhood preservation, neighborhood-serving uses, business development and retention, the downtown/El Camino Real area, open space, and sustainable services, and apply citywide.
- Circulation Element. The Circulation Element contains a description of the street classification system based for the first time on the variety of travel modes in Menlo Park, instead of the prior system, which focused almost exclusively on the efficiency of automobile travel. The goals, policies and programs of the Circulation Element address the topics of safe transportation system, complete streets, sustainable transportation, health and wellness (through transportation enhancements), transit opportunities, transportation demand management, and parking, and also apply citywide.

As described above, goals, policies, and programs of the Land Use and Circulation Elements are applicable to all development in the city. Policies and programs are at the same level of importance, and are both intended to support the goals. In most cases, goals have both policies and programs. However, it is also possible for a goal to be supported exclusively by policies or programs.

The following provides a description of goals, policies, and programs and explains the relationship between them:

- A *goal* is a description of the general desired result that the City seeks to create through the implementation of its General Plan.
- A *policy* is a specific statement that regulates activities in the city, guides decision-making and directs on-going efforts as the City works to achieve a goal. A policy is on-going and requires no further implementation. The General Plan's policies set out the guidelines that will be used by City staff, the Planning Commission, and City Council in their review of land development projects and in decision-making about City actions. A policy indicates a commitment of the local legislative body to a particular course of action. The policies of the Menlo Park General Plan have been carefully prepared to reduce and/or avoid impacts to the environment as a result of future development in the city to the extent feasible.
- A *program* is a measure, procedure, or action intended to help reach a specified goal. The City must take additional steps to implement each action in the General Plan. An action is something that can and will be completed.

Future development in Menlo Park is required to be consistent with the General Plan. A future project is consistent with the General Plan if, considering all its aspects, it will further the goals and policies of the general plan and not obstruct their attainment. Irrespective of whether a future development project is considered a project under CEQA,[7] thus, requiring subsequent environmental review, the City is solely responsible for determining whether future projects are consistent with the General Plan. Upon receiving a development proposal or other entitlement request, the City analyzes the proposal by checking for General Plan consistency by identifying the applicable goals and policies by topic, to determine General Plan consistency.

The Land Use and Circulation Elements are the central focus of the proposed General Plan Update. Each element is described in detail below.

3.7.1.1 LAND USE ELEMENT UPDATE

The updated Land Use Element reflects the Guiding Principles to ensure that land use goals, policies, and programs integrate the extensive community input on preserving existing residential neighborhoods, creating new land uses, sustainability, innovation, and community benefit. In addition to reinforcing the community's vision for the city, the updated Land Use Element describes the changes for future development in the Bayfront Area, including new land use designations and changes in designations for individual parcels. Where appropriate, policies and programs also respond to State legislation established since adoption of the 1994 General Plan.

[7] A project subject to the California Environmental Quality Act (CEQA) is defined in CEQA Section 21065.

Contents and Organization

The Land Use Element contains the following sections:

- Overview. This section provides an overview of the city and describes the focus of the Land Use Element Update developed as part of the ConnectMenlo project.
- Land Use Framework. This section describes Menlo Park's role in the Bay Area and Silicon Valley and defines the following planning boundaries: city limit, Sphere of Influence, Planning Area, and service areas.
- City Composition. This section describes key components of the city, including neighborhoods, commercial areas, employment centers, and open space.
- General Plan Land Use Designations. This section defines the seven General Plan land use categories that apply to lands within the city, including residential, commercial, Bayfront Area, El Camino/ Downtown Specific Plan Area, parks and recreation, public/quasi-public and baylands. These are described more below.
- Goals, Policies, and Programs. This section contains seven land use goals, each of which is supported by policies and/or programs. These are included in Appendix B, Proposed General Plan Goals, Policies and Programs, of this Draft EIR.

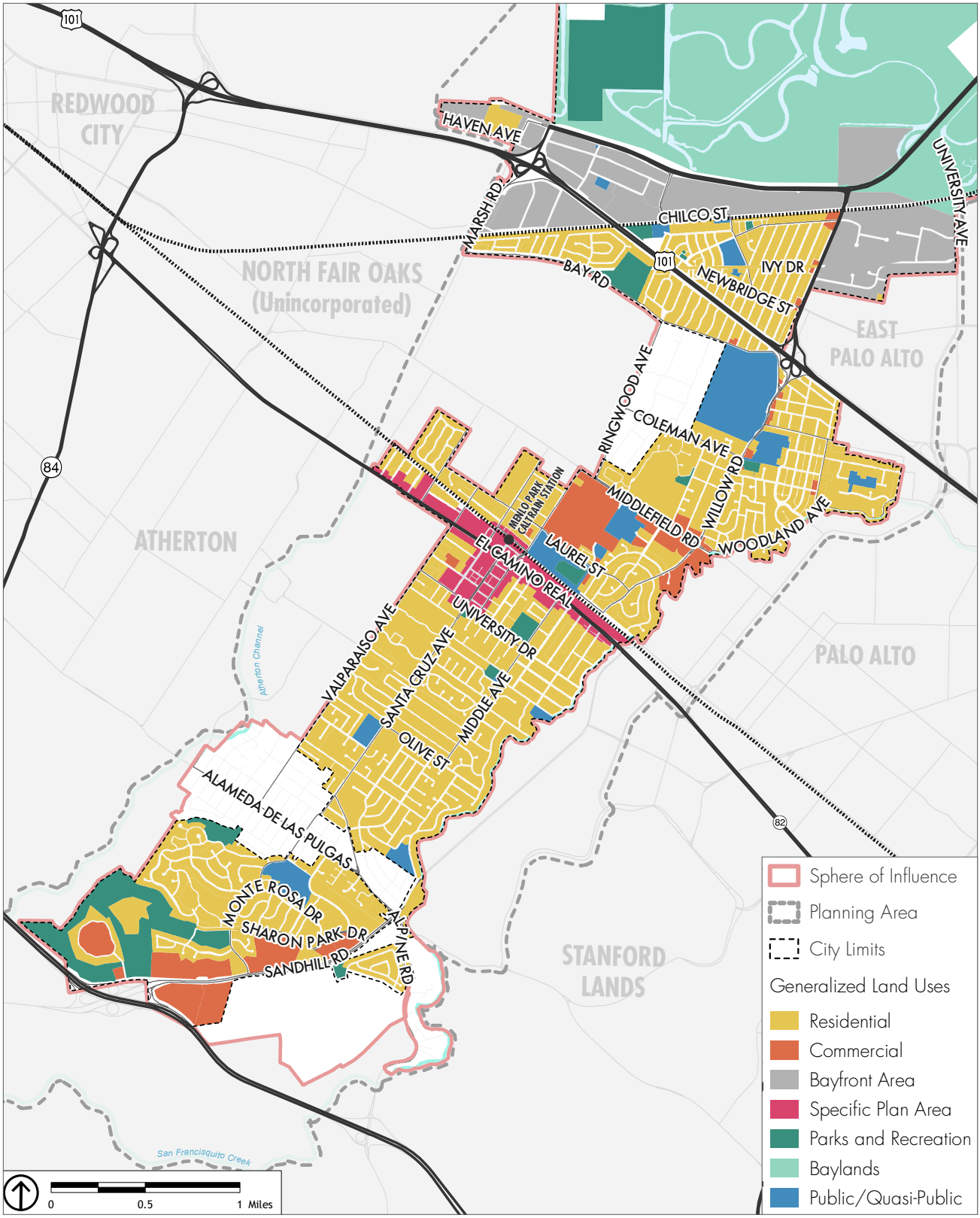
Land Use Designations

The following paragraphs describe the existing and proposed General Plan land use designations and associated land uses, standards of density and building intensity. A common measure of building intensity is Floor Area Ratio (FAR), which is determined by dividing the amount of floor space in a building by the total area of the parcel it occupies. For example, a 10,000 square-foot building on a 20,000 square-foot parcel has a FAR of 0.5 or 50 percent.

The proposed General Plan Land Use Map is shown on Figure 3-6. The map has been updated to reflect the proposed land use designations in the Bayfront Area (i.e., M-2 Area). While the map does not portray designations at the parcel level, the City's Zoning Map does represent parcel-specific application of the Zoning districts that contain regulations for land uses and development standards within them. The proposed Land Use Element includes the following General Plan land use designations that apply city-wide, however as previously stated, the changes under this update only occur in the Bayfront Area of the city.

Residential Land Use

- Very Low Density Residential. This designation provides for single-family detached homes, secondary dwelling units, public and quasi-public uses, and similar compatible uses. Density shall be a maximum of 4.3 units per net acre and floor areas shall be limited to those identified in the applicable zoning district, which is typically 2,800 square feet plus 25 percent of the lot area over 7,000 square feet for lots 5,000 square feet or greater in area.



Source: PlaceWorks, 2015.

Figure 3-6
Proposed General Plan Land Use Designations

PROJECT DESCRIPTION

- Low Density Residential. This designation provides for single-family detached homes, secondary residential units, public and quasi-public uses, and similar and compatible uses. Density shall be a maximum of 8.9 units per net acre and floor areas shall be limited to those identified in the applicable zoning district, which is typically 2,800 square feet plus 25 percent of the lot area over 7,000 square feet for lots 5,000 square feet or greater in area.
- Medium Density Residential. This designation provides for single family detached and attached homes, duplexes, multi-family units, garden apartments, condominiums, public and quasi-public uses, and similar and compatible uses. Density shall be a maximum of 12.4 units per net acre, and up to 30 units per acre in designated areas around the El Camino Real/Downtown Specific Plan boundary. FAR shall be in the range of 40 to 75 percent, as identified in the applicable zoning district.
- High Density Residential. This designation provides for multi-family units, garden apartments, condominiums, senior rental housing, public and quasi-public uses, and similar and compatible uses. Density shall be a maximum of 40 units per net acre, and may be up to 97 units per net acre for senior rental housing. The maximum FAR shall be 100 percent.

Commercial Land Use

- Retail/Commercial. This designation provides for retail services, personal services, professional offices, banks, savings and loans, restaurants, cafes, theaters, residential uses, public and quasi-public uses, and similar and compatible uses. Residential density shall not exceed 30 units per net acre. The maximum FAR for non-residential uses shall be in the range of 40 percent to 50 percent, and 90 percent for residential uses, as identified in the applicable zoning district.
- Professional and Administrative Office. This designation provides for professional offices, executive, general, and administrative offices, research and development (R&D) facilities, banks, savings and loans, R&D facilities, residential uses, public and quasi-public uses, and similar and compatible uses. Residential density shall not exceed 18.5 units per net acre. The maximum FAR for non-residential uses shall be a maximum of 40 percent, as identified in the applicable zoning district.

Bayfront Area (M-2 Area)

- Light Industrial. This designation provides for light manufacturing and assembly, distribution of manufactured products, R&D facilities, industrial supply, incidental warehousing, offices, limited retail sales (such as sales to serve businesses and employees in the area), public and quasi-public uses, and similar and compatible uses. The maximum FAR shall be in the range of 45 percent to 55 percent.
- Commercial Business Park. This designation provides for light manufacturing and assembly, distribution of manufactured products, R&D facilities, industrial supply, incidental warehousing, offices, limited sales, services to serve businesses, employees and hotel/motel clientele in the area (such as restaurants, cafes, and health/fitness centers), hotel/motel to serve the local and regional market, public and quasi-public uses, and similar and compatible uses. The maximum FAR shall be 45 percent, except through a negotiated Development Agreement, which could allow a maximum FAR of 137.5 percent, with a maximum FAR of 100 percent for office uses.
- Office. This designation provides for office and R&D uses, business-oriented community education and training facilities, supportive commercial retail and personal services, residential, and hotel uses. The designation also accommodates existing and new light-industrial uses that are not in conflict with

existing or planned commercial, residential or office uses in the vicinity. Hotels are allowed as options in several locations. The maximum base FAR for office uses shall be 45 percent and the maximum bonus FAR with community amenities shall be 100 percent. Maximum FAR for retail and service uses at the base level is 10 percent and shall be 25 percent at the bonus level. The maximum FAR for hotels shall be 175 percent.

- Life Sciences. This designation provides for life sciences and R&D uses, along with high-tech office and small-scale supportive commercial retail and personal services for nearby employment, residential and hotel uses. The designation also accommodates light-industrial uses that are not in conflict with existing or planned commercial, residential or life science uses in the vicinity. The maximum base FAR shall be 55 percent and the maximum bonus FAR with community amenities shall be 125 percent. Maximum FAR for retail and service uses shall be 10 percent.
- Mixed-Use Residential. This designation provides for mixed-use developments with integrated or stand-alone retail and services uses, and offices that comply with the purposes of the Office Designation. Retail uses can range from small-scale businesses that serve nearby employment to a large-format grocery that also serves adjacent neighborhoods. The Mixed-Use Residential Designation is intended to promote live/work/play environments oriented toward pedestrians, transit, and bicycle use (especially for commuting to nearby jobs). It also allows higher density housing. Residential density at the base level shall not exceed 30 units per net acre and up to 100 units per acre at the bonus level. Maximum FAR for office uses and for retail and service uses is 15 percent at the base level and 25 percent at the bonus level. Maximum FAR for residential uses is 90 percent at the base level and up to 200 percent at the bonus level.

Specific Plan Land Use

- El Camino Real/Downtown Specific Plan. This designation provides for a variety of retail, office, residential, personal services, and public and semipublic uses, as specified in detail in the El Camino Real/Downtown Specific Plan. Residential density shall be in the range of between 18.5 to 50 units per net acre (base-level maximum) or 25 to 60 units per net acre (public benefit bonus-level maximum). The maximum FAR shall be in the range of 85 percent to 200 percent (base-level maximum) or 100 percent to 225 percent (public benefit bonus-level maximum). Office (inclusive of medical and dental offices) FAR is limited to one-half of the appropriate total FAR, and medical and dental office FAR is limited to one-third of the appropriate total FAR.

Parks and Recreation

- Parks and Recreation. This designation provides for open space and conservation areas, public and private golf courses, and passive and active recreation uses. The maximum FAR shall be in the range of 2.5 percent to 30 percent.

Public/Quasi Public

- Public Facilities. This designation provides for public and quasi-public uses such as government offices, fire stations, schools, churches, hospitals, public utility facilities, sewage treatment facilities, reservoirs, and similar and compatible uses. The maximum FAR shall not exceed 30 percent generally, although specific zoning may allow for a higher FAR. The City recognizes that it does not have the authority to regulate development by federal, State, or other certain governmental agencies, but the

City will work cooperatively with these agencies in an effort to ensure their development is consistent with City goals, plans, and regulations and mitigates any impacts.

- Allied Arts Guild. This designation applies to the Guild for artisans and craftsmen comprised of retail shops, workshops, restaurant, gardens and public grounds at 75 Arbor Road. The Guild was constructed in 1929 and has historic significance for both its relationship to the American Arts and Crafts Movement and the architecturally important buildings and gardens. Allowed uses shall be as established in the Allied Arts Guild Preservation Permit. The maximum FAR for the property shall remain at 15 percent.

Baylands

- Baylands. This designation provides for the preservation and protection of wildlife habitat and ecological values associated with the marshlands and former salt ponds bordering San Francisco Bay and similar compatible uses. The maximum amount of development allowed under this designation shall be 5,000 square feet of building floor area per parcel.

3.7.1.2 CIRCULATION ELEMENT UPDATE

The updated Circulation Element describes distinct issues and opportunities that the Menlo Park community is likely to face during the updated planning horizon of the General Plan, as well as key strategies for addressing them. Enacting strategies that will be effective in creating the most functional circulation system possible for the full range of users and travel modes is the focus of the goals, policies, and programs in this Element.

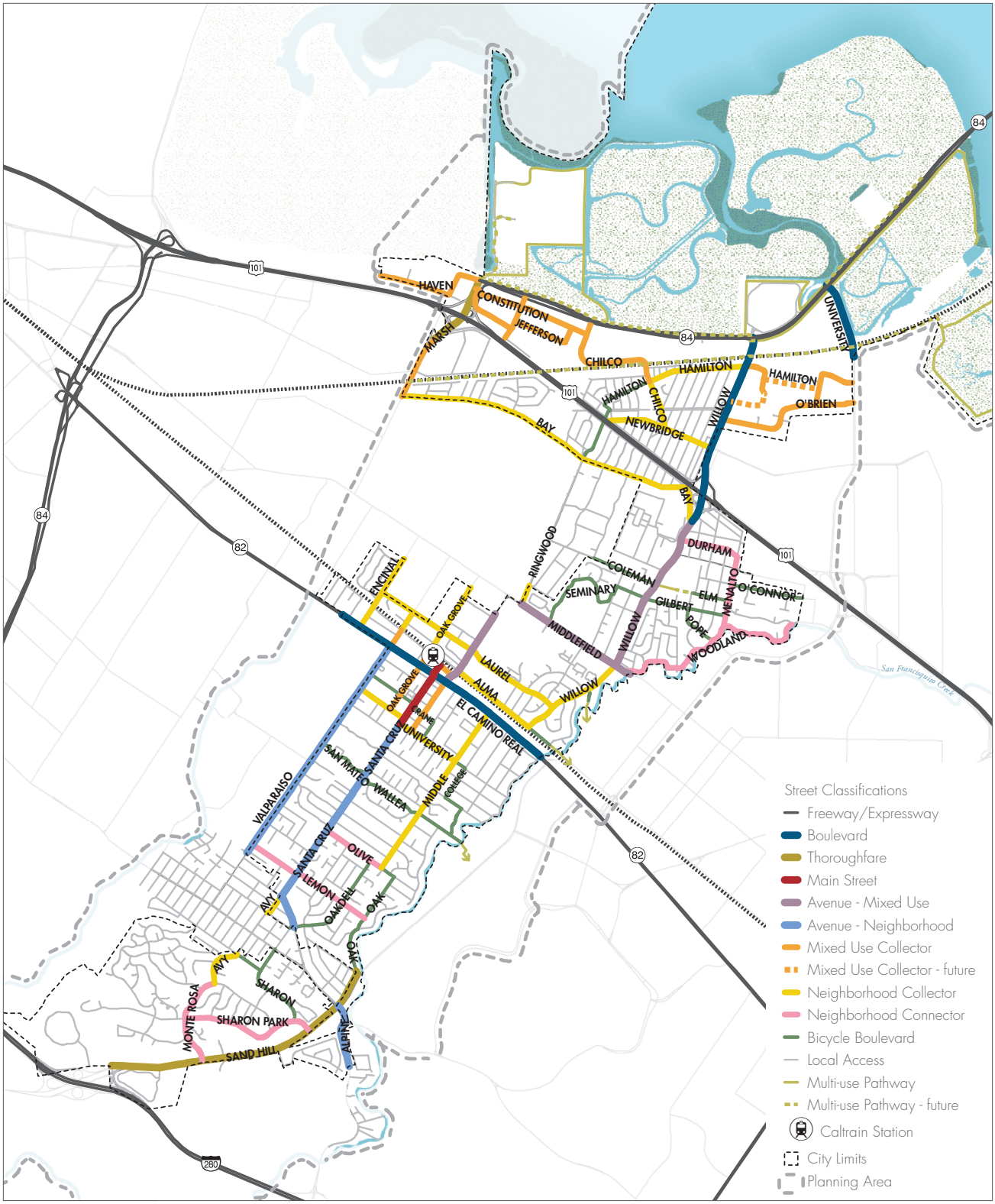
Contents and Organization

The Circulation Element contains the following sections:

- Overview. This section provides an overview of the Circulation Element.
- Safety for All Travel Modes. This section describes the diverse circulation system in the city and associated safety features, and the Vision Zero notion to create safer city streets.
- Street Network. This section describes the existing conditions and uses for the city street network, the complete streets strategy, and street classifications (described below).
- Mobility Options. This section describes the opportunities related to the following topics: sustainable transportation, health and wellness, transit, transportation demand management (TDM), and parking.
- Goals, Policies, and Programs. This section contains seven circulation goals, each of which is supported by policies and/or programs. These are included in Appendix B, Proposed General Plan Goals, Policies and Programs, of this Draft EIR.

Street Classifications

A key component of providing complete streets is establishing and promoting the suitability of streets for various travel modes and adjacent land uses. The Street Classifications are shown on Figure 3-7. Table 3-1 includes a description of how the classifications are applied to the Menlo Park roadway network and defines objectives to be met when the City resurfaces or redesigns a specific street.



Source: City of Menlo Park

0 1
Scale (Miles)

Figure 3-7
Proposed Street Classification

PROJECT DESCRIPTION

TABLE 3-1 DESCRIPTION OF PROPOSED STREET CLASSIFICATIONS

Classification	Mode Priority	Description and Guidelines	Examples	FHWA Category
Freeway/ Expressway	Vehicle: ● Other modes: N/A	Limited access, major regional freeways and expressways that are part of the state and regional network of highways and subject to state design standards.	Bayfront Expressway	Expressway
Boulevard	Bicycle: ◕ Pedestrian: ● Transit: ● Vehicle: ●	Major thoroughfare with higher frequency of transit service and mixed commercial and retail frontages. Provides access and safe crossings for all travel modes along a regional transportation corridor. Emphasizes walking and transit and accommodates regional vehicle trips in order to discourage such trips on nearby local roadways, through collaborations with other cities and agencies. In areas of significant travel mode conflict, bicycle improvements may have lower priority if appropriate parallel corridors exist.	El Camino Real	Primary Arterial
Thoroughfare	Bicycle: ◑ Pedestrian: ◑ Transit: ◑ Vehicle: ●	Major thoroughfare, limited mixed commercial frontages. Provides access and safe crossings for all travel modes along a regional transportation corridor. Emphasizes regional vehicle trips in order to discourage such trips on nearby local roadways, through collaborations with other cities and agencies.	Marsh Road, Sand Hill Road	Primary Arterial
Main Street	Bicycle: ◑ Pedestrian: ● Transit: ◑ Vehicle: ◑	High intensity, pedestrian-oriented retail street. Provides access to all travel modes in support of Downtown, includes on-street parking. Service to pedestrian-oriented retail is of prime importance. Vehicle performance indicators may be lowered to improve the pedestrian experience. Bicycle priority may be lower where appropriate parallel bicycle corridors exist.	Santa Cruz Avenue	Minor Arterial
Avenue – Mixed Use	Bicycle: ● Pedestrian: ● Transit: ● Vehicle: ◕	Streets with mixed residential and commercial frontages that serve as a main route for multiple modes. Distributes trips to residential and commercial areas. Provides a balanced level of service for vehicles, transit, bicycles, and pedestrians, wherever possible. Bicycle priority is greater along identified bicycle corridors. Pedestrian improvements are comfortable to walk along, and provide safe crossings at designated locations.	Willow Road (south of Bay), Middlefield Road	Minor Arterial

TABLE 3-1 DESCRIPTION OF PROPOSED STREET CLASSIFICATIONS

Classification	Mode Priority	Description and Guidelines	Examples	FHWA Category
Avenue – Neighborhood	Bicycle: ● Pedestrian: ● Transit: ● Vehicle: ◕	Streets with residential frontages that serve as a main route for multiple modes. Distributes trips to residential areas. Provides a balanced level of service for vehicles, transit, bicycles, and pedestrians, wherever possible. Bicycle priority is greater along identified bicycle corridors. Pedestrian improvements are comfortable to walk along, and provide safe crossings at designated locations.	Santa Cruz Avenue (south of University Drive), Valparaiso Avenue	Minor Arterial
Mixed-Use Collector	Bicycle: ● Pedestrian: ● Transit: ◑ Vehicle: ◑	Mixed-use street that serves a significant destination. Prioritizes walking and bicycling. Accommodates intra-city trips while also distributing local traffic to other streets and areas.	Chilco Street (n of rail corridor), O'Brien Drive, Haven Avenue	Collector
Neighborhood Collector	Bicycle: ● Pedestrian: ● Transit: ◑ Vehicle: ◑	Primarily residential street that serves a significant destination. Prioritizes walking and bicycling. Accommodates intra-city trips while also distributing local traffic to other streets and areas. Accommodating vehicle traffic while ensuring a high quality of life for residents is a key design challenge.	Bay Road, Laurel Street, Hamilton Avenue	Collector
Neighborhood Connector	Bicycle: ● Pedestrian: ● Transit: ○ Vehicle: ◑	Low-medium volume residential through street. Primarily serves residential neighborhoods. Provides high quality conditions for walking and bicycling and distributes vehicle, pedestrian, and bicycle trips to and from other streets.	Monte Rose Avenue, Woodland Avenue	Local
Bicycle Boulevard	Bicycle: ● Pedestrian: ● Transit: ○ Vehicle: ◑	Low volume residential street, serving mostly local traffic, connecting key bicycle facilities. Provides access primarily to abutting uses. These streets should offer safe and inviting places to walk and bike.	San Mateo Drive, Hamilton Avenue	Local
Local Access	Bicycle: ● Pedestrian: ● Transit: ○ Vehicle: ◑	Low volume residential street, serving mostly local traffic. Provides access primarily to abutting uses. These streets should offer safe and inviting places to walk and bike.	San Mateo Drive	Local
Multi-Use Pathway	Bicycle: ● Pedestrian: ● Transit: N/A Vehicle: N/A	Pedestrian and bicycle pathway. Provides priority access to pedestrians and bicycles only, per Caltrans pathway minimum standards. Multi-use pathways feature high-quality crossings where they traverse major roadways.	Bay Trail	N/A

Notes: ● = High Priority ◑ = Medium Priority ○ = Low Priority

The list of objectives in the Street Classifications is one means of ensuring that the City fulfills its Complete Streets mission. Like most cities, Menlo Park has been relying on classifications required by the Federal Highway Administration (FHWA) for projects seeking federal funding. This system is primarily automobile focused and does not take into consideration local context, land use, or built form. The Street Classifications shown in Table 3-1 retain a correlation to the FHWA classification to ensure that Menlo Park remains eligible for federal transportation funds.

Some uses are independent of a street's normal form and function, such as routes for emergency vehicles, streets adjacent to major transit stations or school zones, and bicycle priority streets. These uses do not necessarily dictate the specific design of a street, but instead encourage design flexibility to better serve the specific purposes. For example, local access streets that can best serve bicycles should be clearly identified so that roadway and intersection features that would discourage bicyclists are not emphasized in their design. Similarly, emergency routes may require width and design exceptions to accommodate movements of emergency vehicles; for example, where a roundabout is appropriate for a particular intersection, its edges may need to be rounded so that large fire tucks can roll over them rather than have to swerve around them.

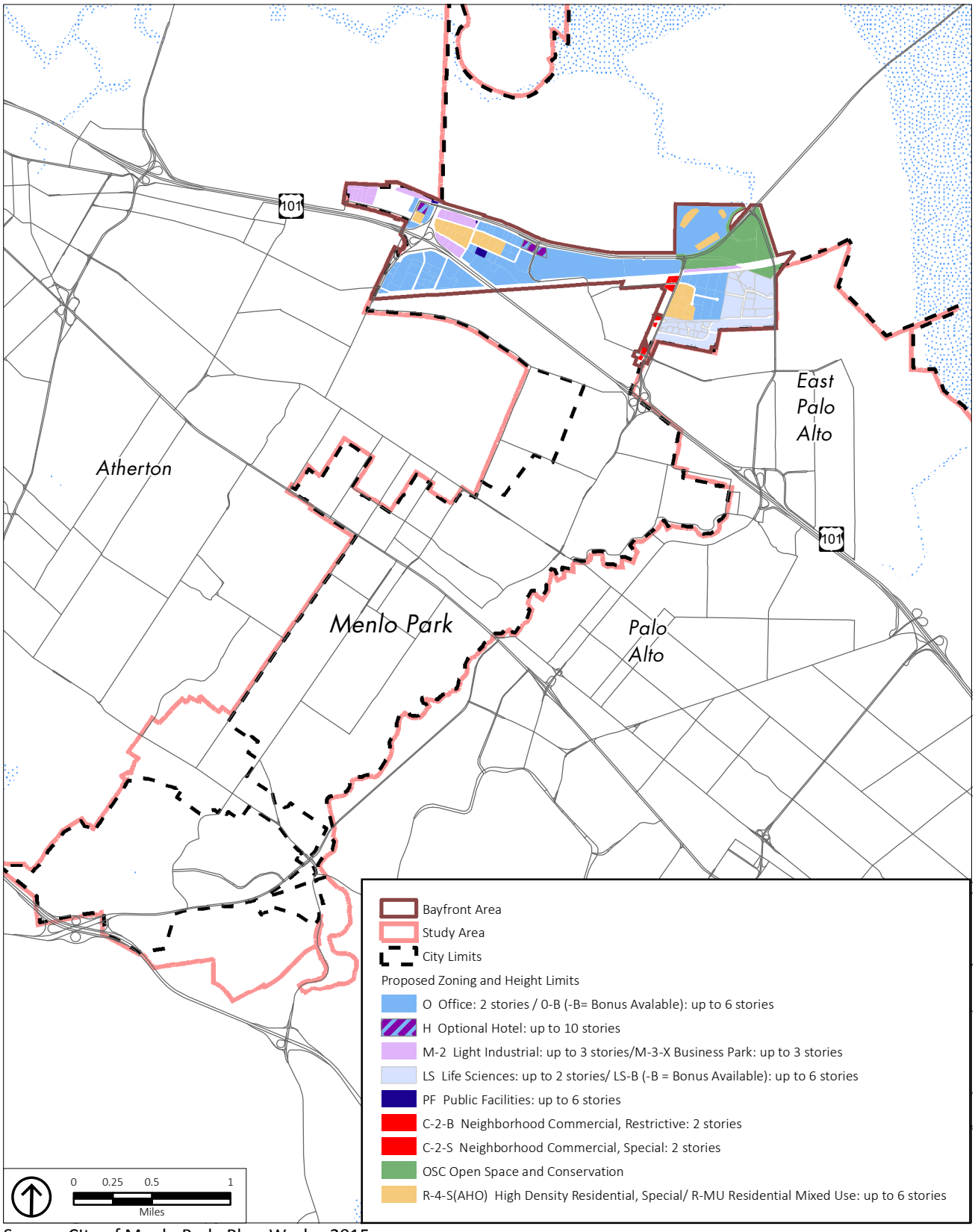
3.7.1.3 PROPOSED GENERAL PLAN POLICIES

The proposed policies of the Land Use and Circulation Elements have been carefully prepared to reduce and/or avoid impacts to the environment as a result of future development in the city to the extent feasible. The proposed policies aim to reduce vehicle miles traveled, greenhouse gas emissions, air quality pollutants, energy consumption, water demand, and solid waste generation by promoting infill development; increasing opportunities for alternative modes of transportation, pedestrian and bicycle access and connectivity, and local jobs; protecting open space; conserving natural resources; and requiring adherence to green building practices. General Plan policies aim to avoid hazardous conditions and facilitate a healthy and safe environment for residents and visitors to Menlo Park. In addition, General Plan polices aim to protect cultural resources and ensure new development and redevelopment is compatible with neighboring land uses. These proposed General Plan policies are listed in the Impact Discussions of Chapters 4.1 through 4.14 to illustrate where the proposed polices would reduce impacts from future development in Menlo Park. A comprehensive list of proposed policies is provided in Appendix B, Proposed General Plan Goals, Policies and Programs, of this Draft EIR.

3.7.2 PROPOSED ZONING ORDINANCE UPDATE

3.7.2.1 ZONING DISTRICTS

The proposed project includes an update to the City's Zoning Ordinance for the Bayfront Area, including both development regulations and design standards, to ensure consistency with the General Plan Update. Other than as identified, no other zoning ordinances are being modified or added as part of the proposed project. The proposed Zoning Ordinance Update would create the three new Zoning districts (described below), which would apply to lands within the Bayfront Area only, modify the C-2-B (Neighborhood Commercial, Restrictive) to allow residential uses (up to 30 units per acres) and create a streamlined hazardous materials review process. Minor clean-up to text amendments for the consistency and clarity are also proposed. The proposed update to the Zoning map for the Bayfront Area is shown on Figure 3-8.



Source: CIty of Menlo Park; PlaceWorks, 2015.

Figure 3-8
Bayfront Area Proposed Zoning Map

PROJECT DESCRIPTION

As shown on Figure 3-8, parcels along the west end of Haven Avenue will retain the M-2 zoning designation. The parcels along Independence and Constitution Drives will retain the M-3(X) zoning designation, due to existing development agreements that are currently in place. Properties along the northwest side of Willow Road will retain current commercial or residential zoning designations; however, the C-2-B zoning district will be modified to allow residential use above ground floor retail.

The proposed Zoning districts are intended to foster innovation and emerging technologies; promote the creation of an employment district with travel patterns that are oriented toward pedestrian, transit, and bicycle use; and provide amenities to surrounding neighborhoods. The addition of housing in the R-MU district will foster a live/work/play environment.

The standards for development within the proposed districts allow increased development intensities with the provision of community amenities. The proposed project includes rezoning the majority of properties located in the Bayfront Area to be consistent with their proposed new General Plan land use designation as follows:

- Office (O). This district allows new high-tech office, R&D, and life sciences uses, along with supportive commercial retail and personal services for nearby employment and hotel uses. The district also accommodates existing light-industrial uses and new light-industrial uses that are not in conflict with existing or planned commercial, residential, or O district uses in the vicinity. Hotels are allowed as an option in several locations. The maximum base FAR shall be 45 percent, plus 10 percent for commercial uses. The maximum bonus-level FAR with community amenities shall be 100 percent, plus 25 percent for commercial uses. The maximum FAR for hotels shall be 175 percent.
- Life Sciences (LS). This district allows new life sciences and R&D uses, along with limited high-tech office and small-scale supportive commercial retail and personal services for nearby employment and hotel uses. The district also accommodates existing light-industrial uses and new light-industrial uses that are not in conflict with existing or planned commercial, residential, or LS District uses in the vicinity. The maximum base FAR shall be 55 percent, plus a maximum 10 percent for commercial uses. The maximum bonus-level FAR with community amenities shall be 125 percent, plus 10 percent for commercial uses.
- Residential – Mixed Use (R-MU). This district allows high-density residential/retail mixed-use development along specific retail corridors. Retail uses can range from small-scale businesses that serve nearby employment to a large-format grocery that also serves adjacent neighborhoods. The district is intended to promote the creation of residential and residential mixed-use neighborhoods oriented toward pedestrians, transit, and bicycle use, especially for commuting to nearby jobs. Residential density shall not exceed 100 dwelling units per net acre at the bonus level. Maximum FAR shall be 25 percent for office, retail, and service uses, and 200 percent for residential uses at the bonus level.

For each proposed Zoning district, the proposed Zoning Ordinance update includes, but is not limited to, the following provisions:

- Purpose
- Applicability
- Allowable land uses (permitted uses, administratively permitted uses, and conditional uses)
- Development regulations, including:
  - Minimum lot size
  - Minimum setbacks
  - Allowable residential density
  - Maximum FAR
  - Maximum building heights
  - Minimum on-site open space
  - Vehicle and bicycle parking requirements
- Bonus development regulations.
- Community amenities required for bonus development regulations.
- Design standards, such as standards pertaining to:
  - Building setbacks and projections
  - Building profile and stepbacks
  - Landscape design
  - Access, parking, and connectivity
  - Ground floor entries
  - Building modulation
  - Materials
  - Architectural details
  - Lighting
  - Open space design

3.7.2.2 NEW DEVELOPMENT POTENTIAL

As stated above, the General Plan Land Use Element update includes changes to the General Plan land use map and specific properties to reflect the proposed new land use designations within the Bayfront Area. The proposed project does not change any land use designations outside of the Bayfront Area. Changes in the Bayfront Area could result in new development potential above what is allowed in the current General Plan as follows:

- 2.3 million square feet of non-residential space
- 400 hotel rooms
- 4,500 residential units
- 11,570 residents; and
- 5,500 employees

3.7.3 BUILDOUT PROJECTIONS

The buildout of the potential future development within identified locations is based on a horizon year of 2040; therefore, this EIR analyzes growth occurring between 2016 and 2040, which represents a 24-year buildout horizon. Under CEQA Guidelines Section 15126.6(3)(A), when a project consists of the revision of a plan or policy, the project's impacts are assessed against existing conditions, and future conditions under the existing plan are treated as the "No Project" alternative. The 2040 horizon year is generally consistent with other key planning documents, including *Plan Bay Area*, which is the Bay Area's Regional

PROJECT DESCRIPTION

Transportation Plan (RTP)/Sustainable Community Strategy (SCS).[8] *Plan Bay Area* is the long-range integrated transportation and land-use/housing strategy through 2040 for the San Francisco Bay Area pursuant to Senate Bill 375, the Sustainable Communities and Climate Protection Act.[9]

Under Section 15064(d) of the CEQA Guidelines, "In evaluating the significance of the environmental effect of a project, the lead agency shall consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project." The buildout projections represent the City's projection of "reasonably foreseeable" development that could occur over the next 24 years under the General Plan and are used as the basis for the EIR's environmental assessment. See Chapter 4, Environmental Evaluation, of this Draft EIR, for a description of environmental analysis scenarios for this EIR.

Table 3-2 provides a summary of the total development projections, showing all of the reasonably foreseeable growth under the existing General Plan and the net new development potential that is proposed to occur in the Bayfront Area as shown on Figure 3-3. Table 3-2 is organized by land use categories to show how proposed changes could occur under the proposed General Plan update and the following additional scenarios:

- Existing Conditions: Includes existing development built on the ground at the time of the Notice of Preparation.
- Cumulative Projects: Includes planned and reasonably foreseeable projects (i.e. pending applications, recently approved, or under construction) in Menlo Park except for the current Facebook Campus Expansion Project, which is shown in a separate column. A list of planned/ reasonably foreseeable projects is shown in Chapter 4, Environmental Evaluation, of this Draft EIR.
- Facebook Campus Expansion: Includes the Facebook Campus Project located in the Bayfront Area, which is a separate project and is currently undergoing separate project-level environmental review.[10] The Facebook Campus Expansion Project is included in the cumulative analysis of this EIR.
- Current General Plan: This is the previously-approved and ongoing development potential under current conditions and represents the ongoing development potential under "No Project" alternative, which is discussed in Chapter 5, Alternatives to the Proposed Project, of this Draft EIR.
- Proposed Bayfront Area: This represents the increased development potential for the Bayfront Area only, but does not include the Facebook Campus Expansion Project, which is shown in a separate column.
- Maximum Citywide 2040 Buildout: Includes the total Existing Conditions, "Approved" Projects including the Facebook Expansion Project, Current General Plan, and the proposed Bayfront Area Development Potential.

[8] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2013. Plan Bay Area, Strategy for a Sustainable Region. March (adopted July 18).

[9] The Act to amend Sections 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, and 65588 of, and to add Sections 14522.1, 14522.2, and 65080.01 to, the Government Code, and to amend Section 21061.3 of, to add Section 21159.28 to, and to add Chapter 4.2 (commencing with Section 21155) to Division 13 of, the Public Resources Code, relating to environmental quality.

[10] Facebook Campus Expansion Project EIR, State Clearinghouse Number 2015062056.

TABLE 3-2 EXISTING AND PROPOSED 2040 HORIZON-YEAR BUILDOUT PROJECTIONS

Category	Existing Conditions[a]	+	Cumulative Projects[b]: Remainder of the City	+	Cumulative Projects[b]: Facebook Campus Expansion[c]	+	Proposed Project: Current General Plan[d]	+	Proposed Project: Proposed Bayfront Area[e]	=	Maximum Citywide 2040 Buildout[f]
BAYFRONT AREA											
Non-Residential Square Feet											
Office District	7.2 million		800,000		127,000		585,000		700,000		9.4 million
Life Sciences District	1.4 million		0		0		700,000		1.4 million		3.5 million
Commercial[g]	50,000		50,000		0		75,000		200,000		375,000
Total Non-residential	*8.7 million*		*850,000*		*127,000*		*1.4 million*		*2.3 million*		*13.4 million*
Hotel Rooms[h]	0		250		200		n/a		400		850
Residential Units[j]	0		780		0		150		4,500		5,430
Population[i]	0		2,000		0		390		11,570		13,960
Employees	19,800		4,700		6,550		3,400		5,500		39,950
REMAINDER OF CITY											
Non-Residential Square Feet	5.9 million		550,000		n/a		355,000		n/a		6.8 million
Hotel Rooms[h]	570		70		n/a		n/a		n/a		640
Residential Units[j]	13,100		500		n/a		850		n/a		14,450
Population[i]	32,900		1,300		n/a		2,190		n/a		36,390
Employees	11,100		1,200		n/a		1,000		n/a		13,300
CITYWIDE TOTALS											
Non-Residential Square Feet	***14.6 million***		***1.4 million***		***127,000***		***1.8 million***		***2.3 million***		***20.6 million***
Hotel Rooms[h]	***570***		***320***		***200***		***0***		***400***		***1,490***
Residential Units[j]	***13,100***		***1,280***		***0***		***1,000***		***4,500***		***19,880***
Population[i]	***32,900***		***3,300***		***0***		***2,580***		***11,570***		***50,350***
Employees	***30,900***		***5,900***		***6,550***		***4,400***		***5,500***		***53,250***

Notes: *Numbers are estimates and rounded for the purposes of this programmatic environmental review.*

a. Includes existing development on the ground.

b. Includes reasonably foreseeable projects (i.e., pending applications, recently approved, or under construction) in the study area; excludes the current Facebook Campus Expansion Project shown in a separate column. A list of approved projects is shown in Chapter 4, Environmental Evaluation, of this Draft EIR.

c. Currently undergoing separate project-level environmental review.

d. This represents what could be built if the proposed project were not approved, which is the ongoing development potential of the "No Project" condition discussed in Chapter 5, Alternatives to the Proposed Project, of this Draft EIR. The figures do not include the current Facebook project.

e. The Proposed Bayfront Area development potential represents increased development potential for the Bayfront Area only, but does not include the Facebook Campus Expansion Project, which is shown in a separate column.

f. The Maximum Citywide 2040 Buildout represents the total of the five previous columns.

g. Potential Commercial square footage in the Bayfront Area would occur within Office, Life Science, and Residential districts.

h. Three hotels are proposed under the current General Plan; Hotel square footage is not included in the Facebook Campus Expansion Project and Proposed Bayfront Area development potential non-residential square feet.

i. Assumes 2.57 persons per household per Association of Bay Area Governments (ABAG) *Projections 2013, Subregional Study Area Table*.

j. Residential units proposed in the Bayfront Area would include multi-family units and dormitory style units. Residential units proposed throughout the remainder of the city could include multi-family units and single-family units developed as second units where single-family units currently exist.

As shown in Table 3-2, the remaining buildout potential that is being reaffirmed under the current General Plan is 1.8 million square feet of non-residential space, 0 hotel rooms and 1,000 residential units, and up to 2,580 new residents and 4,400 new employees. The proposed net new growth for the Bayfront Area only is 2.3 million square feet of non-residential space, 400 hotel rooms and 4,500 residential units, and up to 11,570 new residents and 5,500 new employees. When combined, the proposed net new development potential of the Bayfront Area plus the current General Plan development potential (but not including Facebook Campus Expansion or other cumulative projects) for the 2040 horizon year is 4.1 million square feet of non-residential space, 400 hotel rooms and 5,500 residential units, and up to 14,150 new residents and 9,900 employees. The impact of this "full" development potential is what is being analyzed in this Draft EIR as the proposed project.

3.8 INTENDED USES OF THIS EIR

This EIR is a program-level EIR and does not evaluate the impacts of specific, individual developments that may be allowed under the proposed General Plan and Zoning Ordinance. Each specific future project may require separate environmental review, as required by CEQA, to secure the necessary discretionary development permits. Therefore, while subsequent environmental review may be tiered off this EIR, this EIR is not intended to address impacts of individual projects. Future activity that could occur following the certification of this EIR includes the following, provided they are consistent with the General Plan and Zoning Ordinance:

- Specific Plans.
- Property rezonings.
- Public and private development project approvals (e.g., tentative maps, variances, use permits).
- Development Agreements.
- Funding approval of capital projects.
- Issuance of permits and other approvals necessary for implementation of the proposed General Plan.

3.9 REQUIRED PERMITS AND APPROVALS

The proposed project would be adopted solely by the City. Future development will need to conform to applicable Zoning district development and design standards, and be consistent with General Plan goals and policies. Depending on the proposal, a project may be exempt from CEQA review because a CEQA exemption applies or the approval is ministerial,[11] or a project may require further environmental review and subsequent analysis in a Negative Declaration, Mitigated Negative Declaration, or an Environmental Impact Report. Projects may be ministerial, requiring no discretionary action or may require review and approval by the Community Development Director, Planning Commission, and/or the City Council, and other agencies as needed. Building permits will be required for all structures.

[11] Projects may be ministerial, which means that they do not require any discretionary review. Building permits will be required for all structures.

4. Environmental Evaluation

This chapter of the Draft EIR is made up of 14 sub-chapters, which evaluate the direct, indirect, and cumulative environmental impacts of the proposed project. In accordance with Appendix G, Environmental Checklist Form, and Appendix F, Energy Conservation, of the California Environmental Quality Act (CEQA) Guidelines, the potential environmental effects of the proposed project are analyzed for potential significant impacts in the following 14 environmental issue areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation and Circulation
- Utilities and Service Systems

FORMAT OF THE ENVIRONMENTAL ANALYSIS

Each sub-chapter is organized into the following sections:

- Environmental Setting offers a description of the existing environmental conditions, providing a baseline against which the impacts of the proposed project can be compared, and an overview of federal, State, regional, and local laws and regulations relevant to each environmental issue.
- Thresholds of Significance refer to the quantitative or qualitative standards, performance levels, or criteria used to evaluate the existing setting with and without the proposed project to determine whether the impact is significant. These thresholds are based primarily on the CEQA Guidelines, and also may reflect established health standards, ecological tolerance standards, public service capacity standards, or guidelines established by agencies or experts.
- Impact Discussion gives an overview of the potential impacts of the proposed project and explains why impacts are found to be significant or less than significant prior to mitigation. This subsection also includes a discussion of cumulative impacts related to the proposed project. Impacts and mitigation measures are numbered consecutively within each topical analysis and begin with an acronym or abbreviated reference to the impact section.

The following identifiers are used for individual topics:

- AES - Aesthetics
- AQ - Air Quality
- BIO - Biological Resources
- CULT - Cultural Resources
- GEO - Geology, Seismicity, and Soils
- GHG - Greenhouse Gas Emissions and Sustainability
- HAZ - Hazards and Hazardous Materials
- HYDRO - Hydrology and Water Quality
- LU - Land Use
- NOISE - Noise
- POP – Population and Housing
- PS - Public Services and Recreation
- TRANS - Transportation and Circulation
- UTIL - Utilities and Service Systems

THRESHOLDS OF SIGNIFICANCE

As noted above, significance criteria are identified before the impact discussion subsection, under the subsection, "Thresholds of Significance." For each impact identified, a level of significance is determined using the following classifications:

- *Significant (S)* impacts include a description of the circumstances where an established or defined threshold would be exceeded.
- *Less-than-significant (LTS)* impacts include effects that are noticeable, but do not exceed established or defined thresholds, or are mitigated below such thresholds.
- *No impact* describes circumstances where there is no adverse effect on the environment.

For each impact identified as being significant, the EIR identifies mitigation measures to reduce, eliminate, or avoid the adverse effect. If one or more mitigation measure(s) would reduce the impact to a less-than-significant level successfully, this is stated in the EIR. *Significant and unavoidable (SU)* impacts are described where mitigation measures would not diminish these effects to less-than-significant levels. The identification of a program-level significant and unavoidable impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance.

EVALUATION METHODOLOGY

Under CEQA, the decision as to whether an environmental effect should be considered significant is reserved to the discretion of the City of Menlo Park, acting as the lead agency, based on substantial evidence in the record as a whole, including views held by members of the public. An ironclad definition of significant effect is not always possible because the significance of an activity may vary based on the setting. The analysis in the Draft Environmental Impact Report (EIR) is based on scientific and factual data

which has been reviewed by the lead agency and represents the lead agency's independent judgment and conclusions.[1]

PROPOSED PROJECT

As discussed in Chapter 3, Project Description, of the Draft EIR, the proposed project includes the 2040 horizon year buildout potential, the proposed General Plan land use designation changes, and new policies and programs, and the proposed Zoning Ordinance Update. Much of the current General Plan and its goals, policies, and programs are being carried directly into the proposed project with the changes focused on the Bayfront Area.

2040 HORIZON DEVELOPMENT POTENTIAL

The 2040 horizon development potential under the proposed project includes the net increase of maximum development potential for the Bayfront Area (the development potential in the remainder of the city is remaining constant), plus the remaining development potential citywide under the current General Plan. As shown in Table 3-2 in Chapter 3, Project Description of this Draft EIR, this combined projected new growth for the 2040 horizon year includes 4.1 million square feet of non-residential space, 400 hotel rooms and 5,500 residential units, and up to 14,150 new residents and 9,900 new employees. This represents a net new development potential in the Bayfront Area of 2.3 million square feet of non-residential space, 400 hotel rooms and 4,500 residential units, and up to 11,570 new residents and 5,500 new employees. Note that these numbers do not include the Facebook Expansion project, which is currently undergoing separate project-level review;[2] however, the Facebook Expansion project is addressed as a cumulative project in the cumulative analysis of this Draft EIR.

For the purposes of this EIR, population is calculated by applying the 2.57 persons per household generation rate, which is the Association of Bay Area Government's (ABAG's) estimated generation rate for the 2040 horizon year in Menlo Park.[3] Employment is calculated by applying employment generation factors that are based on land use type as follows:

- 1 employee per 155 to 450 square feet in the Office district
- 1 employee per 450 to 549 square feet in the Life Science district
- 1 employee per 349 square feet in the Commercial district
- 0.75 employee per room for Hotel

Given the proposed project consists of a long-term policy document that is intended to guide future development activities and City actions, and because no specific development projects are proposed as part of the project, it is reasonable to assume that future development in the study area would occur incrementally or gradually over the 24-year buildout horizon (e.g., 2016 to 2040). However, while this assumption describes the long-range nature of the proposed project, it does not prohibit or restrict when development can occur over the horizon period.

[1] California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15064(b).
[2] Facebook Campus Expansion Project EIR, State Clearinghouse Number 2015062056.
[3] Association of Bay Area Governments (ABAG) *Projections 2013, Subregional Study Area Table*.

EVALUATION OF GENERAL PLAN POLICIES

The new policies and programs include both substantive and non-substantive changes. Substantive changes include the addition, removal, or functional revisions (e.g., not purely semantic) in ways that have the potential to result in a physical impact on the environment. Discussions of how substantive policy changes may result in adverse physical changes are included in the analyses under each impact criterion in the Impact Discussion sections, in Chapters 4.1 through 4.14 of this Draft EIR. Non-substantive changes include the renumbering of policies and programs or minor text revisions, which do not have the potential to result in a physical change to the environment. These non-substantive policy and program changes are not included in the analyses under each impact criterion in the Impact Discussion sections.

The City Council has directed that the General Plan and Zoning update be largely self-mitigating through the incorporation of policies and programs that have been designed to protect, preserve, and enhance environmental resources. These policies and programs are fully enforceable at the discretion of the decision-makers and, as a result, there are few impacts that would occur solely on the basis of the new policies and programs.[4] As described in Chapter 3, Project Description, the new and existing policies and programs that were carried through to the updated Land Use and Circulation Elements and Zoning promote sustainability and complete neighborhoods, encourage healthy communities, protect biological resources, and address climate change, complete streets, multi-modal transportation, and community circulation benefits from private development, transportation system safety and efficiency, and community transit services.

BASELINE

As discussed in Chapter 3, Project Description, of this Draft EIR, although many of the goals, policies and programs of the existing General Plan are being affirmed and incorporated into the proposed project, this EIR does not evaluate the proposed project relative to the full potential buildout allowed by the existing General Plan, but rather evaluates the impacts of the proposed project relative to existing conditions, as required by CEQA Guidelines Section 15126.2. The following describes the environmental analysis scenarios applied in this EIR. The baseline represents the existing conditions on the ground ("physical conditions") at the time the Notice of Preparation was issued on June 18, 2015, per CEQA Guidelines Section 15125. As described in Table 3-2 in Chapter 3 the baseline includes the following existing conditions:

- Non-residential: 14.6 million square feet
- Hotel: 570 rooms
- Residential: 13,100 units
- Population: 32,900
- Employees: 30,900

[4] Public Resources Code, Section 21081.6(b) and California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15126.4(a)(2).

CUMULATIVE IMPACT ANALYSIS

A cumulative impact consists of an impact created as a result of the combination of the project evaluated in the EIR, together with other reasonably foreseeable projects causing related impacts. Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." Used in this context, cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

In the case of a General Plan, cumulative effects occur when future development under the General Plan is combined with existing and potential future development in the surrounding areas, or in some instances in the entire region.

Where the incremental effect of a project is not "cumulatively considerable," a lead agency need not consider that effect significant, but must briefly describe its basis for concluding that the effect is not cumulatively considerable. The cumulative impact discussions in Chapters 4.1 through 4.14 explain the geographic scope of the area affected by each cumulative effect (e.g., immediate project vicinity, city, county, watershed, or air basin). The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. For example, in assessing aesthetic impacts, the pertinent geographic study area is the vicinity of the areas of new development under the proposed project from which the new development can be publicly viewed and may contribute to a significant cumulative visual effect. In assessing macro-scale air quality impacts, on the other hand, all development within the air basin contributes to regional emissions of criteria pollutants, and basin-wide projections of emissions is the best tool for determining the cumulative effect.

Section 15130 of the CEQA Guidelines permits two approaches for completion of the cumulative impact analysis, the first is the "list" approach, which permits the use of a list of past, present, and probable future projects producing related or cumulative impacts, including projects both within and outside the city. The second is the "projections" approach, which allows the use of a summary of projections contained in an adopted plan or related planning document, such as a regional transportation plan, or in an EIR prepared for such a plan. The projections may be supplemented with additional information such as regional modeling. A reasonable combination of the two approaches may also be used.

The cumulative impact analysis in this Draft EIR relies on a projections approach supplemented by the list approach that, when considered with the effects of the proposed project, may result in cumulative effects.

PROJECTIONS APPROACH

The projections approach takes into account growth from the proposed project within the study area (i.e., Menlo Park city limits and SOI) in combination with impacts from projected growth in the rest of San

Mateo County and the surrounding region, as forecast by the ABAG.[5] In each section of Chapter 4, the cumulative impacts discussion is based on the cumulative development described in this chapter.

LIST APPROACH

The list approach includes cumulative projects (i.e., pending applications, recently approved, or under construction) in the study area. These are listed in Table 4-1 and identified on Figure 4-1. As shown in the table and on Figure 4-1, out of the 27 listed projects, six are located in the Bayfront Area. In addition to the cumulative projects in the study area shown above, there are three regional projects that are within proximity to the study area, which are currently in various stages of progress. These include the Dumbarton Trail project, the South Bay Salt Pond Restoration – Phase 2 at Ravenswood project, and the SAFER Bay project. A brief description of each of these projects is provided below.

DUMBARTON TRAIL PROJECT

Under this project, the Dumbarton Trail would be constructed for use by bicyclists and pedestrians. As shown on Figure 4-1, the trail would run adjacent to the current Dumbarton Rail Corridor along the southern border of the Bayfront Area. The Dumbarton Rail Corridor is owned by the San Mateo County Transit District. The Dumbarton Trail would be designed to be compatible with future rail service in the Dumbarton Rail Corridor and would connect users to the San Francisco Bay and the transit center in Redwood City.

SOUTH BAY SALT POND RESTORATION, PHASE 2 AT RAVENSWOOD PROJECT

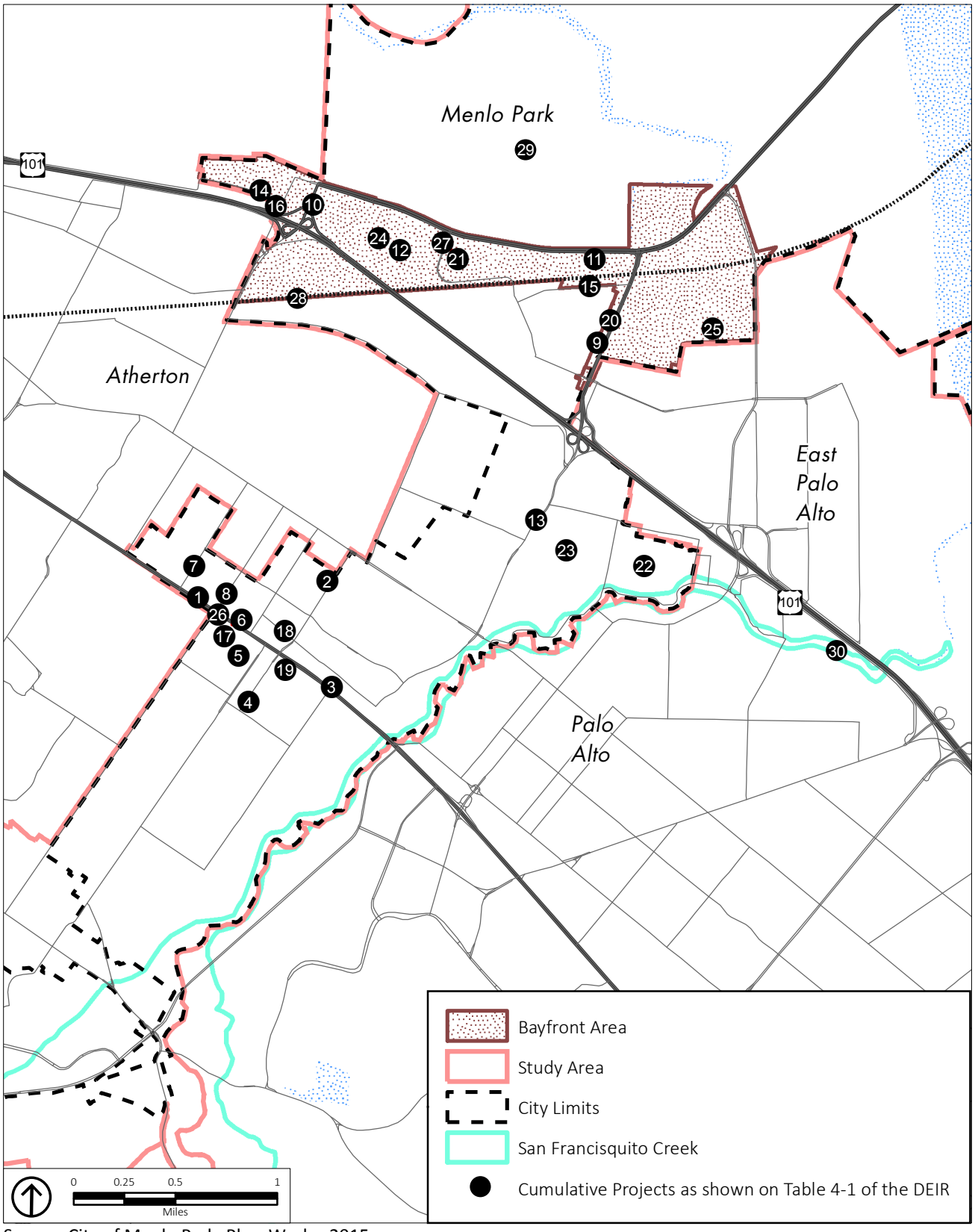
The South Bay Salt Pond (SBSP) Restoration Project is a two-phase project that would restore tidal marsh habitat, reconfigure managed pond habitat, and maintain or improve flood protection. The project would also provide recreation opportunities and public access to 15,100 acres of land, formerly used as salt-evaporation ponds, purchased from and donated by Cargil, Inc. Phase I implementation, completed in 2015, included the construction of 3,040 acres of tidal or muted tidal wetlands,[6] 710 acres of enhanced managed pond, and 7 miles of new public access. Phase II of the SBSP Restoration Project is ongoing and involves the restoration of the Alviso-Island Ponds, Alviso-Mountain View Ponds, Alviso-A8 Ponds, and the Ravenswood Ponds. [7] The Ravenswood ponds are bordered by Menlo Park's Bedwell Bayfront Park to the west, State Route 84 and the Bayfront Area to the south, Ravenswood Slough to the east, and Greco Island to the north. The Phase II Ravenswood ponds project consists of four ponds, the levees surrounding each pond, the fringe marsh outside of the levees, and the All-American Canal (AAC). The South Bay Salt Pond Restoration Project Draft EIR/S was made available for public review until October 30, 2015, and the Final EIS/R was made available for public review until May 26, 2016.[8]

[5] Association of Bay Area Governments (ABAG) *Projections 2013, Subregional Study Area Table*.

[6] Note: Muted tidal wetlands are areas where culverts or other obstructions reduce the range of tidal water that enters the wetland but still allow frequent inundation.

[7] Draft EIS/R, Phase II, http://www.southbayrestoration.org/planning/phase2/documents/SBSP%20Restoration%20Project%20-%20Executive%20Summary.pdf, accessed on October 28, 2015.

[8] South Bay Salt Pond Restoration Project, http://www.southbayrestoration.org/planning/phase2/, accessed on October 28, 2015.



Source: City of Menlo Park; PlaceWorks, 2015.

Figure 4-1
Cumulative Projects Location Map

ENVIRONMENTAL EVALUATION

TABLE 4-1 CUMULATIVE PROJECTS LIST

Map No.	Project Name/Address	Land Use	Size	Units	Location
1	1460 El Camino Real	Residential	16	du	West Menlo Park/Downtown/ El Camino Real
		Office	26,800	sf	
		Commercial	-12,016	sf	
2	SRI 333 Ravenswood Avenue	R&D Campus	3,000	employees	West Menlo Park/Downtown/ El Camino Real
		R&D Campus	1,780	employees	
3	Stanford 500 El Camino Real	Residential	170	du	West Menlo Park/Downtown/ El Camino Real
		Office	199,500	sf	
		Retail	10,000	sf	
		Auto Dealer (Tesla)	-27,932	sf	
4	840 Menlo Avenue	Residential	3	du	West Menlo Park/Downtown/ El Camino Real
		Office	6,936	sf	
5	702 Oak Grove Avenue	Residential	4	du	West Menlo Park/Downtown/ El Camino Real
		Office	3,469	sf	
		Residential	-4	du	
6	1295 El Camino Real	Residential	15	du	West Menlo Park/Downtown/ El Camino Real
		Office/Retail/Service	1,906	sf	
		Office/Retail/Service	-6,471	sf	
7	Roger Reynolds 133 Encinal Avenue	Residential	24	du	West Menlo Park/Downtown/ El Camino Real
		Retail	-6,166	sf	
8	Marriott Residence Inn 555 Glenwood Avenue	Hotel	138	rooms	West Menlo Park/Downtown/ El Camino Real
		Senior Living	138	rooms	
9	Police/City Service Center 1283 Willow Road	Office	3,800	sf	Northeast of U.S. 101
		Retail	5,096	sf	
10	Menlo Gateway 100-155 Constitution Drive & 100-190 Independence Drive	Office	694,664	sf	Northeast of U.S. 101
		Health Club	41,000	sf	
		Restaurant	6,947	sf	
		Hotel	250	rooms	
		Hotel	197,050	sf	
		Office	-133,690	sf	
		Office	-63,360	sf	
11	Facebook West (Building 20) 1 Facebook Way	Office	433,656	sf	Northeast of U.S. 101
		Office	-127,246	sf	
12	Commonwealth Corporation Center 151 Commonwealth - Sobrato 162 & 164 Jefferson Drive	Office	259,920	sf	Northeast of U.S. 101
		Office	-19,173	sf	
		Warehouse	-55,627	sf	
		Manufacturing	-163,058	sf	

TABLE 4-1 CUMULATIVE PROJECTS LIST

Map No.	Project Name/Address	Land Use	Size	Units	Location
13	Veteran's Health Administration (VA) Medical Center Core 605 Willow Road	Residential	60	du	Southwest of U.S. 101
14	Anton Menlo 3639 Haven Avenue	Residential	394	du	Bayfront Area
		Manufacturing	-36,471	sf	
		Warehousing	-40,837	sf	
15	Greenheart 777 Hamilton Avenue	Residential	195	du	Northeast of U.S. 101
		Manufacturing	-47,999	sf	
16	Greystar 3645 Haven Avenue	Residential	146	du	Bayfront Area
		Warehousing	-15,000	sf	
17	Greenheart 1300 El Camino Real	Residential	202	du	West Menlo Park/Downtown/ El Camino Real
		Office	210,000	sf	
		Retail	7,000	sf	
		Dance Studio	-3,800	sf	
		Fast Food Restaurant	-1,200	sf	
		Hardware Storage	-5,000	Sf	
18	Lane Partners 1020 Alma Street	Office	25,004	sf	West Menlo Park/Downtown/ El Camino Real
		Retail	-10,272	sf	
		Retail	172	sf	
19	Minkoff Group 650-660 Live Oak Avenue	Office	16,811	sf	West Menlo Park/Downtown/ El Camino Real
		Residential	17	du	
		Residential	-2	du	
		Office	-5,996	sf	
20	MidPen Sequoia Belle Haven 1221 Willow Road	Residential	90	du	Northeast of U.S. 101
		Residential	-48	du	
21	Facebook Building 23 300 Constitution Drive	Office	180,108	sf	Bayfront Area
		Warehouse	-184,438	sf	
22	Laurel Upper School former O'Connor/ German American International School 275 Elliott Drive	School	360	students	Southwest of U.S. 101
		School	280	students	
23	German American International School former Menlo Oaks School 475 Pope Street	School	400	students	Southwest of U.S. 101
		School	532	students	
24	New Magnate High School 150 Jefferson Drive	School	400	students	Bayfront Area
		Light Industrial	47,434	sf	

ENVIRONMENTAL EVALUATION

TABLE 4-1 CUMULATIVE PROJECTS LIST

Map No.	Project Name/Address	Land Use	Size	Units	Location
25	1315 O'Brien Drive	R&D	113,382	sf	Bayfront Area
		Warehouse	61,338	sf	
		Manufacturing	45,796	sf	
		Office	-56,002	sf	
		Warehouse	-162,839	sf	
26	Hotel 1400 El Camino Real	Hotel	63	rooms	West Menlo Park/Downtown/ El Camino Real
		Hotel	33,713	sf	
		Gas Station	-1,932	sf	
27	Facebook Campus Expansion Project 301-306 Constitution Drive	Office	962,400	sf	Bayfront Area
		Hotel	200	rooms	
		Manufacturing	-431,698	sf	
		R&D	-86,121	sf	
		Office	-318,019	sf	
28	Dumbarton Trail Project	Recreational	n/a	n/a	Dumbarton Rail Corridor
29	South Bay Salt Pond Restoration, Phase 2 at Ravenswood Project	Restoration	n/a	n/a	North of Bayfront Expressway adjacent to Bayfront Area
30	SAFER Bay Project	Flood Protection	n/a	n/a	San Francisquito Creek
31	University Heights Annexation	No new development	n/a	n/a	Southwest of U.S. 101
32	Stanford-owned land Annexation	Office	39,010	sf	Southwest of U.S. 101
		Total Non-residential	***1.4***	***msf***	
		Total Hotel	***320***	***rooms***	
		Total Residential	***1,280***	***du***	
		Total Population	***3,300***		
		Total Employment	***5,900***		

Notes: sf = square feet, du = dwelling units, msf = million square feet, R&D = research and design

- Table includes all projects in City of Menlo Park that have filed a complete development application for 5 or more net new residential units or 5,000 sf or more of net new commercial.
- Table includes pending and approved projects that were not occupied when traffic counts were performed.
- For residential projects, occupancy is based on date of final building inspection.
- For commercial projects, occupancy is based on date of final building inspection of applicable tenant improvements.
- Some projects involve the demolition of existing structures. Demolished buildings are only listed for projects that receive credit for traffic purposes.

SAFER BAY PROJECT

The San Francisquito Creek Joint Powers Authority (SFCJPA) is a regional government agency engaged in a series of improvements to existing or construction of new flood protection facilities to reduce the likelihood that floodwaters will exit the San Francisquito Creek.[9] Recently, SFCJPA secured local, State, and federal funding in an effort to protect properties in the tidal floodplain north of the Creek in southern San Mateo County. The SAFER Bay project includes a feasibility study, project design, and an EIR for the construction of new levees and flood control measures. The SAFER Bay project aims to protect 5,000 properties and major infrastructure from tidal flooding, restore more than 1,000 acres of marshland, and connect communities through expansive trails.[10] In 2015, the SAFER Bay project gathered data and public comments for the potential alternative alignments. The design and development stage of the EIR for the preferred alternative is anticipated to begin in 2016.[11]

CUMULATIVE BUILDOUT PROJECTIONS

The cumulative buildout based on the projections and list approach, as described above, are shown in Table 4-2. The buildout numbers in Table 4-2 are a summary of the buildout projections in Table 3-2 in Chapter 3, Project Description, which provides a more detailed breakdown of the projection totals by category.

TABLE 4-2 CUMULATIVE BUILDOUT PROJECTIONS

	Cumulative Projects[a]	+	Proposed Project[b]	=	Cumulative Buildout Projections[c]
Non-Residential Square Feet	1.5 million		4.1 million		5.6 million
Hotel Rooms[d]	520		400		920
Residential Units	1,280		5,500		6,780
Population[e]	3,300		14,150		17,450
Employees	12,450		9,900		22,350

Notes: *Numbers are estimates and rounded for the purposes of this programmatic environmental review.*

a. Includes reasonably foreseeable projects (i.e., pending applications, recently approved, or under construction) in the study area, including the current Facebook Campus Expansion Project, as listed in Table 4-1.

b. This represents the current General Plan plus the proposed Bayfront Area development potential, which represents increased development potential for the Bayfront Area only, but does not include the Facebook Campus Expansion Project, which is shown in the Cumulative Projects column.

c. The Cumulative Buildout Projections represent the total of the two previous columns.

d. Three hotels are proposed under the current General Plan; Hotel square footage is not included in the Facebook Campus Expansion Project and Proposed Bayfront Area Development Potential non-residential square feet.

e. Assumes 2.57 persons per household per Association of Bay Area Governments (ABAG) Projections 2013, Subregional Study Area Table.

[9] San Francisquito Creek Joint Powers Authority, http://sfcjpa.org/web/about/agency-overview/, accessed on October 28, 2015.

[10] San Francisquito Creek Joint Powers Authority, SAFER Bay Presentation, http://seachangesmc.com/wp-content/uploads/2015/09/Materman-SAFER-Bay-slides-6-5-15.pdf, accessed on October 28, 2015.

[11] San Francisquito Creek Joint Powers Authority, http://sfcjpa.org/, accessed on January 27, 2016.

CUMULATIVE BUILDOUT SETTING

The following provides a summary of the cumulative impact setting for each impact area:

- Aesthetics: The cumulative setting for visual impacts includes potential future development under the proposed project combined with effects of development on lands adjacent to the city within East Palo Alto, Palo Alto, Stanford, Atherton, North Fair Oaks, and Redwood City.
- Air Quality: Cumulative air quality impacts could occur from a combination of the proposed project combined with regional growth within the San Francisco Bay Area Air Basin.
- Biological Resources: The geographic scope of the cumulative analysis for biological resources considers the surrounding incorporated and unincorporated lands, and the region.
- Cultural Resources: Cumulative impacts to cultural resources could occur from development planned under the proposed project and in the region.
- Geology, Soils, and Seismicity: Potential cumulative geological impacts could arise from a combination of the development of the proposed project together with future development in the immediate vicinity of adjoining jurisdictions.
- Greenhouse Gas Emissions: The cumulative impact analyses for greenhouse gas (GHG) emissions is related to the ongoing development in the City of Menlo Park and the entire region. Because GHG emissions are not confined to a particular air basin but are dispersed worldwide, the cumulative analysis focuses on the global impacts.
- Hazards and Hazardous Materials: This chapter analyzes potential cumulative hazardous impacts that could arise from a combination of the development of the proposed project together with regional growth.
- Hydrology and Water Quality: The geographic context used for the cumulative assessment of water quality and hydrology impacts is the Atherton Channel watershed and the San Francisquito Creek watershed, which encompasses the southeastern portion of the study area, and San Francisco Bay.
- Land Use and Planning: The geographic context for the cumulative land use and planning effects include from potential future development under the proposed project combined with effects of development on land within the region.
- Noise: Traffic noise levels are based on cumulative traffic conditions that take into account cumulative development in the region. See Table 4-1 and 4-2.
- Population and Housing: Impacts from cumulative growth are considered in the context of consistency with regional planning efforts. See Table 4-1 and 4-2.
- Public Services and Recreation: Cumulative impacts are considered in the context of the growth from development under the proposed project within the city combined with the estimated growth in the service areas of each service provider. See Table 4-1 and 4-2.

- Transportation and Circulation: The analysis of the proposed project addresses cumulative impacts to the transportation network in the City of Menlo Park and the surrounding area through a modeling process that applies regional traffic data. The projected 2040 traffic impacts General Plan buildout are calculated using data from the City/County Association of Governments of San Mateo County (CCAG) model that is based on the larger South Bay Santa Clara Valley Transportation Authority (VTA) model. The VTA model is, in turn, derived from the region-wide Bay Area Metropolitan Transportation Commission (MTC) Model, which incorporates county and regional growth projections from ABAG. These larger regional models are augmented by land use data from the City of Menlo Park for areas known as Traffic Analysis Zones (TAZ's) within the City to account for growth in Menlo Park under the proposed project. This modeling process is referred to as the Menlo Park Model (MPM).
- Utilities and Service Systems: Cumulative impacts are considered in the context of the growth from development under the proposed General Plan within the city (see Table 4-1 and 4-2) combined with the estimated growth in each utility's service area.

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4.1 AESTHETICS

This chapter describes the existing aesthetic character of the study area and evaluates the potential environmental consequences of future development that could occur by adopting and implementing the proposed project. A summary of the relevant regulatory setting and existing conditions is followed by a discussion of the General Plan and cumulative impacts.

4.1.1 ENVIRONMENTAL SETTING

4.1.1.1 REGULATORY FRAMEWORK

This section summarizes key State and City regulations and programs related to aesthetics in the study area. There are no specific federal regulations applicable to aesthetics.

State Regulations

California Scenic Highway Program

The California Scenic Highway Program, maintained by the California Department of Transportation (Caltrans), protects State scenic highway corridors from changes which would diminish the aesthetic value of lands adjacent to the highways. Caltrans has designated the segment of Interstate 280 (I-280) that runs from the Santa Clara County line to the San Bruno city limit as a scenic highway.[1] This State-designated scenic highway runs approximately 1 mile along the southern edge of the city. Caltrans describes the scenic value of I-280 as follows: "The motorist is offered middleground forest and mountain vistas, background water and mountain panoramas, and enclosed lake and mountain ridge views as the route traverses the environmentally fragile valley created by the San Andreas Earthquake Fault."[2]

California Building Code

The State of California provides a minimum standard for building design through Title 24 of the California Code of Regulations (CCR), commonly referred to as the "California Building Code" (CBC). The CBC is located in Part 2 of Title 24. The CBC is updated every three years, and the current 2013 CBC went into effect in January 2014. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. The 2013 CBC has been adopted for use by the City of Menlo Park, according to Section 12.04.010 of the Menlo Park Municipal Code.

Commercial and residential buildings are plan-checked by local City and County building officials for compliance with the CBC.

[1] California Department of Transportation California Scenic Highways Program, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/scenic_hwy.htm, accessed on February 26, 2015.

[2] Caltrans, California Scenic Highway Mapping Program, Route 280 Photo Album, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/photos/p_rte280.htm, accessed on February 26, 2015.

CAL Green

California Green Building Standards Code of the California Code of Regulations, Title 24, Part 11, known as CALGreen, establishes building standards aimed at enhancing the design and construction of buildings through the use of building concepts that have a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. Specifically, Section 5.106.8, Light Pollution Reduction, establishes Backlight, Uplight, and Glare (BUG) ratings to minimize the effects of light pollution for nonresidential development.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the aesthetic factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.1.3, Impact Discussion.

Menlo Park Municipal Code

The City of Menlo Park Municipal Code, organized by title, chapter, and section, contains all ordinances for Menlo Park. Title 13, Streets, Sidewalks and Utilities, Title 15, Subdivisions, and Title 16, Zoning, include regulations relevant to aesthetics and visual resources in Menlo Park.

Title 12 Adoption of Codes

Under Section 12.04.100A(E)(C)(1), lighting in multiple family dwellings is recommended for aisles, passageways, and recesses related to and within the building complex. The lighting level should be illuminated with an intensity of at least one foot-candle at the ground level during the hours of darkness. Lighting devices shall be protected by weather and vandalism resistance covers.

Title 13 Street, Sidewalk, and Utilities Regulations

Street, sidewalk, and utilities regulations are included in Title 13 of the Municipal Code. The ordinance provides development standards related to aesthetics such as landscaping, lighting, street trees, heritage trees and screening and undergrounding utilities.

Title 15 Subdivisions

Title 15 includes subdivision regulations that are established to ensure the orderly development of subdivisions and condominiums. Chapter 15.16 provides standards for surveying, design and construction, and installation of relevant infrastructure. Section 15.16.220 may allow for the standards to be varied when, amongst other conditions, a project sets out permanent scenic easements. Chapter 15.34 includes regulations for the development of condominiums.

Title 16 Zoning

The Zoning Ordinance, which, amongst other purposes, is intended to preserve and extend the charm and beauty inherent to the character of the city and encourage building construction of pleasing design. The Zoning Ordinance sets forth the standards requiring use permit and/or architectural control review and stipulating aesthetic criteria for development, such as ensuring that a development's proposed design and size is appropriate for the location and is compatible with adjacent uses and resources. Specifically, the Zoning Ordinance references the El Camino Real/Downtown Specific Plan for design standards in the Specific Plan Area, provides standards for architectural design for R-4-S, High Density Residential District, Special (Chapter 16.23) and also sets forth development standards related to aesthetics, including preservation of historic buildings (Chapter 16.54), fencing (Chapter 16.64), and daylight planes for residential development (Chapter 16.67). Additionally, under Section 16.68.020, Architectural Control, the planning commission, architectural committee, or community development director will review architectural drawings, including plans for buildings consisting of elevations of the proposed building or structure, proposed landscaping or other treatment of the grounds around such building or structure, and proposed design of, and access to required parking facilities for all building permit applications, with the exception of single-family dwellings, duplexes, and accessory buildings. The findings for architectural control review are as follows:

1. That the general appearance of the structures is in keeping with character of the neighborhood;
2. That the development will not be detrimental to the harmonious and orderly growth of the city;
3. That the development will not impair the desirability of investment or occupation in the neighborhood;
4. That the development provides adequate parking as required in all applicable city ordinances and has made adequate provisions for access to such parking;
5. That the development is consistent with any applicable specific plan.

Height Limits in the Bayfront Area

Table 4.1-1 shows the existing height limits by zoning designation in the Bayfront Area.

El Camino Real/Downtown Specific Plan

The El Camino Real/Downtown Specific Plan (ECR/D Specific Plan) establishes a framework for private and public improvements on El Camino Real, in the Caltrain station area and in downtown Menlo Park for the next several decades. The plan's focus is on the character and extent of enhanced public spaces, the character and intensity of private infill development and circulation and connectivity improvements. It includes a strategy for implementation of public space improvements, such as wider sidewalks and plazas, and other infrastructure improvements. The ECR/D Specific Plan contains design standards and guidelines to ensure that the community character and aesthetics of the area are realized in the Specific Plan Area.

TABLE 4.1-1 EXISTING BUILDING HEIGHT BY ZONE IN THE BAYFRONT AREA

Zoning District	Maximum Building Height Limit
R-4-S(AHO) (High-Density Residential District, Special, Affordable Housing Overlay)	40 feet
R-4-S (Residential)	40 feet
C-2-B (Neighborhood Commercial, Restrictive)	30 feet
C-2-S (Neighborhood Commercial, Special)	To Be Determined by Planning Commission
C-4 (General Commercial)	30 feet
P-F (Public Facilities)	n/a
M-2 (General Industrial)	35 feet
M3 (Commercial Business Park)	45 feet

Source: Menlo Park Municipal Code, Title 16, Zoning. 2015.

4.1.1.2 EXISTING CONDITIONS

Visual Character

The city is primarily built out and nestled between the built environments of Atherton and Redwood City, East Palo Alto, and Palo Alto, and the San Francisco Bay (Bay). Menlo Park can generally be described as a modern suburb that encompasses a variety of natural landscapes. The southwestern most portion of Menlo Park consists of residential hillside development. The central and southern portions of the city include a mix of housing types, business parks, shopping centers, and public uses ranging from low- to mid-rise development. Northeastern Menlo Park abuts the Bay and contains wetlands and vegetated open space, including marshes, flatlands, and shoreline of the Bay. To the south and west of the Bay, the city contains a mixture of light industry warehouses, business parks, and single-family and multi-family residential uses.

The types of land use changes that may have the potential to impact the visual setting can include more intense development and increased heights. Under the proposed project, changes to the development potential that would have the potential to impact the visual setting beyond what is currently allowed under the existing General Plan would only occur in the Bayfront Area. Accordingly, the following description will focus on where change to the existing visual resources as a result of new development potential in the Bayfront Area could occur.

The Bayfront Area is essentially the current "M-2 General Industrial Zoning District" and has been historically defined by light industrial/office use; however, under recent planning updates, multifamily housing is currently permitted in some parts of the Bayfront Area. The Bayfront Area is different from other Menlo Park residential and commercial districts in street patterns, building placement and lot coverage, building types, and landscaping. The Bayfront Area is subdivided by four regional infrastructure

corridors: US 101, Bayfront Expressway (State Route 84), the Dumbarton Rail Corridor, and the Hetch Hetchy pipeline, and is bounded by the marshlands of San Francisco Bay and former salt ponds owned by the Leslie Salt Company. The road network includes the US 101 freeway, divided arterial roads (Willow Road, Bayfront Expressway, Marsh Road) and local streets which vary in width (many without sidewalks). The local streets are laid out in an ad-hoc pattern to serve groups of parcels and do not appear as a single, coherent network. Building placement and landscaping vary, but buildings are usually surrounded by parking or other pavement on all sides, and siting and landscaping do not fit a consistent pattern. Almost all buildings have flat roofs, many are rectangular in form, and most have metal or cementitious exterior wall materials. Buildings in the Bayfront Area generally range from one- to three-stories in height. However, there are some buildings that exceed the permitted heights as shown on Table 4.1-1 (e.g., Facebook and Menlo Gateway)

An Existing Conditions Report was prepared for the ConnectMenlo project and made available for public review in January 2015. The Report is included in Appendix D, Existing Conditions Report, of this Draft EIR. As described in the Community Character section of this report, the Bayfront Area was divided into seven distinct subareas for the purposes of describing the general characteristics and development patterns that currently exist throughout the area. A description of the visual setting for each of these subareas is provided below.

Haven Avenue

Haven Avenue is historically defined by light industrial/office use; however, multifamily housing is currently under construction. The subarea is concentrated along Haven Avenue between Marsh Road and Redwood City. Marsh Road serves as a view corridor toward the Salt Ponds, Bedwell Bayfront Park, and the Bay beyond. This subarea consists of long rectilinear blocks with large parcels. Buildings are set back from the street by a landscaped buffer, and parking is typically located on the side of the parcel. Some parcels are more industrial in character, including tilt-up[3] industrial use buildings, storage, and machinery. Overhead utilities are visually-dominant streetscape components. Buildings in this area range from two- to three-stories in height. This area is bounded by Salt Ponds and Haven Avenue.

Bohannon Drive

Bohannon Drive is bounded by Marsh Road, Bohannon Drive, Scott Drive, and US 101. The area consists of a combination of office buildings and corporate offices in campus settings. The subarea consists of large blocks of different semi-curved shapes and generally large parcels with a combination of large office campuses and smaller individual lots. This area includes a range of building styles and ages, but all generally follow the same site design, including large front, side, and rear setbacks dominated by landscaping or parking areas. Older buildings are tilt-up, utilitarian, and horizontally-oriented office buildings, and newer buildings display added architectural features typical of contemporary office development, including sloped or varied roofs, large windows, and multiple, high-quality materials.

[3] A tilt-up, tilt-slab or tilt-wall is a type of building and a construction technique using concrete. Concrete elements (walls, columns, structural supports, etc.) are formed horizontally on a concrete slab and then tilted to the vertical position with a crane and braced into position until the remaining building structural components (roofs, intermediate floors and walls) are secured.

Mature trees are planted in perimeter landscaping strips adjacent to streets. Buildings in this area range from two- to three-stories in height.

Marsh Road to Chilco Street

The Marsh Road to Chilco Street subarea consists of a number of businesses in a suburban office park setting, bounded by US 101, Bayfront Expressway (State Route 84), Marsh Road, and Chilco Street. Substantial new development in the form of a new hotel, three office buildings, a health club, neighborhood-serving retail, and structured parking, referred to as the Menlo Gateway Project, has been approved for construction on Independence Drive and Constitution Drive. This area is characterized by large blocks primarily of rectangular shape and one- to two-story tilt-up buildings typified by utilitarian architecture, minimal windows, and large ground-floor plates on expansive parcels. Buildings are generally located in the center of the parcel, surrounded by surface parking. Parcels with street frontage include scattered landscaping and abut other parcels with parking rows or landscaping strips, which usually lack sidewalks. While the Menlo Gateway Project will have a maximum height not to exceed 120 feet, newer development is typically two- to three stories with mirrored or transparent glass upper floors.

Chilco Street to Willow Road

The Chilco Street to Willow Road subarea is comprised of two large properties south of Bayfront Expressway (State Route 84) and from Chilco Street to Willow Road. These parcels are occupied by Facebook and include the Facebook Campus on the Bayside of Bayfront Expressway (State Route 84), which is enclosed by Hacker Way. The area is distinct from the rest of the Bayfront Area by its exceptionally large parcel patterns, blocks, and buildings. The area is primarily an office campus environment consisting of large footprint two-story light industrial/office buildings surrounded by surface parking. Along Constitution Drive on the western edge of this subarea, light-industrial buildings are characterized by minimal articulation and windows. The Facebook Campus is a corporate campus, characterized by contemporary office buildings and internal pedestrian walkways surrounded by large parking areas. The southwest corner of Willow Road and Bayfront Expressway (State Route 84) was completed for the Facebook's West Campus, and the Facebook Campus Expansion Project, which extends from the existing building to Chilco Street, is currently being reviewed by the City. The West Campus building is raised on pillars to accommodate parking underneath. Buildings in this area range from two- to three-stories in height, with a maximum height of 73 feet.

Hamilton Court

Hamilton Court forms the western half of a business area between Willow Road and University Avenue, bounded by Dumbarton Rail Corridor and the Hetch-Hetchy right-of-way. Accessed by a single road, the suburban office park's accessibility is relatively isolated. Technically, the area is one large block bisected by Hamilton Court, which dead-ends. Generally this area consists of one- to two-story tilt-up buildings that are typified by utilitarian architecture, minimal windows/openings, and large ground-floor plates on expansive parcels. Consistent landscaped setbacks are planted with mature trees for the parcels fronting Hamilton Avenue and Hamilton Court. Newer buildings show more articulation and include mirrored or colored windows/openings on the ground floor.

Adams Court

Adams Court is the business area between the end of Hamilton Court and University Avenue, bounded by Dumbarton Rail and O'Brien Drive. Like Hamilton Court, this area is isolated from surrounding areas and characterized by large office park development. Generally this area is made up of one- to two-story tilt-up buildings typified by utilitarian architecture, minimal windows/openings, and large ground-floor plates on expansive parcels. Buildings are generally located in the center of the parcel, surrounded by surface parking. This area includes consistent landscaped setbacks with mature trees for parcels that are fronting Adams Court. Newer buildings show more articulation and include mirrored or colored windows/openings on the ground floor.

O'Brien Drive

The parcels and buildings fronting O'Brien Drive are relatively small compared to the rest of the commercial lots in the Bayfront Area, making it a unique subarea. Winding block patterns define O'Brien Drive and connect to Willow Road and University Avenue. Generally this area consists of one-story tilt-up buildings typified by utilitarian architecture, and minimal windows/openings with smaller buildings than the development of similar a type in the Bayfront Area. Small parking areas are located in front setback and limited side and rear setbacks. Mature trees consistently planted adjacent to O'Brien Drive.

Newer buildings show more articulation and include mirrored or colored windows/open on the ground and upper floors. Buildings in this area range from two- to three-stories in height.

Scenic Corridors and Vistas

Scenic corridors are considered an enclosed area of landscape, viewed as a single entity that includes the total field of vision visible from a specific point, or series of points along a linear transportation route. Public view corridors are areas in which short-range, medium-range and long-range views are available from publicly accessible viewpoints, such as from city streets. However, scenic vistas are generally interpreted as long-range views of a specific scenic feature (e.g., open space lands, mountain ridges, bay, or ocean views).

The Bayfront Area is located on the flatter portions of the south-western margin of Bay, east of the San Andreas Fault zone, which limit scenic vistas within the city and this area. However, due to the flat nature of the study area, the majority of the city, particularly from the north and east of US 101 in the Bayfront Area, is afforded views of the Santa Cruz Mountain Range, which runs the length of the San Francisco Peninsula and forms a barrier between the Pacific Ocean and the Bay. Scenic resources also include the Bay itself and its natural features, including the Salt Ponds and Bedwell Bayfront Park as viewed from the eastern and northern portions of the city, and the densely vegetated riparian area lining the open water of San Francisquito Creek seen from views along the city's southeast border.

Menlo Park's main thoroughfares include the El Camino Real, which is developed with traditional strip center developments and bisects the downtown area, which consists of pedestrian-scale, one- to three-story buildings. The Middlefield Road and Sand Hill Road thoroughfares include landscaped office parks with mid-rise buildings interspersed with landscaped parking areas, as does the US 101 corridor. While the

City has no designated scenic corridors, as previously noted, the section of I-280 within the study area is considered a scenic highway per the California Scenic Highways Program.[4] The grassy foothills, which are part of the larger Stanford foothills, provide the visual backdrop to the west of the city as seen from this section of I-280. However, the Bayfront Area is only visible from the portion of the US 101 corridor that bisects a corner of the Bayfront Area. This section of US 101 is generally lined with mature trees, sound walls, and existing development ranging in height from two- to three-stories, which limit the views of the Santa Cruz Mountains and the Bay and its scenic resources. However, users of the Bayfront Expressway (State Route 84) and the Bay Trail are afforded views of the Bay and its scenic natural features.

Light and Glare

Light pollution refers to all forms of unwanted light in the night sky, including glare, light trespass or spill to adjacent sensitive receptors (e.g., residential development), sky glow, and over-lighting. Views of the night sky are an important part of the natural environment. Excessive light and glare can be visually disruptive to humans and nocturnal animal species. Although there is considerable development in Menlo Park, commercial development is concentrated in the downtown area and intersections along major arterials, and industrial uses are concentrated in the Bayfront Area. Light pollution in most of the city is minimal, and is restricted primarily to street lighting along major arterial streets and US 101, and to night-time illumination of commercial buildings, shopping centers, and industrial buildings. Light spillage from residential areas, particularly older neighborhoods, is mostly well screened by trees.

4.1.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant aesthetic impact if it would:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.
3. Substantially degrade the existing visual character or quality of the site and its surroundings.
4. Expose people on- or off-site to substantial light or glare, which would adversely affect day or nighttime views in the area.

4.1.3 IMPACT DISCUSSION

AES-1 Implementation of the proposed project would not have a substantial adverse effect on a scenic vista.

Future development under the proposed project would have the potential to affect scenic vistas and/or scenic corridors if new or intensified development blocked views of areas that provide or contribute to

[4] California Department of Transportation California Scenic Highways Program, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/scenic_hwy.htm, accessed on February 26, 2015.

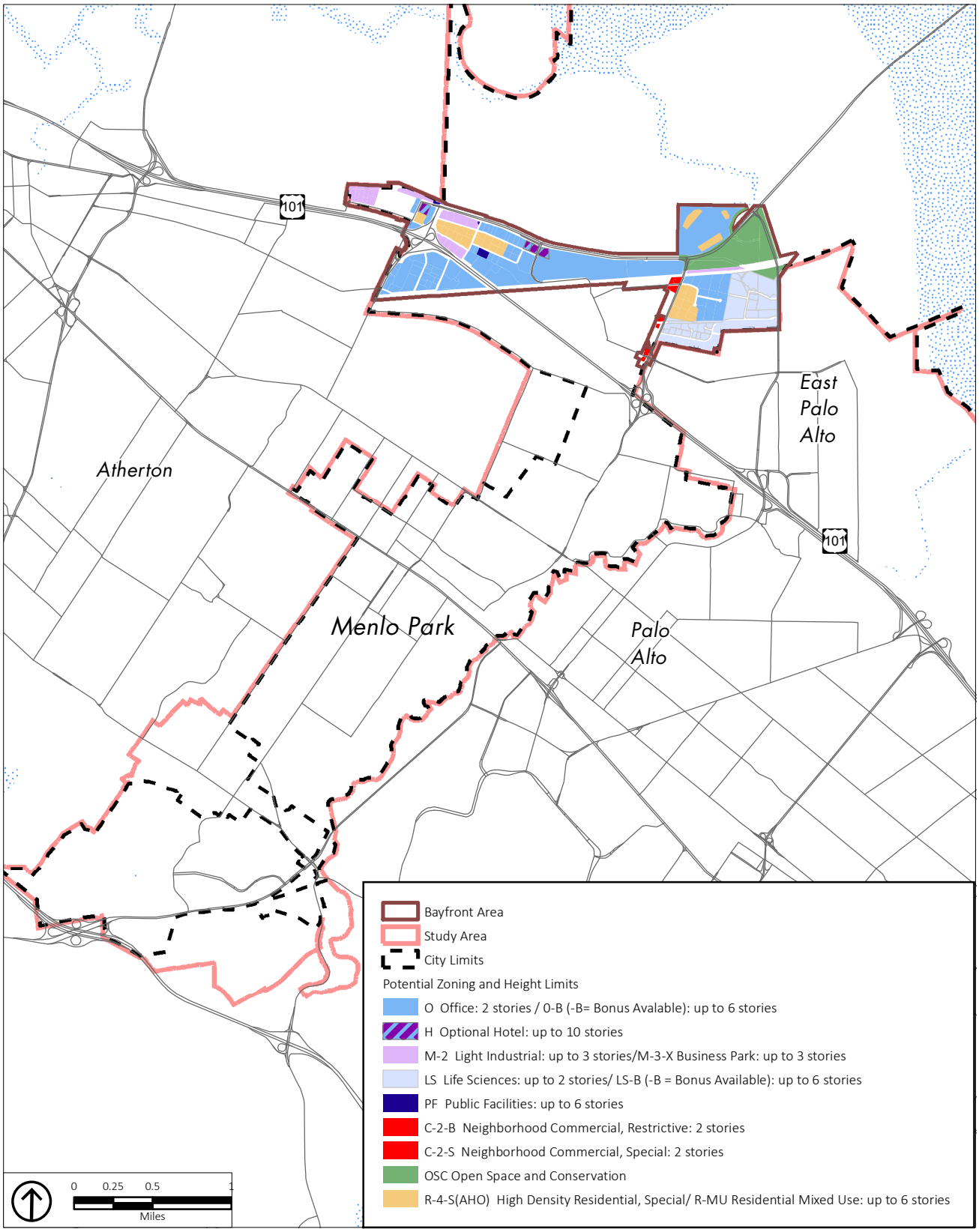
such vistas. Potential effects could include blocking views of a scenic vista/corridor from specific publically accessible vantage points or the alteration of the overall scenic vista/corridor itself. Such alterations could be positive or negative, depending on the characteristics of individual future developments and the subjective perception of observers.

As previously described, scenic corridors are considered public views as seen along a linear transportation route and scenic vistas are views of a specific scenic feature. Scenic vistas are generally interpreted as long range views, while scenic corridors are comprised of short-, middle-, and long-range views. As stated in Section 4.1.1, Environmental Setting, the City does not designate official scenic corridors or vistas. However, for this analysis the views to the Santa Cruz Mountain Range, views to the Bay, and views of the foothills and San Francisquito Creek within the city are considered scenic vistas and the State-designated portion of I-280 is considered a scenic corridor. The impacts to the State-designated view corridor on I-280 are discussed below under AES-2.

As described in detail in Section 4.1.1.2, Existing Conditions, and shown on Figure 4.1-1, future development potential in the Bayfront Area where new potential development is expected to occur would be concentrated on sites either already developed and/or underutilized, and/or in close proximity to existing development, where future development would have a lesser impact on scenic vistas. Proposed changes in the Bayfront Area consist of increased development intensities and increases in height. However, as previously described in Section 4.1.1.2, the development standards for the development potential for the remainder of the city would not change under the proposed project; therefore, no intensification of density or increases in height would occur on these sites as a result of the proposed project.

Because of the more intense development and increases in proposed building heights, potential new development under the proposed project in the Bayfront Area could block views of the Bay and its scenic resources from various vantage points. However, due to the natural topography and location of the Bayfront Area on the city's northern border, the far-field views of the Santa Cruz Mountain Range, foothills and San Francisquito Creek would not be impacted by new development potential in the Bayfront Area.

Proposed height limits under the proposed project are shown in Table 4.1-2. As shown in this table, heights in the Bayfront Area would generally range from 35 to 40 feet and could be as high as 120 feet with allowable community benefits. Because the topography in the Bayfront Area is essentially flat, the views from street-level public viewing to the scenic resources are currently inhibited by existing conditions such as buildings, structures, overhead utilities, and mature trees/vegetation as described in Section 4.1.1.2, above. As such the maximum heights currently permitted as shown in Table 4.1-1 in Section 4.1.1.1, currently limit the opportunity for views of scenic vistas from street-level public viewing. Therefore, the height increases permitted under the proposed project, which are limited to certain parcels in the Bayfront Area, would not cause any further substantial obstruction from the street level view to any scenic resource.



Source: CIty of Menlo Park; PlaceWorks, 2015.

Figure 4.1-1
Bayfront Area Potential Zoning and Height Limit Map

TABLE 4.1-2 PROPOSED BUILDING HEIGHT BY ZONE IN THE BAYFRONT AREA

Zoning District	Maximum Building Height (Feet)	Maximum Building Height With Bonus Level (Feet)
R-4-S(AHO) (High-Density Residential District, Special, Affordable Housing Overlay)	40	n/a
C-2-B (Neighborhood Commercial, Restrictive)	30	n/a
C-2-S (Neighborhood Commercial, Special)	To Be Determined by Planning Commission	
P-F (Public Facilities)	n/a	
M-2 (General Industrial)	35	n/a
M3 (Commercial Business Park)	45	n/a
O (Office)	45; hotels 120 feet and 10 stories	120 feet and 6 stories
LS (Life Science)	45	110 feet (6 stories)
R-MU (Mixed Use Residential)	50	85

Source: City of Menlo Park, PlaceWorks. 2016. Note: Potential 10 ft. height increase for flood protection would not affect impact potential.

Accordingly, no publically accessible views of scenic resources would be blocked or further obstructed by increasing heights limits on the identified parcels in the Bayfront Area. Similar views would continue to be visible between projects and over lower intensity areas. Furthermore, the developed parcels in the Bayfront Area are not considered public Bay-viewing destination points. Public Bay-viewing destination points include the Bayfront Expressway (State Route 84) and the Bay Trail. No new development potential is planned for between the Bay and these viewing points; thus, no obstruction of views would occur under the proposed project. No changes to the development standards are proposed for the development potential in the remainder of the city that is being affirmed and incorporated into the proposed project; therefore, no new impacts to views of the existing scenic resources would occur under the proposed project.

Furthermore, potential future development citywide, if needed, would be subject to the City's existing architectural control process, in accordance with Section 16.68.020 of the Zoning Ordinance and would be required to comply with existing design standards outlined in the Zoning Ordinance and identified in the ECR/D Specific Plan, summarized in Section 4.1.1.1, above. In addition, the proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general goals and policies that require local planning and development decisions to consider impacts to aesthetic resources, including scenic vistas. The following General Plan goals and policies would serve to minimize potential adverse impacts on aesthetic resources:

- Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.

- Policy LU-1.1: Land Use Patterns. Cooperate with the appropriate agencies to help assure a coordinated land use pattern in Menlo Park and the surrounding area.

- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
  - Policy LU-2.1: Neighborhood Compatibility. Require new residential development to possess high-quality design that is compatible with the scale, look, and feel of the surrounding neighborhood and that respects the city's residential character.
  - Policy LU-2.2: Open Space. Require accessible, attractive open space that is well maintained and uses sustainable practices and materials in all new multiple dwelling and mixed-use development.
  - Policy LU-2.3: Mixed Use Design. Allow mixed-use projects with residential units if project design addresses potential compatibility issues such as traffic, parking, light spillover, dust, odors, and transport and use of potentially hazardous materials.
  - Policy LU-2.6: Underground Utilities. Require all electric and communications lines serving new development to be placed underground.
  - Policy LU-2.8: Property Maintenance. Require property owners to maintain buildings, yards, and parking lots in a clean and attractive condition.
- Goal LU-3: Retain and enhance existing and encourage new neighborhood-serving commercial uses, particularly retail services, to create vibrant commercial corridors.
  - Policy LU-3.1: Underutilized Properties. Encourage underutilized properties in and near existing shopping districts to redevelop with attractively designed commercial, residential, or mixed-use development that complements existing uses and supports pedestrian and bicycle access.
  - Policy LU-3.2: Neighborhood Shopping Impacts. Limit the impacts from neighborhood shopping areas, including traffic, parking, noise, light spillover, and odors, on adjacent uses.
  - Policy LU-3.3: Neighborhood Retail. Preserve existing neighborhood-serving retail, especially small businesses, and encourage the formation of new neighborhood retail clusters in appropriate areas while enhancing and preserving the character of the neighborhood.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.3: Mixed Use and Nonresidential Development. Limit parking, traffic, and other impacts of mixed-use and nonresidential development on adjacent uses, and promote high-quality architectural design and effective transportation options.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.
  - Policy LU-6.1: Parks and Recreation System. Develop and maintain a parks and recreation system that provides areas, play fields, and facilities conveniently located and properly designed to serve the recreation needs of all Menlo Park residents.
  - Policy LU-6.2: Open Space in New Development. Require new nonresidential, mixed use, and multiple dwelling development of a certain minimum scale to provide ample open space in the form of plazas, greens, community gardens, and parks whose frequent use is encouraged through thoughtful placement and design.
  - Policy LU-6.6: Public Bay Access. Protect and support public access to the Bay for the scenic enjoyment of open water, sloughs, and marshes, including restoration efforts, and completion of the Bay Trail.
  - Policy LU-6.8: Landscaping in Development. Encourage extensive and appropriate landscaping in public and private development to maintain the City's tree canopy and to promote sustainability and healthy living, particularly through increased trees and water-efficient landscaping in large parking areas and in the public right-of-way.
  - Policy LU-6.9: Pedestrian and Bicycle Facilities. Provide well designed pedestrian and bicycle facilities for safe and convenient multi-modal activity through the use of access easements along linear parks or paseos.
- Goal OSC-1: Maintain, protect and enhance open space and natural resources.
  - Policy OSC-1.1: Natural Resources Integration with Other Uses. Protect Menlo Park's natural environment and integrate creeks, utility corridors, and other significant natural and scenic features into development plans.
  - Policy OSC-1.6: South Bay Salt Pond Restoration Project and Flood Management Project. Continue to support and participate in Federal and State efforts related to the South Bay Salt Pond Restoration Project and flood management project. Provide public access to the Bay for the scenic enjoyment and recreation opportunities as well as conservation education opportunities related to the open Bay, the sloughs, and the marshes.
  - Policy OSC-1.11: Sustainable Landscape Practices. Encourage the enhancement of boulevards, plazas and other urban open spaces in high-density and mixed-use residential developments, commercial and industrial areas with landscaping practices that minimize water usage.
  - Policy OSC1.13: Yard and Open Space Requirements in New Development. Ensure that required yard and open spaces are provided for as part of new multi-family residential, mixed-use, commercial, and industrial development.
  - Policy OSC1.14: Protection of Conservation and Scenic Areas. Protect conservation and scenic areas from deterioration or destruction by vandalism, private actions or public actions.
  - Policy OSC1.15: Heritage Trees. Protect Heritage Trees, including during construction activities through enforcement of the Heritage Tree Ordinance (Chapter 13.24 of the Municipal Code).

- Policy OSC-1.16: Visual Amenities in Public Improvements. Require that all public improvements to facilities, such as streets, civic structures and major municipal projects, recognize the need for visual amenities such as landscaping, public plazas, public art, and pedestrian and bicycle access.

Furthermore, with respect to the new development potential in the Bayfront Area where more intense development and increased height is being considered, the proposed project includes zoning regulations that include design standards intended to reduce potential aesthetic-related impacts of future development under the proposed project. The design standards control the appearance of development, including aspects such as connectivity via new street and paseo requirements, lot size, building mass and scale, the building's relationship to the street, ground-floor exterior, public and private open space, sidewalks and paseos, building projections and facades, roof planes, and upper-story stepbacks. In addition, the design standards include requirements for trash and storage and associated screening, and requirements for durable and high-quality building materials. The design standards ensure that the development within the proposed O (Office), LS (Life Science), and R-MU (Mixed Use Residential) zoning district results in the same high-quality design. The primary purpose of the proposed design standards is to promote complementary uses and appearance. These proposed design standards specifically apply to all new construction, regardless of size, and building additions and/or alterations affecting 10,000 or more square feet of gross floor area.

In summary, impacts to scenic vistas would be *less than significant*.

Significance Without Mitigation: Less than significant.

AES-2	**Implementation of the proposed project would not substantially degrade the view from a scenic highway, including, but not limited to, trees, rock outcroppings, and historic buildings.**

The section of I-280 that is within the study area is considered a State scenic highway per Caltrans standards. However, as discussed under AES-1 above, none of the potential new development growth under the proposed project that would result in more intense development or increased heights is within the I-280 viewshed. As previously described in Section 4.1.1.2 the development standards for the development potential for the remainder of the city, which could occur within the I-280 viewshed, would not change under the proposed project; therefore, future development in the remainder of the city would not represent a reimagining of the character of the locations in the I-280 viewshed. The potential future development under the proposed project would primarily involve gradual changes in development intensity along the I-280 viewshed, similar to existing buildings, and would not fully obstruct views of far-field scenic resources (e.g., Santa Cruz Mountains) from I-280.

Furthermore, potential future development in the I-280 viewshed would, if necessary, be subject to the City's existing architectural control process, in accordance with Section 16.68.020 of the Zoning Ordinance and would be required to comply with applicable design standards outlined in the existing Zoning Ordinance, as summarized in Section 4.1.1.1, above. In addition, the proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements contain general

goals and policies that would require local planning and development decisions to consider impacts to aesthetic resources, including impacts related to scenic resources in the I-280 viewshed. The General Plan goals and policies listed under AES-1 would serve to minimize potential adverse impacts on aesthetic resources and impacts to scenic resources in the I-280 viewshed would be *less than significant*.

Significance Without Mitigation: Less than significant.

AES-3 Implementation of the proposed project would not degrade the existing visual character or quality of the site and its surroundings.

As described in Section 4.1.1.2, Existing Conditions, seven distinct subareas of the Bayfront Area where the potential new development under the proposed project is concentrated is either already developed and/or underutilized, and/or in close proximity to existing development in the Bayfront Area. Future building form and massing may be greater than existing conditions in these subareas, but would not necessarily degrade the existing character of the Bayfront Area and subsequently Menlo Park as a whole. Note that a change in the existing setting does not necessarily equate to degradation of the visual character and overall quality of the site and surroundings.

Implementation of the proposed project would allow continued development and redevelopment throughout the city under existing zoning regulations, and more intense development in the Bayfront Area under new zoning regulations within the seven subareas. As discussed under AES-1 above, while more intense development with taller and larger buildings could occur in the Bayfront Area, the future development in the Bayfront Area would not result in a substantial change to the existing visual character of the Bayfront Area or its surroundings. Potential future development under the proposed project would create a shift in uses from light industrial and business park uses to office, technology, research and development, life sciences and mixed-use with multi-family residential and commercial, and involve notable changes in building intensity and height from 35 feet to 120 feet. However, given the existing commercial, industrial, and residential uses surrounding the areas of potential new growth, the gradual development of future projects would continue to be compatible with the existing visual character and quality of the Bayfront Area or its surroundings. The proposed zoning includes average numbers of stories to maintain overall compatibly with the adjacent neighborhoods.

Furthermore, all potential future development in the study area would, if necessary, be subject to the City's existing architectural control process, in accordance with Section 16.68.020 of the Zoning Ordinance and would be required to comply with applicable design standards outlined in the Zoning Ordinance and the ECR/D Specific Plan design guidelines, as summarized in Section 4.1.1.1, and listed under AES-1 above. In addition, the proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Element, contain general goals and policies that would require local planning and development decisions to consider impacts to aesthetic resources, including impacts related to compatibility with adjoining land uses. The General Plan goals and policies listed under AES-1 would serve to minimize potential adverse impacts on aesthetic resources. Specifically, Policy LU-2.1 requires new residential development to possess high-quality design that is compatible with the scale, look, and feel of the surrounding neighborhood and that respects the city's residential character. Policy LU-2.3 requires mixed-

use projects with residential units to be allowed only when project design addresses potential compatibility issues such as traffic, parking, light spillover, dust, odors, and transport and use of potentially hazardous materials. Policy LU-2.8 requires property owners to maintain buildings, yards, and parking lots in a clean and attractive condition. Policy LU-4.3 requires that parking, traffic, and other impacts of mixed-use and nonresidential development on adjacent uses be limited, and promotes high-quality architectural design and effective transportation options. Policy LU-6.8 encourages extensive and appropriate landscaping in public and private development to maintain the City's tree canopy and to promote sustainability and healthy living, particularly through increased trees and water-efficient landscaping in large parking areas and in the public right-of-way. Policy OSC-1.14 requires that conservation and scenic areas be protected from deterioration or destruction by vandalism, private actions or public actions. Policy OSC-1.15 requires that Heritage trees be protected, including during construction activities through enforcement of the Heritage Tree Ordinance (Chapter 13.24 of the Municipal Code). Accordingly, impacts to visual character would be *less than significant*.

Significance Without Mitigation: Less than significant.

AES-4 Implementation of the proposed project would not expose people on- or off- site to substantial light or glare which would adversely affect day or nighttime views in the area.

Nighttime illumination and glare impacts are the effects of a project's exterior lighting upon adjoining uses and areas. Light and glare impacts are determined through a comparison of the existing light sources with the proposed lighting plan or policies.

Currently, the city contains many existing sources of nighttime illumination. These include street and parking area lights, security lighting, and exterior lighting on existing residential, commercial, and institutional buildings. Additional onsite light and glare is caused by surrounding land uses and traffic on, specifically from US 101 and the Bayfront Expressway (State Route 84) in the Bayfront Area. The growth that is planned under the proposed project would occur in the already built out Bayfront Area where street and site lighting already exist. While light spillage on sensitive receptors in Menlo Park such as residential areas, particularly older neighborhoods, is mostly well screened by mature trees, the introduction of new residential land uses in the Bayfront Area could experience light spillage from adjacent non-residential land uses in the Bayfront Area.

The proposed project would modify land uses, zoning, and density in the Bayfront Area, which in turn would intensify related lighting sources in the Bayfront Area and adjacent land uses. In addition to new building, security, and lighting for parking areas, buildout of the Bayfront Area would also include lighting aimed at properly illuminating the overall Bayfront Area. Because the proposed project allows higher intensity development in the Bayfront Area, its implementation would likely result in larger buildings with more exterior glazing (i.e., windows and doors) that could result in new sources of glare. Despite the new and expanded sources of nighttime illumination and glare, the proposed project is not expected to generate a substantial increase in light and glare.

Besides general best management practices that require lighting that is context sensitive in style and intensity required under CAL Green, new development in the Bayfront Area would also have to comply with the General Plan policies that ensure new land uses do not generate excessive light levels that would spill on to adjacent sensitive receptors and reduce light and glare spillover from future development to surrounding land uses. The policies listed above in AES-1 would ensure that light and glare associated with new projects under the proposed project are minimized. For example, Policy LU-2.3 requires that the City allow mixed-use projects with residential units if project design addresses potential compatibility issues such as light spillover. Policy LU-4.3 requires the City to limit parking, traffic, and other impacts of mixed-use and nonresidential development on adjacent uses, and promote high-quality architectural design and effective transportation options. Policy LU-6.8 requires the City to encourage extensive and appropriate landscaping in public and private development to maintain the City's tree canopy, which would buffer new development with landscaping and trees. Policy OSC-1.15 requires the protection of Heritage Trees, including during construction activities, through enforcement of the Heritage Tree Ordinance (Chapter 13.24 of the Municipal Code). The preservation of mature trees with substantial tree canopies would diffuse the overall amount of light generated by new development and glare generated by windows of multistory buildings in the areas of Menlo Park with mature trees.

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements contain general goals and policies that would require local planning and development decisions to consider impacts to aesthetic resources, including impacts related to light and glare. As described above, the General Plan goals and policies listed under AES-1 would serve to minimize potential adverse impacts on aesthetic resources. Specifically, Policy LU-2.3 requires that the City allow mixed-use projects with residential units if project design addresses potential compatibility issues such as light spillover; therefore, impacts related to excessive light and glare on sensitive receptors would be *less than significant*.

Significance Without Mitigation: Less than significant.

4.1.4 CUMULATIVE IMPACTS

AES-5	**Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to aesthetics.**

As discussed in Chapter 4, Environmental Evaluation, of this Draft EIR, this EIR takes into account growth projected by the proposed project within the study area, in combination with impacts from projected growth in the rest of San Mateo County and the surrounding region, as forecast by the Association of Bay Area of Governments (ABAG). The cumulative setting for visual impacts includes potential future development under the proposed project combined with effects of development on lands adjacent to the city within East Palo Alto, Palo Alto, Stanford, Atherton, North Fair Oaks, and Redwood City.

Significant impacts, including those associated with scenic resources, visual character, and increased light and glare would generally be site-specific and would not contribute to cumulative impacts after

implementation of the General Plan policies and the provisions stated in the Municipal Code. The proposed heights in some areas of the Bayfront Area would, within the designated growth areas, alter the city's vertical landscape and urban form over time, as new development is proposed. However, given previously approved projects with higher heights currently exist, future development would be consistent with existing conditions.

Because of the developed nature of the overall study area and Bayfront Area, future development under the proposed project, in combination with other new development, would not negatively impact the visual character of the city. Furthermore, the proposed project would not constitute a significant adverse impact because redevelopment of the El Camino Real Corridor and Downtown area has already been considered in the ECR/D Specific Plan and the City's General Plan policies.

Individual developments would continue to be subject to General Plan policies and Municipal Code provisions related to aesthetics, including potential project-level design review requirements. Moreover, certain policy changes would serve to reduce aesthetic impacts from new and existing developments. Therefore, the policy amendments under the proposed project would not result in cumulative impacts to aesthetics. Additionally, as part of the approval process, potential new development under the proposed project would be subject to architectural review and subject to design standards, as applicable, to ensure that the development is aesthetically pleasing and compatible with adjoining land uses. With the development review mechanisms in place, approved future development under the proposed project is not anticipated to create substantial impacts to visual resources. Therefore, the proposed project would result in a cumulatively *less than significant*.

Significance Without Mitigation: Less than significant.

4.2 AIR QUALITY

This chapter describes the existing air quality setting and examines the air quality impacts associated with adopting and implementing the proposed project. "Emissions" refers to the actual quantity of pollutants, measured in pounds per day or tons per year. "Concentrations" refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter ($\mu g/m^3$).

Air quality is influenced by the quantity of pollutants emitted into the air and by the concentration of pollutants in the air around us. Motor vehicles are the primary source of air pollution in Menlo Park and the Bay Area, with industrial activities such as electronics manufacturing, auto repair, dry cleaning, and other businesses that use chemicals or solvents also contributing to pollution levels. Additionally, particulate matter emitted into the air as a result of construction, grading activities, and the use of wood-burning stoves and fireplaces can compound air quality issues. The General Plan addresses air quality in the existing Open Space/Conservation, Noise and Safety Elements as well the proposed project's Circulation and Land Use Elements. Air quality, greenhouse gas (GHG), and sustainability policies and programs in the proposed project and the previously adopted Elements are designed to minimize air quality emissions to the extent feasible. Additionally, the proposed project includes an update to the City's Zoning Ordinance for the Bayfront Area, resulting in three new zoning districts that would promote the creation of a live/work/play environment with travel patterns that are oriented toward pedestrian, transit, and bicycle use in an effort to reduce single-occupant vehicle trips; and thereby, reduce air pollution.

This chapter is based on the methodology recommended by the Bay Area Air Quality Management District (BAAQMD) for plan-level review for projects in the San Francisco Bay Area Air Basin (SFBAAB or Air Basin). The analysis focuses on air pollution from regional emissions and localized pollutant concentrations from buildout of the proposed project. Air pollutant emissions modeling is included in Appendix E, Air Quality and Greenhouse Gas Data, of this Draft EIR.

4.2.1 ENVIRONMENTAL SETTING

4.2.1.1 AIR POLLUTANTS OF CONCERN

A substance in the air that can cause harm to humans and the environment is known as an air pollutant. Pollutants can be in the form of solid particles, liquid droplets, or gases. In addition, they may be natural or man-made. Air pollutants of concern are criteria air pollutants and toxic air contaminants (TACs). Federal, state, and local air districts have adopted laws and regulations to control and improve air quality; these are discussed below in Section 4.2.1.1, Regulatory Framework.

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. Pollutants can be classified as primary or secondary. Usually, primary pollutants are directly emitted from a process, such as ash from a volcanic eruption, carbon monoxide from a motor vehicle exhaust, or sulfur dioxide from factories. Secondary pollutants are not emitted directly, but form in the air

when primary pollutants react or interact. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that ambient air quality standards (AAQS) have been established for them (see section 4.2.1.1, Regulatory Framework). ROG and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants.

A description of each of the primary and secondary criteria air pollutants and their known health effects is presented below.

- Carbon Monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little or no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the Air Basin. Emissions are highest during cold starts, hard acceleration, stop-and-go driving, and low speeds. New findings indicate that CO emissions per mile are lowest at about 45 miles per hour (mph) for the average light-duty motor vehicle and begin to increase again at higher speeds. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity. This results in less oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.[1] The Air Basin is designated under the California and National AAQS as being in attainment of CO criteria levels.[2]
- Reactive Organic Gases (ROGs), also referred to as volatile organic compounds (VOCs), are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicles is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but by reactions of ROGs to form secondary pollutants such as O_3. There are no AAQS established for ROGs. However, because they contribute to the formation of O_3, BAAQMD has established a significance threshold for this pollutant.
- Nitrogen Oxides (NO_X) are a by-product of fuel combustion and contribute to the formation of O_3, PM_{10}, and $PM_{2.5}$. The two major components of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). The principal component of NO_X produced by combustion is NO, but NO reacts with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 acts as an acute irritant and in equal concentrations is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary

[1] Bay Area Air Quality Management District, 2010 (Revised 2011), Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

[2] California Air Resources Board, 2014, Area Designations: Activities and Maps, http://www.arb.ca.gov/desig/adm/adm.htm, accessed on November 21, 2014.

fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 ppm. NO_2 absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure.[3] The Air Basin is designated an attainment area for NO_2 under the National AAQS and California AAQS.[4]

- **Sulfur Dioxide (SO_2)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2. When SO_2 forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue.[5] The Air Basin is designated an attainment area for SO_2 under the California and National AAQS.[6]

- **Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004-inch) or less. Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns or less (i.e., 2.5 millionths of a meter or 0.0001 inch).

  Some particulate matter, such as pollen, occurs naturally. In the Air Basin, most particulate matter is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM_{10} bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. The United States Environmental Protection Agency (US EPA) scientific review concluded that $PM_{2.5}$ penetrates even more deeply into the lungs, and this is more likely to contribute to health effects—at concentrations well below current PM_{10} standards. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing). Motor vehicles are currently responsible for about half of particulates in the SFBAAB. Wood-burning in fireplaces and stoves is another large source of fine particulates.[7]

  Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. These health effects include premature

[3] Bay Area Air Quality Management District, 2010 (Revised 2011). Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

[4] California Air Resources Board, 2014, Area Designations: Activities and Maps, http://www.arb.ca.gov/desig/adm/adm.htm, accessed on November 21, 2014.

[5] Bay Area Air Quality Management District, 2010 (Revised 2011). Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

[6] California Air Resources Board, 2014, Area Designations: Activities and Maps, http://www.arb.ca.gov/desig/adm/adm.htm, accessed on November 21, 2014.

[7] Bay Area Air Quality Management District, 2010 (Revised 2011). Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individual with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms.[8] There is emerging evidence that even smaller particulates, with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), known as ultrafine particulates (UFPs), have human health implications, because UFPs toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs. However, the US EPA and the California Air Resources Board (CARB) have yet to adopt AAQS to regulate these particulates. Diesel particulate matter (DPM) is also classified a carcinogen by CARB. The SFBAAB is designated nonattainment under the California AAQS for PM_{10} and nonattainment under both the California and National AAQS for $PM_{2.5}$.[9,10]

- **Ozone (O_3)** is commonly referred to as "smog" and is formed when ROGs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. O_3 levels usually build up during the day and peak in the afternoon hours. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. O_3 can also damage plants and trees and materials such as rubber and fabrics.[11] The SFBAAB is designated nonattainment for the 1-hour California AAQS and 8-hour California and National AAQS for O_3.[12]
- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the US EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The US EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the US EPA's regulatory efforts to

[8] South Coast Air Quality Management District, 2005. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning.

[9] California Air Resources Board (CARB), 2014, Area Designations: Activities and Maps, http://www.arb.ca.gov/desig/adm/adm.htm, accessed on November 21, 2014.

[10] On January 9, 2013, the US EPA issued a final rule to determine that the SFBAAB has attained the 24-hour $PM_{2.5}$ National AAQS. This action suspends key federal State Implementation Plan planning requirements for the Bay Area as long as monitoring data continues to show that the Bay Area attains the standard. Despite this US EPA action, the SFBAAB will continue to be designated nonattainment for the National 24-hour $PM_{2.5}$ standard until such time as BAAQMD elects to submit a redesignation request and a maintenance plan to US EPA, and US EPA approves the proposed redesignation.

[11] Bay Area Air Quality Management District, 2010 (Revised 2011). Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

[12] California Air Resources Board, 2014, Area Designations: Activities and Maps, http://www.arb.ca.gov/desig/adm/adm.htm, accessed on November 21, 2014.

remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.[13] The Air Basin is designated in attainment of the California and National AAQS for lead.[14] Because emissions of lead are found only in projects that are permitted by BAAQMD, lead is not an air quality of concern for the proposed project.

Toxic Air Contaminants

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code § 7412[b]) is a toxic air contaminant.

Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health. At the time of the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs.[15] Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines. According to BAAQMD, particulate matter emitted from diesel engines contributes more than 85 percent of the cancer risk within the Air Basin and cancer risk from TAC is highest near major diesel PM sources.[16] Based on this finding, the primary mobile source of TACs within Menlo Park is truck idling and use of off-road equipment at warehousing operations.

In 1998, CARB identified diesel particulate matter (DPM) as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs.

4.2.1.2 SAN FRANCISCO BAY AREA AIR BASIN

California is divided geographically into air basins for the purpose of managing the air resources of the state on a regional basis. An air basin generally has similar meteorological and geographic conditions throughout. The state is divided into 15 air basins. The City of Menlo Park is in the San Francisco Bay Area Air Basin (SFBAAB or Air Basin), which is managed by the Bay Area Air Quality Management District

[13] Bay Area Air Quality Management District, 2010 (Revised 2011). Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

[14] California Air Resources Board, 2014, Area Designations: Activities and Maps, http://www.arb.ca.gov/desig/adm/adm.htm, accessed on November 21, 2014.

[15] California Air Resources Board, 1999. Final Staff Report: Update to the Toxic Air Contaminant List.

[16] Bay Area Air Quality Management District, 2014, Improving Air Quality & Health in Bay Area Communities, Community Air Risk Evaluation Program Retrospective & Path Forward (2004-2013), April.

(BAAQMD). The Air Basin comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties; the southern portion of Sonoma County; and the southwestern portion of Solano County.

Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions.[17] The discussion below identifies the natural factors in the Air Basin that affect air pollution.

Meteorology

The Air Basin is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range[18] splits in the Bay Area, creating a western coast gap, the Golden Gate, and an eastern coast gap, the Carquinez Strait, which allow air to flow in and out of the Bay Area and the Central Valley.

The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the California coast.

The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air-pollution potential.

Wind Patterns

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais in Marin County, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills.

Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap. For example, the average wind speed at San Francisco International Airport in July is about 17 knots (from 3:00 p.m. to 4:00 p.m.), compared with only 7 knots in San Jose and less than 6 knots at the Farallon Islands.

[17] This section describing the air basin is from Bay Area Air Quality Management District, 2010 (Revised 2011), Appendix C: Sample Air Quality Setting, in *California Environmental Quality Act Air Quality Guidelines*.

[18] The Coast Ranges traverses California's west coast from Humboldt County to Santa Barbara County.

The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part upon the height and strength of the inversion. Under normal atmospheric conditions, the air in the lower atmosphere is warmer than the air above it. An inversion is a change in the normal conditions that causes the temperature gradient to be reversed, or inverted. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited, and stagnant conditions are likely to result.

In the winter, the Air Basin frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes (i.e., conditions where there is little mixing, which occur when there is a little to no wind or air circulation is blocked by bridges or tunnels) are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the Air Basin.

Temperature

Summertime temperatures in the Air Basin are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold water from the ocean bottom along the coast. On summer afternoons, the temperatures at the coast can be 35 degrees Fahrenheit (ºF) cooler than temperatures 15 to 20 miles inland. At night, this contrast usually decreases to less than 10ºF. In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature difference between the coast and inland areas is small; at night it is large.

Precipitation

The Air Basin is characterized by moderately wet winters and dry summers. Winter rains (November through March) account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the Air Basin to another, even within short distances. Total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys.

During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing (an upward and downward movement of air) are usually high, and thus pollution levels tend to be low (i.e., air pollutants are dispersed more readily into the atmosphere rather than accumulate under stagnant conditions). However, during the winter, frequent dry periods do occur, where mixing and ventilation are low and pollutant levels build up.

Wind Circulation

Low-wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun

(fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commuter traffic (early morning) and wood-burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants up-valley during the day, and cold air drainage flows move the air mass down-valley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.

Inversions

As described above, an inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). There are two types of inversions that occur regularly in the Air Basin. Elevation inversions[19] are more common in the summer and fall, and radiation inversions[20] are more common during the winter. The highest air pollutant concentrations in the Air Basin generally occur during inversions.

4.2.1.3 REGULATORY FRAMEWORK

Federal, state, and local air districts have passed laws and regulations intended to control and enhance air quality. Land use in the City is subject to the rules and regulations imposed by BAAQMD, CARB, and US EPA. The regulatory framework that is potentially applicable to the proposed project is also summarized below.

Federal and State Regulations

Ambient air quality standards have been adopted at federal and state levels for criteria air pollutants. In addition, both the federal and state governments regulate the release of toxic air contaminants (TACs). The City is in the SFBAAB and is subject to the rules and regulations imposed by the BAAQMD, the national AAQS adopted by the US EPA, and the California AAQS adopted by CARB. Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

Ambient Air Quality Standards

The Clean Air Act (CAA) was passed in 1963 by the United States Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more

[19] When the air blows over elevated areas, it is heated as it is compressed into the side of the hill/mountain. When that warm air comes over the top, it is warmer than the cooler air of the valley.

[20] During the night, the ground cools off, radiating the heat to the sky.

stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

Criteria air pollutants are the air pollutants for which AAQS have been developed that are regulated under the CAA. The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect sensitive receptors—those most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The California and National AAQS regulate seven air pollutants, which are shown in Table 4.2-1. These pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The California AAQS tend to be more restrictive than the National AAQS based on even greater health and welfare concerns.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building and Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

Toxic Air Contaminants

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (i.e. a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

AIR QUALITY

TABLE 4.2-1 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Major Pollutant Sources
Ozone (O_3)	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20.0 ppm	35.0 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9.0 ppm	
Nitrogen Dioxide (NO_2)	Annual Average	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	*[a]	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	*[a]	
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20.0 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50.0 µg/m^3	150.0 µg/m^3	
Respirable Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12.0 µg/m^3	12.0 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35.0 µg/m^3	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarterly	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)	24 hours	25 µg/m^3	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo[f] =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

TABLE 4.2-1 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Major Pollutant Sources
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydro-carbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Notes: ppm: parts per million; µg/m^3: micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.
a. On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual arithmetic mean standards were revoked.
Source: California Air Resources Board (CARB), 2015, October 1. Ambient Air Quality Standards, http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

The major contributor to acute and chronic non-cancer health effects in the Air Basin is acrolein (C_3H_4O). Major sources of acrolein are on-road mobile sources and aircraft, and areas with high acrolein emissions are near freeways and commercial and military airports.[21] Currently, CARB does not have certified emission factors or an analytical test method for acrolein. Since the appropriate tools needed to implement and enforce acrolein emission limits are not available, BAAQMD does not conduct health risk screening analysis for acrolein emissions.[22]

CARB has promulgated the following specific rules to limit TAC emissions:

- CARB Rule 2485 (13 CCR Chapter 10, Section 2485), Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- CARB Rule 2480 (13 CCR Chapter 10, Section 2480), Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- CARB Rule 2477 (13 CCR Section 2477 and Article 8), Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

[21] Bay Area Air Quality Management District (BAAQMD), 2006. Community Air Risk Evaluation Program, Phase I Findings and Policy Recommendations Related to Toxic Air Contaminants in the San Francisco Bay Area.

[22] Bay Area Air Quality Management District (BAAQMD), 2010. Air Toxics NSR Program, Health Risk Screening Analysis Guidelines.

Regional Regulations

Bay Area Air Quality Management District

BAAQMD is the agency responsible for ensuring that the National and California AAQS are attained and maintained in the Air Basin. BAAQMD is responsible for:

- Adopting and enforcing rules and regulations concerning air pollutant sources
- Issuing permits for stationary sources of air pollutants
- Inspecting stationary sources of air pollutants
- Responding to citizen complaints
- Monitoring ambient air quality and meteorological conditions
- Awarding grants to reduce motor vehicle emissions
- Conducting public education campaigns
- Air Quality Management Planning

Air quality conditions in the Air Basin have improved significantly since BAAQMD was created in 1955.[23] BAAQMD prepares air quality management plans (AQMPs), including ozone attainment plans for the National O_3 standard and clean air plans for the California O_3 standard. BAAQMD prepares these AQMPs in coordination with the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). The most recent comprehensive plan is the *2010 Bay Area Clean Air Plan*, which was adopted by BAAQMD on September 15, 2010, and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools.

2010 Bay Area Clean Air Plan

The purpose of the *2010 Bay Area Clean Air Plan* is to: 1) update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement all feasible measures to reduce O_3; 2) consider the impacts of O_3 control measures on PM, TAC, and greenhouse gases (GHGs) in a single, integrated plan; 3) review progress in improving air quality in recent years; and 4) establish emission control measures in the 2009 to 2012 timeframe. The *2010 Bay Area Clean Air Plan* also provides the framework for the Air Basin to achieve attainment of the California and National AAQS.

Areas that meet AAQS are classified attainment areas, and areas that do not are classified nonattainment. Severity classifications for O_3 range from marginal, moderate, and serious to severe and extreme. The attainment status for the SFBAAB is shown in Table 4.2-2. The Air Basin is currently designated a nonattainment area for California and National O_3, California and National $PM_{2.5}$, and California PM_{10} AAQS.

[23] Bay Area Air Quality Management District, 2010 (Revised 2011). Appendix C: Sample Air Quality Setting, in California Environmental Quality Act Air Quality Guidelines.

TABLE 4.2-2 ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SAN FRANCISCO BAY AREA AIR BASIN

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment (serious)	Nonattainment
Ozone – 8-hour	Nonattainment	Classification revoked (2005)
PM_{10}	Nonattainment	Unclassified/Attainment
$PM_{2.5}$	Nonattainment	Nonattainment[a]
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	Attainment	Unclassified/Attainment
All others	Unclassified/Attainment	Unclassified/Attainment

a. On January 9, 2013, the US EPA issued a final rule to determine that the SFBAAB has attained the 24-hour $PM_{2.5}$ National AAQS. This action suspends key federal State Implementation Plan planning requirements for the Bay Area as long as monitoring data continues to show that the Bay Area attains the standard. Despite this US EPA action, the SFBAAB will continue to be designated nonattainment for the National 24-hour $PM_{2.5}$ standard until BAAQMD submits a redesignation request and a maintenance plan to US EPA, and US EPA approves the proposed redesignation.
Source: California Air Resources Board, 2014, Area Designations: Activities and Maps, http://www.arb.ca.gov/desig/adm/adm.htm, June 4.

Community Air Risk Evaluation Program

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor TACs in the Bay Area.

Based on findings of the latest report, Diesel Particulate Matter (DPM) was found to account for approximately 85 percent of the cancer risk from airborne toxics. Carcinogenic compounds from gasoline-powered cars and light duty trucks were also identified as significant contributors: 1,3-butadiene contributed four percent of the cancer risk-weighted emissions, and benzene contributed three percent. Collectively, five compounds — diesel PM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde — were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All of these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk-weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29 percent), and ships and harbor craft (13 percent). A 75 percent reduction in DPM was predicted between 2005 and 2015 when the inventory accounted for CARB's diesel regulations. Overall, cancer risk from TACs dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for state diesel regulations and other reductions.[24] Modeled cancer risks from TACs in 2005 were highest near sources of DPM: near core urban

[24] Bay Area Air Quality Management District, 2014. Improving Air Quality & Health in Bay Area Communities, Community Air Risk Program (CARE) Retrospective & Path Forward (2004 – 2013). April

areas, along major roadways and freeways, and near maritime shipping terminals. Peak modeled risks were found to be located east of San Francisco, near West Oakland, and the Maritime Port of Oakland. BAAQMD has identified seven impacted communities in the Bay Area:

- Western Contra Costa County and the cities of Richmond and San Pablo
- Western Alameda County along the Interstate 880 (I-880) corridor and the cities of Berkeley, Alameda, Oakland, San Leandro, and Hayward
- San Jose
- Eastern side of San Francisco
- Concord
- Vallejo
- Pittsburgh and Antioch

Menlo Park is not within one of BAAQMD's impacted CARE communities.

Regulation 7, Odorous Substances

Sources of objectionable odors may occur within the City. BAAQMD's Regulation 7, Odorous Substances, places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that "no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property." Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

Other BAAQMD Regulations

In addition to the plans and programs described above, BAAQMD administers a number of specific regulations on various sources of pollutant emissions that would apply to individual development projects allowed under the proposed project, including:

- BAAQMD, Regulation 2, Rule 2, New Source Review
- BAAQMD, Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- BAAQMD Regulation 6, Rule 1, General Requirements
- BAAQMD Regulation 6, Rule 2, Commercial Cooking Equipment
- BAAQMD Regulation 8, Rule 3, Architectural Coatings
- BAAQMD Regulation 8, Rule 4, General Solvent and Surface Coatings Operations
- BAAQMD Regulation 8, Rule 7, Gasoline Dispensing Facilities
- BAAQMD Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing)

City/County Association of Governments of San Mateo

The City/County Association of Governments of San Mateo (C/CAG) is the designated congestion management agency for the county. C/CAG's Congestion Management Plan (CMP) identifies strategies to

respond to future transportation needs, develops procedures to alleviate and control congestion, and promotes countywide solutions. The most recent CMP is the 2013 CMP for San Mateo County. Pursuant to the US EPA's transportation conformity regulations and the Bay Area Conformity State Implementation Plan (also known as the Bay Area Air Quality Conformity Protocol), the CMP is required to be consistent with the MTC planning process, including regional goals, policies, and projects for the regional transportation improvement program (RTIP). MTC cannot approve any transportation plan, program, or project unless these activities conform to the State Implementation Plan (SIP). [25]

Plan Bay Area: Strategy for a Sustainable Region

Plan Bay Area is the Bay Area's Regional Transportation Plan (RTP)/Sustainable Community Strategy (SCS). The *Plan Bay Area* was adopted jointly by the ABAG and MTC July 18, 2013. The SCS lays out a development scenario for the region, which when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by CARB. *Plan Bay Area* is discussed in greater detail in Chapter 4.6, Greenhouse Gases, of this Draft EIR.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors, including air quality, potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.2.3, Impact Discussion.

4.2.1.4 EXISTING CONDITIONS

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of Menlo Park are best documented by measurements made by the BAAQMD. The air quality monitoring station closest to Menlo Park is the Redwood City Monitoring Station. Data from this station are summarized in Table 4.2-3; however, this station only monitors CO, NO_2, $PM_{2.5}$, and O_3. Therefore, data was obtained from the San Jose Jackson Street Monitoring Station for the other criteria air pollutants. The data show that the area occasionally exceeds the state and federal O_3 standards, federal $PM_{2.5}$ standard, and state PM_{10} standard. The state and federal SO_2 CO and NO_2 standards have not been exceeded in the last five years in the vicinity of the City.

[25] City/County Association of Governments of San Mateo County (C/CAG). 2013, November. Final San Mateo County Congestion Management Program.

Existing Emissions

Table 4.2-4 is based on existing land uses in the city. Criteria air pollutant emissions generated in the city and SOI were estimated using EMFAC2014, OFFROAD2007, and CalEEMod 2013.2.2 emission factors.

TABLE 4.2-3 AMBIENT AIR QUALITY MONITORING SUMMARY

	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations				
Pollutant/Standard	2010	2011	2012	2013	2014
Ozone (O_3)[a]					
State 1-Hour ≥ 0.09 ppm	2	0	0	0	0
State 8-hour ≥ 0.07 ppm	1	0	0	1	0
Federal 8-Hour > 0.075 ppm[c]	1	0	0	0	0
Maximum 1-Hour Conc. (ppm)	0.113	0.076	0.063	0.083	0.086
Maximum 8-Hour Conc. (ppm)	0.077	0.062	0.055	0.076	0.066
Carbon Monoxide (CO)[a]					
State 8-Hour > 9.0 ppm	0	0	0	0	0
Federal 8-Hour ≥ 9.0 ppm	0	0	0	0	0
Maximum 8-Hour Conc. (ppm)	1.72	1.67	1.81	*	*
Nitrogen Dioxide (NO_2)[a]					
State 1-Hour ≥ 0.18 (ppm)	0	0	0	0	0
Maximum 1-Hour Conc. (ppb)	58.7	56.3	60.4	53.8	55.2
Sulfur Dioxide (SO_2)[b]					
State 1-Hour ≥ 0.04 ppm	0	0	0	0	*
Max. 1-Hour Conc. (ppm)	0.002	0.003	0.003	0.001	*
Coarse Particulates (PM_{10})[b]					
State 24-Hour > 50 µg/m^3	0	0	1	5	1
Federal 24-Hour > 150 µg/m^3	0	0	0	0	0
Maximum 24-Hour Conc. (µg/ m^3)	46.8	44.3	59.6	58.1	56.4
Fine Particulates ($PM_{2.5}$)[a]					
Federal 24-Hour > 35 µg/m^3	1	1	0	3	0
Maximum 24-Hour Conc. (µg/m^3)	36.5	39.7	33.3	39.0	35.0

Notes: ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; * = insufficient data; NA = Not Available

a. Data from the Redwood City Monitoring Station.

b. Data from the San Jose Jackson Street Monitoring Station.

c. On October 1, 2015 the EPA adopted a new 8-hour National AAQS for ozone of 0.070 ppm (70 ppb).

Source: California Air Resources Board, 2015, Air Pollution Data Monitoring Cards (2010, 2011, 2012, 2013, and 2014), Accessed on November 19, 2015, http://www.arb.ca.gov/adam/index.html.

TABLE 4.2-4 EXISTING MENLO PARK CRITERIA AIR POLLUTANT EMISSIONS INVENTORY

	Criteria Air Pollutant Emissions (pounds per day)			
Sector	ROG	NO_x	PM_{10}	$PM_{2.5}$
On-Road Transportation[a]	87	302	99	42
Energy (Natural Gas)[b]	57	509	40	40
Area Sources[c]	675	573	42	42
Total	819	1,383	180	123

Notes: Values may not add up to 100 percent due to rounding.
a. EMFAC2014; TJKM 2015.
b. CalEEMod, Version 2013.2.2 emission rates; PG&E 2014.
c. OFFROAD2007 and CalEEMod, Version 2013.2.2 emission rates. Includes consumer products, landscaping equipment, commercial equipment, and construction equipment.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Residential areas are also considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, since the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

Because placement of sensitive land uses falls outside CARB jurisdiction, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) to address the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when placing sensitive receptors near existing pollution sources. CARB's recommendations on the siting of new sensitive land uses are based on recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity to air pollution sources substantially increases exposure and the potential for adverse health effects. Three carcinogenic TACs constitute the majority of the known health risks from motor vehicle traffic: DPM from trucks, benzene, and 1,3 butadiene from passenger vehicles. Table 4.2-5 shows a summary of CARB recommendations for siting new sensitive land uses within the vicinity of air pollutant sources. Recommendations in Table 4.2-5 are based on data showing that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

TABLE 4.2-5 CARB RECOMMENDATIONS FOR SITING NEW SENSITIVE LAND USES

Source/Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units [TRUs] per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within 1 mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or CARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

Source: California Air Resources Board (CARB), May 2005, *Air Quality and Land Use Handbook: A Community Health Perspective*.

4.2.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would result in a significant air quality impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate an air quality standard, contribute substantially to an existing or projected air quality violation, and would result in a cumulatively considerable net increase of criteria pollutants for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Create objectionable odors affecting a substantial number of people.

4.2.2.1 BAAQMD THRESHOLDS

The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air

toxics, odors, and greenhouse gas emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of the CEQA Guidelines. In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modified procedures for assessing impacts related to risk and hazard impacts.

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds of significance in the BAAQMD CEQA Air Quality Guidelines. The court did not rule on whether the thresholds of significance were valid on their merits, but found that the adoption of the thresholds was a project under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease their dissemination until the BAAQMD complied with CEQA. Following the court's order, the BAAQMD released revised CEQA Air Quality Guidelines in May 2012 that included guidance on calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures, and that set aside the significance thresholds. The BAAQMD recognizes that lead agencies may rely on the previously recommended Thresholds of Significance in its CEQA Guidelines adopted in 1999. The Alameda County Superior Court, in ordering BAAQMD to set aside the thresholds, did not address the merits of the science or evidence supporting the thresholds. The City finds, therefore, that despite the Superior Court ruling, and in light of the subsequent case history, discussed below, the science and reasoning in the BAAQMD 2011 CEQA Air Quality Guidelines provide the latest, state-of-the-art guidance available. For that reason, substantial evidence supports continued use of the BAAQMD 2011 CEQA Air Quality Guidelines.

Air Quality Plan Implementation

Under its plan-level review criteria, BAAQMD requires a consistency evaluation of a plan with its current air quality plan control measures. The current AQMP is the 2010 Bay Area Clean Air Plan. BAAQMD considers the project consistent with the AQMP in accordance with the following:

- Does the project support the primary goals of the AQMP?
- Does the project include applicable control measures from the AQMP?
- Does the project disrupt or hinder implementation of any AQMP control measures?
- Is the project VMT or vehicle trip increase less than or equal to the projected population increase?

Exposure of Sensitive Receptors to Air Pollution

This criteria addresses two types of localized air pollution impacts:

- CO hotspots
- TACs, and $PM_{2.5}$

CO Hotspots

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which are 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the Air Basin is in attainment of the California and National AAQS, and CO concentrations in the Air Basin have steadily declined.

Because CO concentrations have improved, the BAAQMD does not require a CO hotspot analysis if the following criteria are met:

- The project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersection to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Air Toxics and $PM_{2.5}$

The BAAQMD's significance thresholds for local community risk and hazard impacts apply to projects that involve new sources air pollutants. Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level. Significant health impacts may occur when a project generates:

- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0; or
- An incremental increase of greater than 0.3 $\mu g/m^3$ annual average $PM_{2.5}$.[26]

Planning Considerations for Siting a New Receptor

BAAQMD's CEQA Guidelines include methodology for jurisdictions wanting to evaluate the potential impacts from placing sensitive receptors proximate to major air pollutant sources. For assessing community risk and hazards for siting a new receptor, sources within a 1,000-foot radius of a project site are typically considered. Sources are defined as freeways, high volume roadways (with volume of 10,000 vehicles or more per day or 1,000 trucks per day), and permitted sources.[27]

Odors

BAAQMD's thresholds for odors are qualitative based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which cause, or has a natural tendency to cause, injury or damage to business or

[26] Bay Area Air Quality Management District, 2010 (Revised 2011), California Environmental Quality Act Air Quality Guidelines.

[27] Bay Area Air Quality Management District (BAAQMD), 2010 (Revised 2011). California Environmental Quality Act Air Quality Guidelines.

property. Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance. BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants.[28] For a plan-level analysis, BAAQMD requires:

- Identification of potential existing and planned location of odors sources.
- Policies to reduce odors.

4.2.3 IMPACT DISCUSSION

AQ-1 Implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality plan.

BAAQMD requires a consistency evaluation of a plan with the current AQMP measures as well as an evaluation on how the project would affect VMT per capita. The current AQMP is the *2010 Bay Area Clean Air Plan*. BAAQMD considers project consistency with the AQMP in accordance with the following:

- Does the project support the primary goals of the AQMP?
- Does the project include applicable control measures from the AQMP?
- Does the project disrupt or hinder implementation of any AQMP control measures?
- Is the project VMT or vehicle trip increase less than or equal to the projected population increase?

As described below, the General Plan would reduce VMT per service population (SP, defined as residents and employees) citywide. Therefore, the policies identified in the proposed project would not hinder BAAQMD's implementation of the Clean Air Plan.

2010 Bay Area Clean Air Plan Goals

The primary goals of the *2010 Bay Area Clean Air Plan* are to attain the state and federal AAQS, reduce population exposure and protect public health in the Bay Area, and reduce GHG emissions and protect the climate.

Attain Air Quality Standards

BAAQMD's *2010 Bay Area Clean Air Plan* strategy is based on regional population and employment projections in the Bay Area compiled by ABAG. Demographic trends incorporated into the *Plan Bay Area* determine VMT in the Bay Area, which BAAQMD uses to forecast future air quality trends. The SFBAAB is currently designated a nonattainment area for O_3, $PM_{2.5}$, and PM_{10} (state AAQS only).

[28] Bay Area Air Quality Management District (BAAQMD), 2010 (Revised 2011). California Environmental Quality Act Air Quality Guidelines.

Growth under the proposed project would occur incrementally over approximately 24 years. ABAG's latest growth projections estimate 43,200 people and 36,150 employees in the City and SOI by 2040.[29] Chapter 4.11, Population and Housing, of this Draft EIR evaluates consistency of the proposed project with regional growth projections. This EIR estimates that the 2040 horizon development allowed under the proposed project together with the cumulative projects would exceed ABAG's projections for the City in 2040 by 14,150 people and 9,900 employees. As detailed in the analysis below, despite the additional growth, VMT per service population would decrease citywide under the proposed project. Furthermore, the General Plan contains goals, policies, and programs that are intended to guide development in Menlo Park through the 2040 horizon year in a manner which reduced/minimizes VMT. Likewise, the Zoning Ordinance update also requires new construction and building additions of 10,000 square feet or more to develop a Transportation Demand Management (TDM) Plan to reduce trip generation by 20 percent below standard use rates. Therefore, emissions resulting from future development allowed by the proposed project would not hinder BAAQMD's ability to attain the California or National AAQS, despite the additional population and employers potentially allowed. The impact would be *less than significant.*

Reduce Population Exposure and Protect Public Health

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and the existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general policies that would require local planning and development decisions to consider impacts to air quality, including air pollutant emissions. The following General Plan policies would serve to minimize potential adverse impacts on air pollutant emissions:

- Goal OSC-5: Ensure Healthy Air Quality And Water Quality. Enhance and preserve air quality in accord with State and regional standards, and encourage the coordination of total water quality management including both supply and wastewater treatment.
  - Policy OSC-5.2 Development in Industrial Areas. Evaluate development projects in industrial areas for impacts to air and water resources in relation to truck traffic, hazardous materials use and production-level manufacturing per the California Environmental Quality Act (CEQA) and require measures to mitigate potential impacts to less than significant levels.
- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
  - Policy LU-2.3: Mixed Use Design. Allow mixed-use projects with residential units if project design addresses potential compatibility issues such as traffic, parking, light spillover, dust, odors, and transport and use of potentially hazardous materials.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.

[29] Association of Bay Area Governments (ABAG). 2013, December. *Projections 2013*, P2013 SSA.

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

Because the proposed project is consistent with strategies in the 2010 Bay Area Clean Air Plan that reduce population exposure and protect public health, impacts are *less than significant*.

Reduce GHG Emissions and Protect the Climate

The GHG emissions impacts of the proposed project are discussed in Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR. As described in Chapter 4.6, future development allowed by the proposed project would be required to adhere to statewide measures that have been adopted to achieve the GHG reduction targets of Assembly Bill 32. In addition, the proposed project is consistent with regional strategies for infill development identified by the MTC/ABAG in the *Plan Bay Area*. The proposed project would achieve the plan-level BAAQMD efficiency target of 6.6 metric tons of GHG emissions per service population (residents plus employees) for 2020 and would also make substantial progress toward the 2030 target recently identified in Executive Order B-30-15.

The proposed Land Use (LU) and Circulation (CIRC) Elements, which would be adopted as part of the proposed project, and the existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements contain general goals and policies that would require local planning and development decisions to consider impacts to air quality, including GHG emissions. The following General Plan policies and proposed Zoning Ordinance update requirements would serve to minimize potential adverse impacts on air quality:

- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
  - Policy LU-7.1: Sustainability. Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste.
  - Policy LU-7.5: Reclaimed Water Use. Implement use of adequately treated “reclaimed” (“recycled/nonpotable water sources such as, graywater, blackwater, rainwater, stormwater, foundation drainage, etc.) water for outdoor and indoor uses, as feasible.
  - Policy LU-7.9: Green Building. Support sustainability and green building best practices through the orientation, design, and placement of buildings and facilities to optimize their energy efficiency.
- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system, by minimizing cut-through vehicle traffic on residential streets and speeding traffic; reducing the number of vehicle trips, providing bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitating appropriate or adequate response times and access for emergency vehicles.
- Goal OSC-2: Provide Parks And Recreation Facilities. Develop and maintain a parks and recreation system to provide areas and facilities conveniently located, sustainable, properly designed and well-

maintained to serve the recreation needs and promote healthy living of residents, workers and visitors to Menlo Park.

- Policy OSC-2.7: Conservation of Resources at City Facilities. Reduce consumption of water, energy, landfilled waste, and fossil fuels in the construction, operations and maintenance of City owned and/or operated facilities.

- Goal OSC-4: Promote Sustainability And Climate Action Planning. Promote a sustainable energy supply and implement the City's Climate Action Plan to reduce greenhouse gas emissions and improve the sustainability of actions by City government, residents, and businesses in Menlo Park. This includes promoting land use patterns that reduce the number and length of motor vehicle trips, and encouraging recycling, reduction and reuse programs.
  - Policy OSC-4.1: Sustainable Approach to Land Use Planning to Reduce Resource Consumption. Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher density residential and mixed-use development to be located adjacent to commercial centers and transit corridors, and (3) retail and office areas to be located within walking and biking distance of transit or existing and proposed residential developments.
  - Policy OSC-4.2: Sustainable Building. Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.
  - Policy OSC-4.3: Renewable Energy. Promote the installation of renewable energy technology, such as, on residences and businesses through education, social marketing methods, establishing standards and/or providing incentives.
  - Policy OSC-4.4: Vehicles Using Alternative Fuel. Explore the potential for installing infrastructure for vehicles that use alternative fuel, such as electric plug in recharging stations.
  - Policy OSC-4.5: Energy Standards in Residential and Commercial Construction. Encourage projects to achieve a high level of energy conservation exceeding standards set forth in the California Energy Code for Residential and Commercial development.
  - Policy OSC-4.6: Waste Reduction Target. Strive to meet the California State Integrated Waste Management Board per person target of waste generation per person per day through their source reduction, reuse, and recycling programs.
  - Policy OSC-4.7: Waste Management Collaboration. Continue to support and participate in efforts such as the South Bayside Waste Management Authority, which provides waste reduction, recycling, and solid waste programs and solutions.
  - Policy OSC-4.8: Waste Diversion. Develop and implement a zero waste policy, or implement standards, incentives, or other programs that would lead the community towards a zero waste goal.
  - Policy OSC-4.9: Climate Action Planning. Undertake annual review and updates, as needed, to the City's Climate Action Plan (CAP).

- Policy OSC-4.10: Energy Upgrade California. Consider actively marketing and providing additional incentives for residents and businesses to participate in local, State, and/or Federal renewable or energy conservation programs.

- Goal OSC-5: Ensure Healthy Air Quality And Water Quality. Enhance and preserve air quality in accord with State and regional standards, and encourage the coordination of total water quality management including both supply and wastewater treatment.
  - Policy OSC-5.1: Air and Water Quality Standards. Continue to apply standards and policies established by the Bay Area Air Quality Management District (BAAQMD), San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), and City of Menlo Park Climate Action Plan through the California Environmental Quality Act (CEQA) process and other means as applicable.
  - Policy OSC-5.3: Water Conservation. Encourage water-conserving practices in businesses, homes and institutions.

Additionally, the proposed project includes an update to the City's Zoning Ordinance for the Bayfront Area, resulting in three new zoning districts that would promote the creation of a live/work/play environment with travel patterns that are oriented toward pedestrian, transit, and bicycle use. As part of the Zoning Ordinance update, the project includes minimum short-term and long-term bicycle parking standards for Office and Life Sciences and other Research and Development land uses. The Zoning Ordinance update also allows project applicants to meet minimum parking requirements through use of nearby, off-site facilities with the approval of the City's Transportation Manager. Furthermore, new construction and building additions of 10,000 square feet or more are required to develop a Transportation Demand Management (TDM) Plan to reduce trip generion by 20 percent below standard use rates. The TDM Plan may include participation in a Transportation Management Association, preferred parking for carpools/vanpools, public and/or private bike-share programs, subsidy for alternative transportation (e.g., carpool/vanpool, shuttles, and bus service including transit passes), alternative work schedules, car-share membership, emergency ride home, and other measures to reduce trip generation.

The proposed Zoning Ordinance update also includes Residential and Non-Residential Green Building Requirements. These green building requirements identify standards based on the size of new construction. New large projects are required to be built to achieve Leadership in Energy and Environmental Design (LEED) silver (10,000 to 100,000 square feet) and gold (over 100,000 square feet). The Zoning Ordinance update also requires installation of electric vehicle (EV) chargers. New construction is also required to meet 100 percent of electricity and natural gas demand through either onsite generation and/or purchase of renewable electricity or electricity credits (or combination) to offset energy use. The Zoning Ordinance update also requires that applicants submit a zero-waste management plan to the City, which will cover how the applicant plans to minimize waste to landfill and incineration. These measures also help to reduce operational air quality impacts.

Consequently, the proposed project is consistent with the goal of the *2010 Bay Area Clean Air Plan* to reduce GHG emissions and protect the climate, and the impact would be *less than significant*.

2010 Bay Area Clean Air Plan Control Measures

Table 4.2-6 identifies the control measures included in the *2010 Bay Area Clean Air Plan.*

Include Applicable Control Measures from the AQMP

The existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Element, and the proposed Circulation (CIRC) element, which would be adopted as part of the proposed project, contain general goals, policies and programs that would require local planning and development decisions to consider impacts to air quality, including regional and local air quality. The following General Plan goals, policies and programs would serve to minimize potential adverse impacts on air quality:

- Goal OSC-4: Promote Sustainability And Climate Action Planning. Promote a sustainable energy supply and implement the City's Climate Action Plan to reduce greenhouse gas emissions and improve the sustainability of actions by City government, residents, and businesses in Menlo Park. This includes promoting land use patterns that reduce the number and length of motor vehicle trips, and encouraging recycling, reduction and reuse programs.
    - Policy OSC-4.1: Sustainable Approach to Land Use Planning to Reduce Resource Consumption. Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher density residential and mixed-use development to be located adjacent to commercial centers and transit corridors, and (3) retail and office areas to be located within walking and biking distance of transit or existing and proposed residential developments.
    - Policy CIRC-2.15: Regional Transportation Improvements. Work with neighboring jurisdictions and appropriate agencies to identify and secure adequate funding for regional transportation improvements to improve transportation options and reduce congestion in Menlo Park and adjacent communities.
    - Policy CIRC-5.4: Caltrain Enhancements. Support Caltrain safety and efficiency improvements, such as positive train control, grade separation (with priority at Ravenswood Avenue), and electrification, provided that Caltrain service to Menlo Park increases and use of the rail right-of-way is consistent with the City's Rail Policy.
        - Program CIRC-2.5a: Long-Term Transit Planning. Work with appropriate agencies to agree on long-term peninsula transit service that reflects Menlo Park's desires and is not disruptive to the city.

As shown in Table 4.2-6, implementation of the proposed project would be consistent with the *2010 Bay Area Clean Air Plan*, and the impacts would be *less than significant*.

Disrupt or Hinder Implementation of Any AQMP Control Measures

As identified in Table 4.2-6, the proposed project would not hinder BAAQMD from implementing the control measures in the *2010 Bay Area Clean Air Plan*. Impacts are *less than significant* and no mitigation measures are required.

TABLE 4.2-6 CONTROL MEASURES FROM THE 2010 BAY AREA CLEAN AIR PLAN

Type	Measure Number / Title	Consistency
Stationary and Area Sources Control Measures	▪ SSM 1 – Metal Melting Facilities ▪ SSM 2 – Digital Printing ▪ SSM 3 – Livestock Waste ▪ SSM 4 – Natural Gas Processing and Distribution ▪ SSM 5 – Vacuum Trucks ▪ SSM 6 – General Particulate Matter Weight Rate Limitations ▪ SSM 7 – Open Burning ▪ SSM 8 – Coke Calcining ▪ SSM 9 – Cement Kilns ▪ SSM 10 – Refinery Boilers and Heaters ▪ SSM 11 – Residential Fan Type Furnaces ▪ SSM 12 – Space Heating ▪ SSM 13 – Dryers, Ovens, Kilns ▪ SSM 14 – Glass Furnaces ▪ SSM 15 – Greenhouse Gases in Permitting Energy Efficiency ▪ SSM 16 – Revise Regulation 2, Rule 2: New Source Review ▪ SSM 17 – Revise Regulation 2, Rule 5 New Source Review for Air Toxics ▪ SSM 18 – Revise Air Toxics "Hot Spot" Program	Stationary and area sources are regulated directly by BAAQMD. To implement the stationary and area source control measures, BAAQMD adopts/revises rules or regulations to implement the control measures and reduce emissions from stationary and area sources. Because BAAQMD is the implementing agency, new and existing sources of stationary and area sources within the Plan Area would be required to comply with these control measures in the *2010 Bay Area Clean Air Plan*.
Mobile Source Control Measures	▪ MSM A-1 – Promote Clean, Fuel Efficient Light & Medium-Duty Vehicles ▪ MSM A-2 – Zero Emission Vehicle and Plug-in Hybrids ▪ MSM A-3 – Green Fleets (Light Medium & Heavy-Duty Vehicles) ▪ MSM A-4 – Replacement or Repair of High Emitting Vehicles ▪ MSM B-1 – HDV Fleet Modernization ▪ MSM B-2 – Low NOx Retrofits for In-Use Engines ▪ MSM B-3 – Efficient Drive Trains ▪ MSM C-1 – Construction and Farming Equipment ▪ MSM C-2 – Lawn & Garden Equipment ▪ MSM C-3 – Recreational Vessels	Mobile source control measures would reduce emissions by accelerating the replacement of older, dirtier vehicles and equipment through programs such as the BAAQMD's Vehicle Buy-Back and Smoking Vehicle programs, and by promoting advanced technology vehicles that reduce emissions. The implementation of these measures relies heavily on incentive programs, such as the Carl Moyer Program and the Transportation Fund for Clean Air, to achieve voluntary emission reductions in advance of or in addition to CARB requirements. CARB has new regulations that require the replacement or retrofit of on-road trucks, construction equipment, and certain other diesel-powered equipment. The proposed project would not hinder the ability of BAAQMD to implement these regional programs.
Transportation Control Measures	▪ TCM A-1 – Improve Local and Area-wide Bus Service ▪ TCM A-2 – Improve Local and Regional Rail Service	Transportation control measures (TCM) are strategies to reduce vehicle trips, vehicle use, VMT, vehicle idling, and traffic congestion for the purpose of reducing

TABLE 4.2-6 CONTROL MEASURES FROM THE 2010 BAY AREA CLEAN AIR PLAN

Type	Measure Number / Title	Consistency
	▪ TCM B-1 – Implement Freeway Performance Initiative ▪ TCM B-2 – Improve Transit Efficiency and Use ▪ TCM B-3 – Bay Area Express Land Network ▪ TCM B-4 – Goods Movement Improvements and Emission Reduction Strategies ▪ TCM C-1 – Support Voluntary Employer-Based Trip Reduction Program ▪ TCM C-2 – Implement Safe Routes to Schools and Safe Routes to Transit ▪ TCM C-3 – Promote Rideshare Service and Incentives ▪ TCM C-4 – Conduct Public Outreach and Education ▪ TCM C-5 – Promote Smart Driving/Speed Moderation ▪ TCM D-1 – Improve Bicycle Access and Facilities ▪ TCM D-2 – Improve Pedestrian Access and Facilities ▪ TCM D-3 – Support Local Land Use Strategies ▪ TCM E-1 – Value Pricing Strategies ▪ TCM E-2 – Parking Pricing and Management ▪ TCM E-3 – Implement Transportation Pricing Reform	motor vehicle emissions. Although most of the TCMs are implemented at the regional level—that is, by MTC or Caltrans—the *2010 Bay Area Clean Air Plan* relies on local communities to assist with implementation of some measures. The proposed project includes policies related to reduce vehicle trips and VMT that would assist BAAQMD in meeting the regional goals of the *2010 Bay Area Clean Air Plan*: ▪ **Policy CIRC-2.15: Regional Transportation Improvements**. Work with neighboring jurisdictions and appropriate agencies to identify and secure adequate funding for regional transportation improvements to improve transportation options and reduce congestion in Menlo Park and adjacent communities. ▪ **Policy CIRC-5.4: Caltrain Enhancements.** Support Caltrain safety and efficiency improvements, such as positive train control, grade separation (with priority at Ravenswood Avenue), and electrification, provided that Caltrain service to Menlo Park increases and use of the rail right-of-way is consistent with the City's Rail Policy. ▪ **Policy CIRC-5.1: Transit Service and Ridership**. Promote improved public transit service and increased transit ridership, especially to employment centers, commercial destinations, schools, and public facilities. ▪ **Policy CIRC-5.3: Rail Service.** Promote increasing the capacity and frequency of commuter rail service, including Caltrain; protect rail rights-of-way for future transit service; and support efforts to reactivate the Dumbarton Corridor for transit, pedestrian, bicycle, and emergency vehicle use. ▪ **Program CIRC-5-A: Long-Term Transit Planning**. Work with appropriate agencies to agree on long-term peninsula transit service that reflects Menlo Park's desires and is not disruptive to the city. ▪ **Policy CIRC-6.4: Employers and Schools.** Encourage employers and schools to promote walking, bicycling, carpooling, shuttles, and transit use. ▪ **Policy CIRC-6-1: Transportation Demand Management**. Coordinate Menlo Park's transportation demand management efforts with other agencies providing similar services within San Mateo and Santa Clara Counties. ▪ **Policy CIRC-6.3: Shuttle Service.** Encourage increased shuttle service between employment centers and the Downtown Menlo Park Caltrain station. ▪ **Policy CIRC-2.9: Bikeway System Expansion.** Expand the citywide bikeway system through appropriate roadway design, maintenance, effective traffic law

TABLE 4.2-6 CONTROL MEASURES FROM THE 2010 BAY AREA CLEAN AIR PLAN

Type	Measure Number / Title	Consistency
		enforcement, and implementation of the City's Comprehensive Bicycle Development Plan, and the El Camino Real/Downtown Specific Plan. ▪ **Policy CIRC-5.6: Bicycle Amenities and Transit.** Encourage transit providers within San Mateo County to provide improved bicycle amenities to enhance convenience, including access to transit including bike share programs, secure storage at transit stations and on-board storage where feasible. ▪ **Policy CIRC-5.2: Pedestrian Safety.** Maintain and create a connection of safe sidewalks and walkways within the public right of way. ▪ **Policy CIRC-1.9: Safe Routes to Schools.** Support Safe Routes to School programs to enhance the safety of school children who walk and bike to school.
Land Use and Local Impact Control Measures	▪ LUM 1 – Goods Movement ▪ LUM 2 – Indirect Source Review ▪ LUM 3 – Enhanced CEQA Program ▪ LUM 4 – Land Use Guidelines ▪ LUM 5 – Reduce Risk in Impacted Communities ▪ LUM 6 – Enhanced Air Quality Monitoring	The proposed project includes policies related to transportation and land use that would assist BAAQMD in meeting the regional goals of the *2010 Bay Area Clean Air Plan*: ▪ **Policy LU-2.3: Mixed Use Design**. Allow mixed-use projects with residential units if project design addresses potential compatibility issues such as traffic, parking, light spillover, dust, odors, and transport and use of potentially hazardous materials. ▪ **Policy LU-2.10: Compatible Uses.** Promote residential uses in mixed-use arrangements and the clustering of compatible uses such as employment center, shopping areas, open space and parks, within easy walking and bicycling distance of each other and transit stops.
Energy and Climate Control Measures	▪ ECM 1 – Energy Efficiency ▪ ECM 2 – Renewable Energy ▪ ECM 3 – Urban Heat Island Mitigation ▪ ECM 4 – Tree Planting	The *2010 Bay Area Clean Air Plan* also includes measures to reduce energy use, water use, and waste generation. Projects would also be required to comply with the California Green Building Standards Code and the current Building and Energy Efficiency Standards of Title 24 for energy efficiency. The proposed Zoning Ordinance update includes Residential and Non-Residential Green Building Requirements. These green building requirements identify standards based on the size of new construction and additiions and/or alterations. New large projects are required to be built to achieve Leadership in Energy and Environmental Design (LEED) silver (over 10,000 square feet but less than 100,000 square feet) and gold (over 101,000 square feet). The Zoning Ordinance update also requires installation of electric vehicle (EV) chargers and onsite energy generation (or purchase of renewable energy or credits) to offset energy use for new projects. The Zoning Ordinance update also requires that applicants submit a zero-waste management plan to the City, which will cover how the applicant plans to minimize waste to

TABLE 4.2-6 CONTROL MEASURES FROM THE 2010 BAY AREA CLEAN AIR PLAN

Type	Measure Number / Title	Consistency
		landfill and incineration. In addition, the proposed project, which includes the Land Use and Circulation Element Updates, in addition to the existing City of Menlo Park General Plan Open Space, Conservation, Noise and Safety Element (adopted 2013) includes the following policies related to energy use and water efficiency: ▪ **Policy LU-7.5: Reclaimed Water Use.** Implement use of adequately treated "reclaimed" ("recycled/nonpotable water sources such as, graywater, blackwater, rainwater, stormwater, foundation drainage, etc.) water for outdoor and indoor uses, as feasible. ▪ **Policy LU-7.9: Green Building.** Support sustainability and green building best practices through the orientation, design, and placement of buildings and facilities to optimize their energy efficiency. ▪ **Policy OSC-2.7: Conservation of Resources at City Facilities**. Reduce consumption of water, energy, landfilled waste, and fossil fuels in the construction, operations and maintenance of City owned and/or operated facilities. ▪ **Policy OSC-4.1: Sustainable Approach to Land Use Planning to Reduce Resource Consumption.** Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher density residential and mixed-use development to be located adjacent to commercial centers and transit corridors, and (3) retail and office areas to be located within walking and biking distance of transit or existing and proposed residential developments. ▪ **Policy OSC-4.2: Sustainable Building**. Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities. ▪ **Policy OSC-4.3: Renewable Energy.** Promote the installation of renewable energy technology, such as, on residences and businesses through education, social marketing methods, establishing standards and/or providing incentives. ▪ **Policy OSC-4.4: Vehicles Using Alternative Fuel.** Explore the potential for installing infrastructure for vehicles that use alternative fuel, such as electric plug in recharging stations. ▪ **Policy OSC-4.5: Energy Standards in Residential and Commercial Construction.** Encourage projects to achieve a high level of energy conservation exceeding standards set forth in the California Energy Code for Residential and Commercial

TABLE 4.2-6 CONTROL MEASURES FROM THE 2010 BAY AREA CLEAN AIR PLAN

Type	Measure Number / Title	Consistency
		development. ▪ **Policy OSC-4.6: Waste Reduction Target.** Strive to meet the California State Integrated Waste Management Board per person target of waste generation per person per day through their source reduction, reuse, and recycling programs. ▪ **Policy OSC-4.7: Waste Management Collaboration**. Continue to support and participate in efforts such as the South Bayside Waste Management Authority, which provides waste reduction, recycling, and solid waste programs and solutions. ▪ **Policy OSC-4.8: Waste Diversion.** Develop and implement a zero waste policy, or implement standards, incentives, or other programs that would lead the community towards a zero waste goal. ▪ **Policy OSC-4.9: Climate Action Planning.** Undertake annual review and updates, as needed, to the City's Climate Action Plan (CAP). ▪ **Policy OSC-4.10: Energy Upgrade California**. Consider actively marketing and providing additional incentives for residents and businesses to participate in local, State, and/or Federal renewable or energy conservation programs. ▪ **Policy OSC-5.3: Water Conservation.** Encourage water-conserving practices in businesses, homes and institutions.
Further Study Control Measures	▪ FSM 1 – Adhesives and Sealants ▪ FSM 2 – Reactivity in Coating and Solvents ▪ FSM 3 – Solvent Cleaning and Degreasing Operations ▪ FSM 4 – Emissions from Cooling Towers ▪ FSM 5 – Equipment Leaks ▪ FSM 6 – Wastewater from Coke Cutting ▪ FSM 7 – SO_2 from Refinery Processes ▪ FSM 8 – Reduce Emission from LPG, Propane, Butane, and other Pressurized Gases ▪ FSM 9 – Greenhouse Gas Mitigation in BACT and TBACT Determinations ▪ FSM 10 Further Reductions from Commercial Cooking Equipment ▪ FSM 11 – Magnet Source Rule ▪ FSM 12 – Wood Smoke ▪ FSM 13 – Energy Efficiency and Renewable Energy	The majority of the further study control measures apply to sources regulated directly by BAAQMD. Because BAAQMD is the implementing agency, new and existing sources of stationary and area sources in the Plan Area would be required to comply with these additional further study control measures in the *2010 Bay Area Clean Air Plan*.

AIR QUALITY

TABLE 4.2-6 CONTROL MEASURES FROM THE 2010 BAY AREA CLEAN AIR PLAN

Type	Measure Number / Title	Consistency
	▪ FSM 14 – Winery Fermentation	
	▪ FSM 15 – Composting Operations	
	▪ FSM 16 – Vanishing Oils and Rust Inhibitors	
	▪ FSM 17 – Ferry System Expansion	
	▪ FSM 18 – Greenhouse Gas Fee	

Source: Bay Area Air Quality Management District, 2011 Revised, *California Environmental Quality Act Air Quality Guidelines*.

Regional Growth Projections for VMT and Population and Employment

Future development accommodated by the proposed project would result in additional sources of criteria air pollutants. Growth accommodated within the study area would occur over 24 years or longer. As a result, BAAQMD's approach to evaluating impacts from criteria air pollutants generated by a plan's long-term growth is done by comparing population and employment estimates to the VMT estimates. This is because BAAQMD's AQMP plans for growth in the Air Basin are based on regional population and employment projections identified by ABAG and growth in VMT identified by C/CAG. Changes in regional, community-wide emissions in the Plan Area (City + SOI) could affect the ability of BAAQMD to achieve the air quality goals in the AQMP. Consequently, air quality impacts for a plan-level analysis are based on consistency with the regional growth projections.

VMT estimates are sensitive to changes in land use. Generally, land uses that reflect a more balanced jobs-housing ratio result in lower per capita VMT. Additionally, the traffic modeling reflects an increased density and other factors that promote use of alternative modes of transportation and reduce VMT (e.g., an increase in mode shift to transit, bicycling). VMT estimates based on data provided by TJKM were calculated for the proposed project. Table 4.2-7 compares the projected increase in population and service population with the projected increases in total VMT and per capita VMT. As shown in Table 4.2-7, the proposed project would result in an increase in VMT per population (1.3 percent higher) but would result in a decrease in VMT per service population (SP) (4.5 percent lower). The Table also shows that the proposed project would result in a beneficial impact compared to the Existing General Plan.

TABLE 4.2-7 COMPARISON OF THE CHANGE IN POPULATION, SERVICE POPULATION, AND VMT IN THE PLAN AREA

Category	Existing	Existing General Plan 2040	Proposed Project 2040
Population	32,900	38,780	50,350
Percent Change in Population	NA	17.9%	53.0%
Employment	30,900	41,200	53,250
Total Service Population (SP)	63,800	79,980	103,600
Percent Change in SP	NA	25.4%	62.4%
VMT/Day	934,722	1,359,431	1,449,338
Percent Change in VMT/Day	NA	45.4%	55.1%
VMT/Person/Day	28.41	35.05	28.79
Percent Change in VMT/Person/Day	NA	23.4%	1.3%
VMT/SP/Day	14.65	17.00	13.99
Percent Change in VMT/SP/Day	NA	16.0%	-4.5%

Notes: VMT provided by TJKM.

AIR QUALITY

The Association of Bay Area Government's (ABAG)/Metropolitan Transportation Commissions' (MTC) *Plan Bay Area* considers both where people live and where people work to improve the overall mobility of the Bay Area to reduce trips and vehicle miles traveled. Trips in the regional model are based on an origin-destination approach and consider trip by trip purpose. For employment-generating land uses, the regional model disaggregates trips into specific industry-sectors (i.e., type of commercial, office, warehouse, retail) in order to determine trip lengths by trip purpose and the origin and end of a trip. The regional emissions forecasts conducted by BAAQMD as part of the *2010 Clean Air Plan* and BAAQMD's *Climate Protection Program* consider on-road mobile source emissions based on data provided by these regional agencies. Consequently, both the population and employment generating land uses are critical to determining the transportation efficiency of the Bay Area in BAAQMD's regional plans.

Furthermore, the consistency analysis for criteria air pollutants should be internally consistent with the approach taken for the proposed project's GHG emissions analysis. BAAQMD's CEQA Guidelines efficiency metric is based on service population, rather than just per capita emissions, for similar reasons as identified above—VMT is not just based on where someone lives but also where they work or where services are provided (e.g., retail stores, schools, day care, etc.).

Lastly, the Governor's Office of Planning and Research (OPR) has identified an alternative metric to the transportation level of service (LOS) under Senate Bill 743, that is based on VMT efficiency. OPR current recommendation includes evaluating both population and employment when considering transportation efficiency, which is consistent with the City's approach.

There is clear justification for use of a VMT efficiency metric that considers both population and employees. Land use agencies should consider both ends of the trip (i.e., where people live in relation to where they work). Because the City's General Plan accommodates both residential and non-residential growth, a better indicator of how efficiently the city is growing can be made by comparing the increase in VMT to the increase in service population (e.g., generate the same or less VMT per service population). As shown in Table 4.2-7, implementation of the proposed project would result in lower VMT per service population than under existing conditions (4.5 percent less). Additionally, future projects allowed under the proposed project would be required to comply with General Plan policies and programs and the Zoning Ordinance update requires new construction and building additions of 10,000 square feet or more to prepare a TDM Plan, which would further reduce VMT from future projects in the city. Pursuant to the Zoning Ordinance update, projects that require preparation of a TDM Plan are required to reduce trip generion by 20 percent below standard use rates. The TDM Plan may include participation in a Transportation Management Association, preferred parking for carpools/vanpools, public and/or private bike-share programs, subsidy for alternative transportation (e.g., carpool/vanpool, shuttles, and bus service including transit passes), alternative work schedules, car-share membership, emergency ride home, and other measures to reduce trip generation. Accordingly, impacts would be *less than significant.*

Applicable Regulations:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building and Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code
- CARB Rule 2485 (13 CCR Chapter 10, Section 2485), Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

- CARB Rule 2480 (13 CCR Chapter 10, Section 2480), Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- CARB Rule 2477 (13 CCR Section 2477 and Article 8), Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate
- BAAQMD, Regulation 2, Rule 2, New Source Review
- BAAQMD, Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- BAAQMD Regulation 6, Rule 1, General Requirements
- BAAQMD Regulation 6, Rule 2, Commercial Cooking Equipment
- BAAQMD Regulation 7, Odorous Substances
- BAAQMD Regulation 8, Rule 3, Architectural Coatings
- BAAQMD Regulation 8, Rule 4, General Solvent and Surface Coatings Operations
- BAAQMD Regulation 8, Rule 7, Gasoline Dispensing Facilities
- BAAQMD Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing)

Significance Without Mitigation: Less than significant.

AQ-2 Implementation of the proposed project could violate an air quality standard, contribute substantially to an existing or projected air quality violation, and would result in a cumulatively considerable net increase of criteria pollutants for which the project region is in nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

Projects that exceed BAAQMD's regional significance thresholds contribute to the nonattainment designation of the Air Basin, which constitutes an air quality violation. The Air Basin is currently designated a nonattainment area for California and National O_3, California and National $PM_{2.5}$, and California PM_{10} AAQS. The attainment designation is based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health. Any project that produces a significant regional air quality impact in an area that is in nonattainment adds to the cumulative impact. Pursuant to the CEQA Guidelines Section 15130(b)(1), cumulative impacts can be based on the growth projections in a local General Plan. Consequently, the analysis in this chapter is the proposed project's contribution to cumulative impacts. Projects that exceed BAAQMD's significance thresholds cumulatively contribute to health impacts within the SFBAAB. Regional emissions contribute to these known health effects, but it is speculative for this broad-based program EIR to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment—since mass emissions are not correlated with concentrations of emissions—or how many additional individuals in the Air Basin would be affected by the health effects cited above.

Operational Emissions

Although BAAQMD's CEQA Air Quality Guidelines only require an emissions inventory of criteria air pollutants for project-level analyses, an inventory of criteria air pollutants was generated for the proposed project, since enough information regarding the buildout of the General Plan is available to identify the

AIR QUALITY

magnitude of emissions from buildout of the proposed project and whether development allowed under the proposed project would contribute to an air quality violation. Table 4.2-8 identifies the emissions associated with buildout of the proposed project. Subsequent environmental review of development projects would be required to assess potential impacts under BAAQMD's project-level thresholds.

TABLE 4.2-8 CONNECTMENLO COMMUNITY-WIDE CRITERIA AIR POLLUTANT EMISSIONS

	Criteria Air Pollutants (Average lbs./day)			
Category	ROG	NO_x	Exhaust PM_{10}	Exhaust $PM_{2.5}$
Existing Land Uses 2040				
Transportation[a]	39	62	95	38
Energy[b]	57	509	40	40
Area Sources[c]	675	573	42	42
Total	*771*	*1,143*	*177*	*120*
Total Tons per Year (tpy)	*140*	*204*	*31*	*21*
Maximum Citywide 2040 Buildout				
Transportation[a]	61	97	148	60
Energy[b]	94	838	65	65
Area Sources[c]	1,118	663	52	52
Total	*1,273*	*1,597*	*265*	*176*
Change from Existing Land Uses	501	454	88	57
BAAQMD Average Daily Project-Level Threshold	54	54	82	54
Exceeds Average Daily Threshold	**Yes**	**Yes**	**Yes**	No
Total Tons per Year (tpy)	*231*	*287*	*47*	*31*
Change from Existing Land Uses (tpy)	91	83	16	10
BAAQMD Annual Project-Level Threshold	10 tpy	10 tpy	15 tpy	10 tpy
Exceeds Annual Threshold	**Yes**	**Yes**	**Yes**	**Yes**

Note: Emissions may not total to 100 percent due to rounding.
a. Transportation. VMT is based on data provided by TJKM and modeled with EMFAC2014 Version 1.07 for running exhaust emissions using 2040 emission rates. VMT is multiplied by 347 days/year to account for reduced traffic on weekends and holidays.
b. Energy. Based on three-year average (2013–2011) of energy use provided byPG&E. The forecast is based on the proposed project housing units (residential), employment (non-residential), and service population (city) projections.
c. Area Sources – Off-Road Emissions. Generated using OFFROAD2007. Estimated based on population (Landscaping), employment (Light Commercial Equipment), and construction building permits (Construction) for Menlo Park as a percentage of San Mateo County. Annual construction emissions forecasts are assumed to be similar to historic levels. Forecasts for landscaping equipment use are based on the proposed project population projections, and for light commercial equipment use are based on the proposed project employment projections. Excludes BAAQMD-permitted sources. ROG emissions from consumer product use based on the emissions rates in CalEEMod 2013.2.2. Daily construction emissions multiplied by 347 days/year to account for reduced/limited construction activity on weekends and holidays. Excludes fugitive emissions from construction sites.

AIR QUALITY

The proposed Land Use (LU) Element and Circulation (CIRC), which would be adopted as part of the proposed project, and the existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general goals and policies that would require local planning and development decisions to consider impacts to air quality, including critieria air pollutants. The following General Plan policies would serve to minimize potential adverse impacts on air quality:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
    - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.
    - Policy LU-6.9: Pedestrian and Bicycle Facilities. Provide well-designed pedestrian and bicycle facilities for safe and convenient multi-modal activity through the use of access easements along linear parks or paseos.
- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
    - Policy LU-7.1: Sustainability. Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste.
    - Policy LU-7.9: Green Building. Support sustainability and green building best practices through the orientation, design, and placement of buildings and facilities to optimize their energy efficiency.
- Goal OSC-2: Provide Parks And Recreation Facilities. Develop and maintain a parks and recreation system to provide areas and facilities conveniently located, sustainable, properly designed and well-maintained to serve the recreation needs and promote healthy living of residents, workers and visitors to Menlo Park.
    - Policy OSC-2.7: Conservation of Resources at City Facilities. Reduce consumption of water, energy, landfilled waste, and fossil fuels in the construction, operations and maintenance of City owned and/or operated facilities.
- Goal OSC-4: Promote Sustainability And Climate Action Planning. Promote a sustainable energy supply and implement the City's Climate Action Plan to reduce greenhouse gas emissions and improve the sustainability of actions by City government, residents, and businesses in Menlo Park. This includes promoting land use patterns that reduce the number and length of motor vehicle trips, and encouraging recycling, reduction and reuse programs.
    - Policy OSC-4.1: Sustainable Approach to Land Use Planning to Reduce Resource Consumption. Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher density residential and mixed-use development to be located adjacent to commercial centers and transit corridors, and (3) retail and office areas to be located within walking and biking distance of transit or existing and proposed residential developments.

AIR QUALITY

- Policy OSC-4.2: Sustainable Building. Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.
- Policy OSC-4.3: Renewable Energy. Promote the installation of renewable energy technology, such as, on residences and businesses through education, social marketing methods, establishing standards and/or providing incentives.
- Policy OSC-4.4: Vehicles Using Alternative Fuel. Explore the potential for installing infrastructure for vehicles that use alternative fuel, such as electric plug in recharging stations.
- Policy OSC-4.5: Energy Standards in Residential and Commercial Construction. Encourage projects to achieve a high level of energy conservation exceeding standards set forth in the California Energy Code for Residential and Commercial development.

- Goal OSC-5: Ensure Healthy Air Quality And Water Quality. Enhance and preserve air quality in accord with State and regional standards, and encourage the coordination of total water quality management including both supply and wastewater treatment.
  - Policy OSC-5.2: Development in Industrial Areas. Evaluate development projects in industrial areas for impacts to air and water resources in relation to truck traffic, hazardous materials use and production-level manufacturing per the California Environmental Quality Act (CEQA) and require measures to mitigate potential impacts to less than significant levels.
  - Policy OSC-5.3: Water Conservation. Encourage water-conserving practices in businesses, homes and institutions.
- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system, by minimizing cut-through vehicle traffic on residential streets and speeding traffic; reducing the number of vehicle trips, providing bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitating appropriate or adequate response times and access for emergency vehicles.
- Goal CIRC-5: Support local and regional transit that is efficient, frequent, convenient, and safe.
  - Policy CIRC-5-7: New Development. Ensure that new nonresidential, mixed use, and multiple-dwelling residential development provides associated needed transit service, improvements and amenities in proportion with demand attributable to the type and scale of the proposed development.
- Goal CIRC-6: Provide a range of transportation choices for the Menlo Park community.
  - Policy CIRC-6.1: Transportation Demand Management. Coordinate Menlo Park's transportation demand management efforts with other agencies providing similar services within San Mateo and Santa Clara Counties.
  - Policy CIRC-6-4: Employers and Schools. Encourage employers and schools to promote walking, bicycling, carpooling, shuttles, and transit use.

Additionally, the proposed project includes an update to the City's Zoning Ordinance for the Bayfront Area, resulting in three new zoning districts that would promote the creation of a live/work/play environment with travel patterns that are oriented toward pedestrian, transit, and bicycle use. As part of the Zoning Ordinance update, the project includes minimum short-term and long-term bicycle parking standards for Office and Research Development land uses. The Zoning Ordinance update also allows project applicants to meet minimum parking requirements through use of nearby, off-site facilities with the approval of the City's Transportation Manager. Furthermore, new construction and building additions of 10,000 square feet or more are required to develop a TDM Plan to reduce trip generion by 20 percent below standard use rates. The TDM Plan may include participation in a Transportation Management Association, preferred parking for carpools/vanpools, public and/or private bike-share programs, subsidy for alternative transportation (e.g., carpool/vanpool, shuttles, and bus service including transit passes), alternative work schedules, car-share membership, emergency ride home, and other measures to reduce trip generation.

The proposed Zoning Ordinance update also includes Residential and Non-Residential Green Building Requirements. These green building requirements identify standards based on the size of new construction and additions and/or alterations to an existing building. New large projects are required to be built to achieve Leadership in Energy and Environmental Design (LEED) silver (over 10,000 square feet but less than 100,000 square feet) and gold (over 101,000 square feet). The Zoning Ordinance update also requires installation of electric vehicle (EV) chargers. New construction is also required to meeting 100 percent of electricity and natural gas demand through either onside generation and/or purchase of renewable electricity or electricity credits (or combination) to offset energy use. The Zoning Ordinance update also requires that applicants submit a zero-waste management plan to the City, which will cover how the applicant plans to minimize waste to landfill and incineration.

Despite implementation of the policies listed above and new requirements in the Zoning Ordinance update, as identified in Table 4.2-8, criteria air pollutant emissions associated with development allowed the proposed project would generate a substantial net increase in emissions that exceeds the BAAQMD regional significance thresholds. Because cumulative development within the City of Menlo Park could exceed the regional significance thresholds, the project could contribute to an increase in adverse health effects in the Air Basin until the attainment standards are met. Criteria air pollutant emissions would be generated from on-site area sources (e.g., landscaping fuel, consumer products), vehicle trips generated by the proposed project, and energy use (e.g., natural gas used for cooking and heating).

The BAAQMD is the primary agency responsible for ensuring the health and welfare of individuals sensitive to elevated concentrations of air pollutants in the Air Basin. To achieve the health-based standards established by the US EPA and CARB, BAAQMD prepares an air quality management plan that details regional programs to attain the AAQS.

However, as stated above, because cumulative development within Menlo Park could exceed the regional significance thresholds, the project could contribute to an increase in adverse health effects in the SFBAAB until the attainment standards are met. Consequently, impacts are *significant*.

Applicable Regulations:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 CCR: Appliance Energy Efficiency Standards

- Title 24, Part 6, CCR: Building and Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code
- BAAQMD Regulation 8, Rule 7, Gasoline Dispensing Facilities

Impact AQ-2a: Despite implementation of the proposed project policies listed in Table 4.2-8, criteria air pollutant emissions associated with the proposed project would cause a substantial net increase in emissions that exceeds the BAAQMD regional significance thresholds.

Mitigation Measure AQ-2a: Prior to issuance of building permits, development project applicants that are subject to CEQA and exceed the screening sizes in the Bay Area Air Quality Management District's (BAAQMD) CEQA Guidelines shall prepare and submit to the City of Menlo Park a technical assessment evaluating potential project operation-phase-related air quality impacts. The evaluation shall be prepared in conformance with the BAAQMD methodology in assessing air quality impacts. If operational-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as identified in BAAQMD's CEQA Guidelines, the City of Menlo Park Community Development Department shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational activities.

Significance With Mitigation: Significant and unavoidable. The General Plan includes goals, policies, and programs, listed above and under AQ-1, that would minimize emissions to the extent feasible. Mitigation Measure AQ-2a would require implementation of BAAQMD-approved mitigation measures if subsequent environmental review determines that applicants for future development in Menlo Park could generate operational emissions in excess of the BAAQMD significance thresholds. An analysis of emissions generated from the operation of specific future projects allowed under the General Plan would be compared to BAAQMD's project-level significance thresholds during individual environmental review. The total criteria air pollutant emissions from operation of future development projects under the proposed project would be substantial and would contribute to increases in concentrations of air pollutants, which could contribute to ongoing violations of air quality standards. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with BAAQMD screening criteria or meet applicable thresholds of significance. The policies proposed in this General Plan as part of the proposed project and measures included the Zoning update that promote active transportation (pedestrian, transit, and bicycle use) improvements would reduce criteria air pollutants, to the extent feasible, as part of this programmatic review of air quality impacts. Additional measures to reduce criteria air pollutant emissions would be considered during individual project-level review based on site-specific and project-specific characteristics to reduce significant impacts as applicable. Because those projects and measures cannot be known at this time, the impact is considered significant and unavoidable.

Construction Emissions

BAAQMD's plan-level guidelines do not require an evaluation of construction emissions for plan-level projects. There is no specific development under the proposed project at this time. Future development proposals would be subject to separate environmental review pursuant to CEQA in order to identify and mitigate potential air quality impacts. Because the details regarding future construction activities are not

known at this time, including their phasing, duration, and equipment, construction emissions are evaluated qualitatively in accordance with BAAQMD's plan-level guidance.

Construction emissions associated with individual development projects would generate an increase in criteria air pollutants and TACs. BAAQMD has developed project-level thresholds for construction activities. Subsequent environmental review of future development projects would be required to assess potential impacts under BAAQMD's project-level thresholds. Construction emissions from buildout of future projects within Menlo Park would primarily be 1) exhaust emissions from off-road diesel-powered construction equipment; 2) dust generated by demolition, grading, earthmoving, and other construction activities; 3) exhaust emissions from on-road vehicles; and 4) off-gas emissions of ROGs from application of asphalt, paints, and coatings.

The existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements contains a general goal and policy that would require local planning and development decisions to consider impacts to air quality, including impacts during construction. The following General Plan policy would serve to minimize potential adverse impacts from fossil fuels during construction:

- Policy OSC-2.7: Conservation of Resources at City Facilities. Reduce consumption of water, energy, landfilled waste, and fossil fuels in the construction, operations and maintenance of City owned and/or operated facilities.

Continued compliance with local and regional air quality regulations that protect air quality that are described throughout this chapter and implementation of General Plan policies and programs would reduce construction-related impacts to the extent feasible. However, if uncontrolled, fugitive dust (PM_{10} and $PM_{2.5}$) levels downwind of actively disturbed areas during construction or overlapping construction activities could violate air quality standards or contribute substantially to an existing or projected air quality violation and expose sensitive receptors to elevated concentrations of pollutants during construction activities.

The BAAQMD is the primary agency responsible for ensuring the health and welfare of individuals sensitive to elevated concentrations of air pollutants in the Air Basin. To achieve the health-based standards established by the US EPA and CARB, BAAQMD prepares an air quality management plan that details regional programs to attain the AAQS. However, because cumulative development within Menlo Park could exceed the regional significance thresholds, the project could contribute to an increase in adverse health effects in the SFBAAB until attainment standards are met. Consequently, impacts are *significant*.

Applicable Regulations

- Title 24, Part 11, CCR: Green Building Standards Code
- BAAQMD Regulation 8, Rule 3, Architectural Coatings
- BAAQMD Regulation 8, Rule 4, General Solvent and Surface Coatings Operations
- BAAQMD Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing

Impact AQ-2b: Despite implementation of the proposed project policies, criteria air pollutant emissions associated with the proposed project construction activities would generate a substantial net increase in emissions that exceeds the BAAQMD regional significance thresholds.

AIR QUALITY

Mitigation Measure AQ-2b1: As part of the City's development approval process, the City shall require applicants for future development projects to comply with the current Bay Area Air Quality Management District's basic control measures for reducing construction emissions of PM_{10} (Table 8-1, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of the BAAQMD CEQA Guidelines).

Mitigation Measure AQ-2b2: Prior to issuance of building permits, development project applicants that are subject to CEQA and exceed the screening sizes in the BAAQMD's CEQA Guidelines shall prepare and submit to the City of Menlo Park a technical assessment evaluating potential project construction-related air quality impacts. The evaluation shall be prepared in conformance with the BAAQMD methodology in assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as identified in the BAAQMD CEQA Guidelines, the City of Menlo Park shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during construction activities to below these thresholds (e.g., Table 8-2, Additional Construction Mitigation Measures Recommended for Projects with Construction Emissions Above the Threshold of the BAAQMD CEQA Guidelines, or applicable construction mitigation measures subsequently approved by BAAQMD). These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City's Building Division and/or Planning Division.

Significance With Mitigation: Significant and unavoidable. Mitigation Measure AQ-2a would require adherence to the current Bay Area Air Quality Management District's basic control measures for reducing construction emissions of PM_{10} and would ensure impacts from fugitive dust generated during construction activities are less than significant. Mitigation Measure AQ-2b would require implementation of BAAQMD-approved mitigation measures if determined during subsequent environmental review that applicants for future development in Menlo Park could generate construction exhaust emissions in excess of the BAAQMD significance thresholds. An analysis of emissions generated from the construction of specific future projects under the General Plan would be required to evaluate emissions compared to BAAQMD's project-level significance thresholds during individual environmental review. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with BAAQMD screening criteria or meet applicable thresholds of significance. Over the 24 year horizon of the proposed project, many individual projects would be constructed in the city. It is not possible to predict the specific characteristics of the construction and operation of those projects and accurately model their individual emissions, nor is that appropriate within the scope of this programmatic EIR. Therefore, due to the programmatic nature of the proposed project, no additional mitigation measures are available that could be certain to reduce the emissions of each individual project to a less-than-significant level, and the impact is considered significant and unavoidable.

AQ-3 Implementation of the proposed project would expose sensitive receptors to substantial concentrations of air pollution.

This threshold addresses two types of pollutant concentrations: CO hotspots and TACs.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9.0 ppm. Because CO is produced in the greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited by bridges or tunnels —in order to generate a significant CO impact.[30] Buildout of the proposed project would not increase traffic at affected intersections to these volumes.[31] Trips associated with the proposed project would not exceed the screening criteria of the BAAQMD. In addition, the SFBAAB has been designated attainment under both the national and California AAQS for CO. Therefore, the proposed project would not have the potential to substantially increase CO hotspots at intersections in Menlo Park.

In order to determine the potential for CO hotspots, BAAQMD considers consistency with the relevant Congestion Management Plan, because congested intersections generate unhealthy concentrations of CO. The proposed project would be consistent with C/CAG's 2013 Congestion Management Program (CMP), which is the applicable CMP.[32]

The proposed Land Use (LU) and Circulation (CIRC) Elements, which would be adopted as part of the proposed project, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to air quality, including the potential for CO hotspots. The following goals, policies, and programs would encourage bicycle, pedestrian, and transit use to tie land use and transportation, which in turn ensures consistency with C/CAG's 2013 Congestion Management Program and thus, serve to minimize potential adverse impacts on air quality:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.

[30] Bay Area Air Quality Management District (BAAQMD), 2011 (Revised), *CEQA Air Quality Guidelines*.

[31] TJKM, Inc., 2015, *Administrative Draft Transportation Impact Study Report, Connect Menlo General Plan Update & Facebook Campus Expansion Traffic Impact Analysis*. November 15.

AIR QUALITY

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
  - Policy CIRC-1: Safe Routes to Schools. Support Safe Routes to School programs to enhance the safety of school children who walk and bike to school.
- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.7: Walking and Biking. Provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate roadway design and maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan and the El Camino Real/Downtown Specific Plan.
  - Policy CIRC-2.8: Pedestrian Access at Intersections. Support full pedestrian access across all legs of signalized intersections.
  - Policy CIRC-2.9: Bikeway System Expansion. Expand the citywide bikeway system through appropriate roadway design, maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan, and the El Camino Real/Downtown Specific Plan.
  - Policy CIRC-2.13: County Congestion Management. Work with the County Congestion Management Agency to implement the Countywide Congestion Management Program and Deficiency Plans for City and State facilities, and avoid adding any Menlo Park streets or intersections to the Countywide Congestion Management Program.
  - Policy CIRC-2.15: Regional Transportation Improvements. Work with neighboring jurisdictions and appropriate agencies to identify and secure adequate funding for regional transportation improvements to improve transportation options and reduce congestion in Menlo Park and adjacent communities.
- Goal CIRC-5: Support local and regional transit that is efficient, frequent, convenient, and safe.
  - Policy CIRC-5.1: Transit Service and Ridership. Promote improved public transit service and increased transit ridership, especially to employment centers, commercial destinations, schools, and public facilities.
  - Policy CIRC-5.2: Transit Proximity to Activity Centers. Promote the clustering of as many activities as possible within easy walking distance of transit stops, and locate any new transit stops as close as possible to housing, jobs, shopping areas, open space, and parks.
  - Policy CIRC-5.3: Rail Service. Promote increasing the capacity and frequency of commuter rail service, including Caltrain; protect rail rights-of-way for future transit service; and support efforts to reactivate the Dumbarton Corridor for transit, pedestrian, bicycle, and emergency vehicle use.
  - Policy CIRC-5.4: Caltrain Enhancements. Support Caltrain safety and efficiency improvements, such as positive train control, grade separation (with priority at Ravenswood Avenue), and

electrification, provided that Caltrain service to Menlo Park increases and use of the rail right-of-way is consistent with the City's Rail Policy.

- Policy CIRC-5.6: Bicycle Amenities and Transit. Encourage transit providers within San Mateo County to provide improved bicycle amenities to enhance convenience, including access to transit including bike share programs, secure storage at transit stations and on-board storage where feasible.
- Program CIRC-5-A: Long-Term Transit Planning. Work with appropriate agencies to agree on long-term peninsula transit service that reflects Menlo Park's desires and is not disruptive to the city.

- Goal CIRC-6: Provide a range of transportation choices for the Menlo Park community.
  - Policy CIRC-6.1: Transportation Demand Management. Coordinate Menlo Park's transportation demand management efforts with other agencies providing similar services within San Mateo and Santa Clara Counties.
  - Policy CIRC-6.3: Shuttle Service. Encourage increased shuttle service between employment centers and the Downtown Menlo Park Caltrain station.

Localized air quality impacts related to pollutant concentrations from mobile-source emissions would therefore be *less than significant*.

Applicable Regulations

- AB 1493: Pavley Fuel Efficiency Standards
- CARB Rule 2485 (13 CCR Chapter 10, Section 2485), Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- CARB Rule 2480 (13 CCR Chapter 10, Section 2480), Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- CARB Rule 2477 (13 CCR Section 2477 and Article 8), Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

Significance Without Mitigation: Less than significant.

Toxic Air Contaminants: New Sources

Various industrial and commercial processes (e.g., manufacturing, dry cleaning) allowed under the proposed project would be expected to release TACs. TAC emissions generated by stationary and point sources of emissions within the Air Basin are regulated and controlled by BAAQMD. Emissions of TAC from mobile sources are regulated by statewide rules and regulations, not by BAAQMD, and have the potential to generate substantial concentrations of air pollutants.

New development allowed under the proposed project, such as industrial land uses and research and development land uses, as well as dry cleaners and gas stations, would have the potential to generate substantial stationary sources of emissions and would require a permit from BAAQMD for emissions of TACs. Emissions of stationary source TACs would be controlled by BAAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality

permits under BAAQMD Regulation 2, Rule 2, New Source Review, and Rule 5, New Source Review of Toxic Air Contaminants.

Mobile sources of TACs are not regulated by BAAQMD. The primary mobile sources of TACs within Menlo Park are truck idling and use of off-road equipment at warehousing operations. Warehousing operations could generate a substantial amount of DPM emissions from off-road equipment use and truck idling. In addition, some warehousing and industrial facilities may include use of transport refrigeration units (TRUs) for cold storage. New land uses in Menlo Park that are permitted under the proposed project that use trucks, including trucks with TRUs, could generate an increase in DPM that would contribute to cancer and non-cancer health risk in the Air Basin. Impacts could occur at facilities that permit 100 or more truck trips per day or 40 or more trucks with TRUs within 1,000 feet of a sensitive land use. These new land uses could be near existing sensitive receptors within and outside the Study Area. In addition, trucks would travel on regional transportation routes through the Air Basin, contributing to near-roadway DPM concentrations.

The existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Element contain a general goal and policy that would require local planning and development decisions to consider impacts to air quality, including impacts from community risk and hazards. The following General Plan goal and policy would serve to minimize potential conflicts between land uses:

- Goal OSC-5: Ensure Healthy Air Quality And Water Quality. Enhance and preserve air quality in accord with State and regional standards, and encourage the coordination of total water quality management including both supply and wastewater treatment.
    - Policy OSC-5.2: Development in Industrial Areas. Evaluate development projects in industrial areas for impacts to air and water resources in relation to truck traffic, hazardous materials use and production-level manufacturing per the California Environmental Quality Act (CEQA) and require measures to mitigate potential impacts to less than significant levels.

However, these policies do not identify BAAQMD's performance standards (ten in one million [10E-06], $PM_{2.5}$ concentrations exceed 0.3 $\mu g/m^3$, or the appropriate noncancer hazard index exceeds 1.0). Consequently, mitigation is needed to ensure that new projects are evaluated in accordance with BAAQMD's CEQA Guidelines. Community risk, and hazard impacts are potentially *significant*.

Applicable Regulations

- CARB Rule 2485 (13 CCR Chapter 10, Section 2485), Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- CARB Rule 2480 (13 CCR Chapter 10, Section 2480), Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- CARB Rule 2477 (13 CCR Section 2477 and Article 8), Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate
- BAAQMD, Regulation 2, Rule 2, New Source Review
- BAAQMD, Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- BAAQMD Regulation 6, Rule 1, General Requirements

Impact AQ-3a: Warehousing operations could generate a substantial amount of DPM emissions from off-road equipment use and truck idling. In addition, some warehousing, research and development, and industrial facilities may include use of transport refrigeration units (TRUs) for cold storage that could expose sensitive receptors to substantial pollutant concentrations.

Mitigation Measure AQ-3a: Applicants for future non-residential land uses within the city that: 1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered TRUs, and 2) are within 1,000 feet of a sensitive land use (e.g., residential, schools, hospitals, nursing homes), as measured from the property line of a proposed project to the property line of the nearest sensitive use, shall submit a health risk assessment (HRA) to the City of Menlo Park prior to future discretionary project approval. The HRA shall be prepared in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment and the Bay Area Air Quality Management District. If the HRA shows that the incremental cancer risk exceeds 10 in one million (10E-06), $PM_{2.5}$ concentrations exceed 0.3 $\mu g/m^3$, or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. Mitigation measures may include but are not limited to:

- Restricting idling on-site beyond Air Toxic Control Measures idling restrictions, as feasible.
- Electrifying warehousing docks.
- Requiring use of newer equipment and/or vehicles.
- Restricting off-site truck travel through the creation of truck routes.

Mitigation measures identified in the project-specific HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site development plan as a component of a proposed project.

Significance With Mitigation: Less than significant. Buildout of the proposed project could result in new sources of criteria air pollutant emissions and/or toxic air contaminants near existing or planned sensitive receptors. Existing and proposed project policies would reduce concentrations of TACs and $PM_{2.5}$ generated by new development. Review of projects by BAAQMD for permitted sources of air toxics (e.g., industrial facilities, dry cleaners, and gasoline dispensing facilities) would ensure health risks are minimized. Mitigation Measure AQ-3a would ensure that mobile sources of TACs not covered under BAAQMD permits are considered during subsequent project-level environmental review. Development of individual projects would be required to achieve the incremental risk thresholds established by BAAQMD.

Toxic Air Contaminants: Siting of Sensitive Receptors

Evaluation of impacts of the environment on the proposed project is not a CEQA issue unless it would exacerbate an environmental hazard or such analysis is identified in the Public Resources Code (i.e., exception) (*California Building Industry Association v BAAQMD* [2015]). Siting sensitive receptors proximate to existing sources of TACs and $PM_{2.5}$ would not exacerbate the environmental hazard (i.e., concentration of TACs or $PM_{2.5}$). However, community risk and hazards from placement of sensitive receptors proximate to major sources of TACs and $PM_{2.5}$ has been incorporated into the environmental assessment in order for the City to consider potential health and welfare implications from siting new

sensitive receptors. Existing TAC sources within Menlo Park include stationary sources permitted by BAAQMD, roadways with more than 10,000 annual average daily traffic, and highways or freeways.

Stationary sources in Menlo Park were identified using BAAQMD's Stationary Source Screening Analysis Tool. Figure 4.2-1 identifies several major areas of the city that have the potential to expose sensitive receptors to substantial pollutant concentrations within 1,000 feet of the sources identified. Potential stationary sources in or near Menlo Park include industrial uses, emergency diesel generators, auto body repair and refinishing facilities, gas stations, dry cleaners, and other miscellaneous sources.[33]

High-volume roadways with over 10,000 vehicles per day were also mapped. In the maximum 2040 citywide buildout, a total of 15 high volume local roadways were identified within 1,000 feet of the City, including Alameda De Las Pulgas, Alpine Road, Bay Road, Haven Avenue, Juniper Serra Boulevard, Marsh Road, Middlefield Road, Oak Grove Avenue, O'Brien Avenue, Ravenswood Avenue, Sand Hill Road, Santa Cruz Avenue, Sharon Park Drive, Valpariaiso Avenue, and Will Road.[34] Additionally, State Route 82 (El Camino Real), State Route 84 (Bayfront Expressway), Highway 101, and Interstate 280 transect the City and have over 100,000 average annual daily vehicle trips.

The Caltrain rail line is included in Figure 4.2-1 because Caltrain uses diesel-fueled locomotives, which emit TACs. Figure 4.2-1 also identifies high-volume roadways that may warrant a 500-foot screening analysis to determine potential impacts and a 200-foot screening buffer for rail lines. Because these are screening distances, refined analysis of the effects from many of the high volume roadways and rail lines would likely show much lower potential TAC exposure and smaller buffer zones.

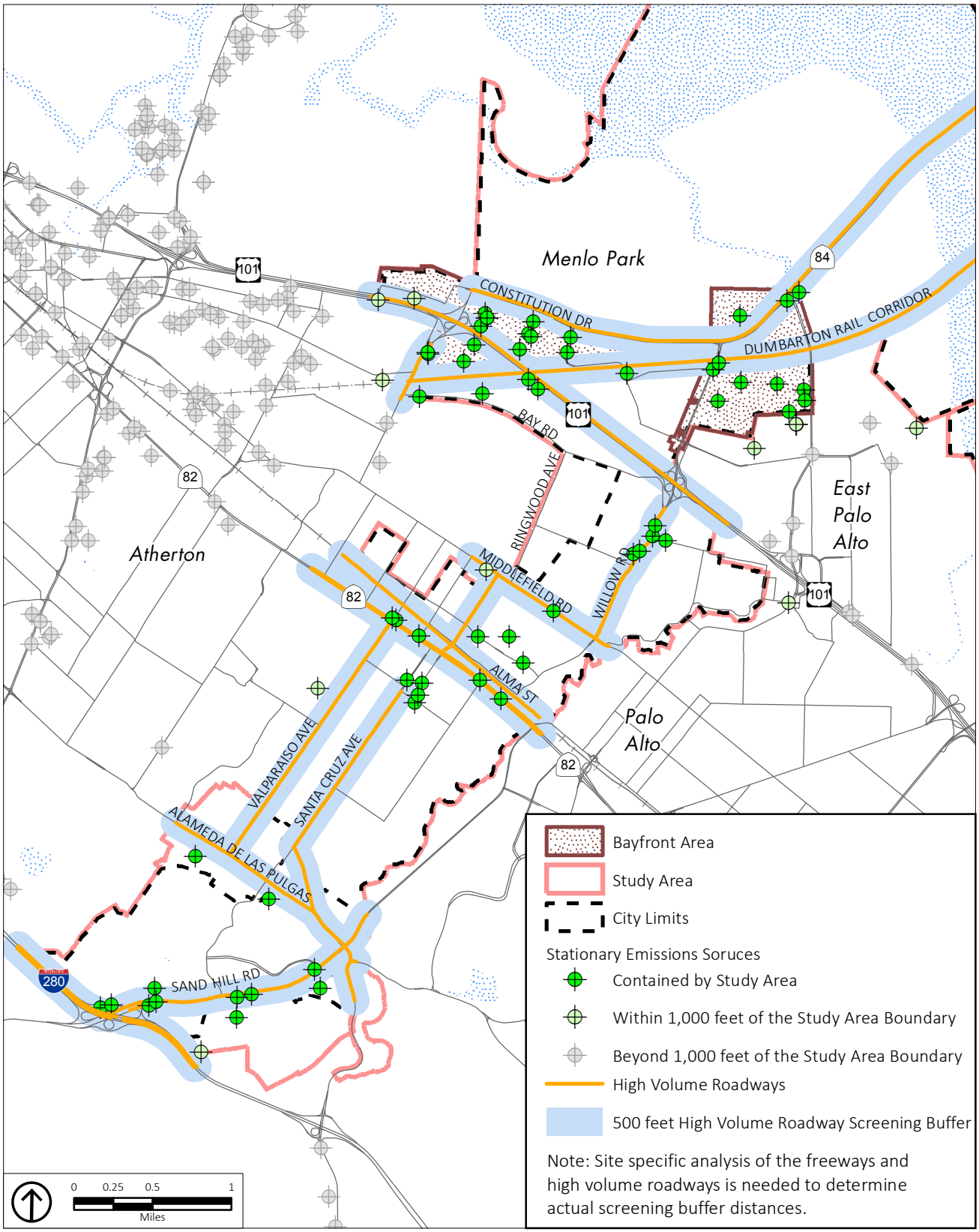
A refined analysis or site-specific health risk assessment should be conducted for all new sensitive sources that are sited within the buffer zone (see Figure 4.2-1), which includes high-volume roadways within 500-feet, rail lines within 200 feet, and major stationary sources within 1,000 feet of a new sensitive land use to determine the actual health impact.

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, contains a general goal and policy that would require local planning and development decisions to consider impacts from community risk and hazards. The following General Plan policy would serve to continue to minimize potential adverse impacts on sensitive receptors from substantial concentrations pollutants:

- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
    - Policy LU-2.3: Mixed Use Design. Allow mixed-use projects with residential units if project design addresses potential compatibility issues such as traffic, parking, light spillover, dust, odors, and transport and use of potentially hazardous materials.

[33] Bay Area Air Quality Management District, 2012, Tools and Methodology, Stationary Source Screening Analysis Tool, http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools, May 30. Accessed on September 14, 2015.

[34] TJKM, Inc., 2015, *Administrative Draft Transportation Impact Study Report, Connect Menlo General Plan Update & Facebook Campus Expansion Traffic Impact Analysis*. November 15.



Source: City of Menlo Park; PlaceWorks, 2015; Bay Area Quality Management District, 2012.

Figure 4.2-1
Sources of Toxic Air Contaminants in the City of Menlo Park

AIR QUALITY

Implementation of the General Plan policies and programs would minimize impacts from community risk and hazards. However, future projects proximate to major sources air pollution (e.g., within 1,000 feet of an industrial area) would need to ensure that they could achieve BAAQMD's performance standards (ten in one million [10E-06], $PM_{2.5}$ concentrations exceed 0.3 µg/m^3, or the appropriate noncancer hazard index exceeds 1.0). The following mitigation measure is recommended to ensure that new sensitive land uses are protected from elevated concentrations of air pollutants. However, since environmental impacts on new sensitive receptors are not subject to CEQA, no impact determination has been made.

Applicable Regulations

- AB 1493: Pavley Fuel Efficiency Standards

Impact AQ-3b: Placement of new sensitive land uses near major sources of air pollution could be exposed to elevated concentrations of air pollutants.

Mitigation Measure AQ-3b: Applicants for residential and other sensitive land use projects (e.g., hospitals, nursing homes, day care centers) in Menlo Park within 1,000 feet of a major sources of toxic air contaminants (TACs) (e.g., warehouses, industrial areas, freeways, and roadways with traffic volumes over 10,000 vehicle per day), as measured from the property line of the project to the property line of the source/edge of the nearest travel lane, shall submit a health risk assessment (HRA) to the City of Menlo Park prior to future discretionary Project approval. The HRA shall be prepared in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment (OEHHA) and the Bay Area Air Quality Management District. The latest OEHHA guidelines shall be used for the analysis, including age sensitivity factors, breathing rates, and body weights appropriate for children ages 0 to 16 years. If the HRA shows that the incremental cancer risk exceeds ten in one million (10E-06), $PM_{2.5}$ concentrations exceed 0.3 µg/m^3, or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and non-cancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0), including appropriate enforcement mechanisms. Measures to reduce risk may include but are not limited to:

- Air intakes located away from high volume roadways and/or truck loading zones.
- Heating, ventilation, and air conditioning systems of the buildings provided with appropriately sized maximum efficiency rating value (MERV) filters.

Measures identified in the HRA shall be included in the environmental document and/or incorporated into the site development plan as a component of the proposed project. The air intake design and MERV filter requirements shall be noted and/or reflected on all building plans submitted to the City and shall be verified by the City's Building Division and/or Planning Division.

Significance With Mitigation: Less than significant. Placement of new sensitive receptors near major sources of TACs and $PM_{2.5}$ could expose people to substantial pollutant concentrations. General Plan policies would reduce concentrations of criteria air pollutant emissions and air toxics generated by new development. Mitigation Measure AQ-3b would ensure that placement of sensitive receptors near major sources of air pollution would achieve the incremental risk thresholds established by BAAQMD.

AQ-4 Implementation of the proposed project would not create or expose a substantial number of people to objectionable odors.

Potential impacts could occur if new sources of nuisance odors are placed near sensitive receptors. Table 4.2-9 identifies screening distances from potential sources of objectionable odors within the Air Basin. Odors from these types of land uses are regulated under BAAQMD Regulation 7, Odorous Substances.[35]

TABLE 4.2-9 BAAQMD ODOR SCREENING DISTANCES

Land Use/Type of Operation	Screening Distance
Wastewater Treatment Plan	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plan	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/ Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles

Source: Bay Area Air Quality Management District (BAAQMD), 2011, California Environmental Quality Act Air Quality Guidelines, Table 3-3, Odor Screening Distances, and associated Appendix D of these Guidelines.

While not all sources in Table 4.2-9 are found in Menlo Park (e.g., rendering plants, confined animal facilities), commercial and industrial areas in Menlo Park have the potential to include land uses that generate nuisance odors.

[35] It should be noted that while restaurants can generate odors, these sources are not identified by BAAQMD as nuisance odors since they typically do not generate significant odors that affect a substantial number of people. Larger restaurants that employ five or more people are subject to BAAQMD Regulation 7, Odorous Substances.

AIR QUALITY

Buildout permitted under the proposed project could include new sources of odors, such as composting, greenwaste, and recycling operations; food processing; and painting/coating operations, because these are types of uses in the commercial and/or industrial areas in the city. Future environmental review could be required for industrial projects listed in Table 4.2-9, above, to ensure that sensitive land uses are not exposed to objectionable odors. BAAQMD Regulation 7, Odorous Substances, requires abatement of any nuisance generating an odor complaint. Typical abatement includes passing air through a drying agent followed by two successive beds of activated carbon to render air odor free. Facilities listed in Table 4.2-9 would need to consider measures to reduce odors as part of their CEQA review.

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, contains general goals and policies that would require local planning and development decisions to consider impacts to air quality, including objectionable odors. The following General Plan goals and policies would serve to minimize potential conflicts between land uses:

- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
  - Policy LU-2.3: Mixed Use Design. Allow mixed-use projects with residential units if project design addresses potential compatibility issues such as traffic, parking, light spillover, dust, odors, and transport and use of potentially hazardous materials.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

Review of projects using BAAQMD's odor screening distances during future CEQA review, implementation of Policy above, and compliance with BAAQMD Regulation 7 would ensure that odor impacts are minimized and are *less than significant*.

Applicable Regulations

- California Health & Safety Code, Section 114149
- BAAQMD Regulation 7, Odorous Substances.

4.2.4 CUMULATIVE IMPACTS

AQ-5	**Implementation of the proposed project would cumulatively contribute to air quality impacts in the San Francisco Bay Area Air Basin.**

The cumulative area of analysis is the Air Basin. As identified in Section 4.2.1, Environmental Setting, California is divided into air basins for the purpose of managing the air resources of the state on a regional basis based on meteorological and geographic conditions. Similar to GHG emissions impacts, air quality impacts are regional in nature as no single project generates enough emissions that would cause an air basin to be designated as nonattainment area. Criteria air pollutant emissions generated by cumulative

development associated with buildout of the General Plan (ROG, NO_x, PM_{10}, and $PM_{2.5}$, as identified in Table 4.2-8) would exceed BAAQMD's project-level significance thresholds and would contribute to the nonattainment designations of the Air Basin. The Air Basin is currently designated a nonattainment area for California and National O_3, California and National $PM_{2.5}$, and California PM_{10} AAQS. Therefore, in combination with past, present, and reasonably foreseeable projects elsewhere within the Air Basin, the proposed project, even with implementation of applicable regulations, would result in a *significant* cumulative impact with respect to air quality.

Applicable Regulations and Conditions of Approval:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 CCR: Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building and Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code
- CARB Rule 2485 (13 CCR Chapter 10, Section 2485), Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- CARB Rule 2480 (13 CCR Chapter 10, Section 2480), Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- CARB Rule 2477 (13 CCR Section 2477 and Article 8), Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate
- BAAQMD, Regulation 2, Rule 2, New Source Review
- BAAQMD, Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- BAAQMD Regulation 6, Rule 1, General Requirements
- BAAQMD Regulation 6, Rule 2, Commercial Cooking Equipment
- BAAQMD Regulation 7, Odorous Substances
- BAAQMD Regulation 8, Rule 3, Architectural Coatings
- BAAQMD Regulation 8, Rule 4, General Solvent and Surface Coatings Operations
- BAAQMD Regulation 8, Rule 7, Gasoline Dispensing Facilities
- BAAQMD Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing

Impact AQ-5: Despite implementation of the General Plan policies, criteria air pollutant emissions associated with the General Plan would generate a substantial net increase in emissions that exceeds the BAAQMD regional significance thresholds, and impacts would be *significant*.

Mitigation Measure AQ-5: Implement Mitigation Measures AQ-2a through AQ-3b.

Significance With Mitigation: Significant and unavoidable. Criteria air pollutant emissions generated by land uses within the proposed project could exceed the BAAQMD thresholds (see Impact AQ-2). Air quality impacts identified in the discussion under Impact AQ-2 constitute the proposed project's contribution to cumulative air quality impacts in the SFBAAB. Mitigation measures AQ-2a through AQ-3b, identified previously to reduce project-related emissions, would reduce impacts to the extent feasible. Due to the programmatic nature of the proposed project, no additional mitigation measures are available. Air pollutant emissions associated with the proposed project would result in a cumulatively considerable contribution to air quality impacts.

AIR QUALITY

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4.3 BIOLOGICAL RESOURCES

This chapter provides information on biological resources found within and in the immediate vicinity of Menlo Park. An evaluation of the potential impacts that the proposed project may have on the biological resources in the study area is provided. A summary of the regulatory framework, which provides for the protection and conservation of important biological resources, is also included.

4.3.1 ENVIRONMENTAL SETTING

4.3.1.1 REGULATORY FRAMEWORK

Federal Regulations

The federal laws that regulate the treatment of biological resources include the Federal Endangered Species Act, the Clean Water Act, and the Migratory Bird Treaty Act. The following sections outline the relevant principles of each.

Federal Endangered Species Act (FESA)

The U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) is responsible for implementation of the Federal Endangered Species Act (FESA) (16 U.S.C. Section 1531 *et seq.*). The Act protects fish and wildlife species that are listed as threatened or endangered, and their habitats. "Endangered" species, subspecies, or distinct population segments are those that are in danger of extinction through all or a significant portion of their range, and "threatened" species, subspecies, or distinct population segments are likely to become endangered in the near future.

Section 9 of the FESA prohibits the take of any fish or wildlife species listed as endangered, including the destruction of habitat that prevents the species' recovery. Take is defined as an action or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, or collect a species. Section 9 prohibitions also apply to threatened species unless a special rule has been defined with regard to take at the time of listing.

Under Section 9 of the FESA, the take prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the unlawful removal and reduction to possession, or malicious damage or destruction, of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in nonfederal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed or under petition for listing receive no protection under Section 9.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions between the United States and Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, this Act provides that it is unlawful to pursue, hunt, take, capture or kill,

attempt to take, capture or kill, possess, offer, sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg or product, manufactured or not.

In short, under the MBTA it is illegal to remove vegetation containing nests that are in active use, since this could result in death of a bird or destruction of an egg. This would also be a violation of California Department of Fish and Wildlife (CDFW) code (see State Regulations below).

Clean Water Act

The federal Clean Water Act (CWA) is the primary federal law regulating water quality. The implementation of the CWA is the responsibility of the United States Environmental Protection Agency (U.S. EPA). The U.S. EPA depends on other agencies, such as the individual state government and the United States Army Corps of Engineers (USACE), to assist in implementing the CWA. The objective of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 401 and 404 apply to project activities that would impact waters of the U.S. (U.S.) (creeks, ponds, wetlands, etc.).

Section 404

The USACE, the federal agency charged with investigating, developing, and maintaining the country's water and related resources, is responsible under Section 404 of the CWA for regulating the discharge of fill material into waters of the U.S. Waters of the United States and their lateral limits are defined in Part 328.3(a) of Title 33 of the Code of Federal Regulations (CFR) and include streams that are tributaries to navigable waters and adjacent wetlands. The lateral limits of jurisdiction for a non-tidal stream are measured at the line of the Ordinary High Water Mark or the limit of adjacent wetlands. Any permanent extension of the limits of an existing water of the U.S., whether natural or human-made, results in a similar extension of USACE jurisdiction.[1]

In general, a USACE permit must be obtained before an individual project can place fill or grade in wetlands or other waters of the U.S. and mitigation for such actions will be required based on the conditions of the USACE permit. The USACE will be required to consult with the USFWS and/or the NMFS under Section 7 of the FESA if the action being permitted under the CWA could affect federally listed species.

Section 401

Pursuant to Section 401 of the Clean Water Act, projects that require a USACE permit for discharge of dredge or fill material must obtain a water quality certification or waiver that confirms the project complies with State water quality standards, or a no-action determination, before the USACE permit is valid. State water quality is regulated and administered by the State Water Resources Control Board (SWCB). The Plan Area is within jurisdiction of the San Francisco Bay Regional Water Quality Control Board

[1] 33 CFR Part 328.5.

(RWQCB). In order for the applicable RWQCB to issue a 401 certification, a project must demonstrate compliance with the California Environmental Quality Act (CEQA).

State Regulations

The most relevant State laws regulating biological resources are the California Endangered Species Act, the California Fish and Game Code, the California Native Plant Protection Act, and the Marine Life Protection Act, each of which is described below.

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Section 2050 *et seq.*) establishes State policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that State agencies should not approve projects that jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect a species that is on the federal and State lists, compliance with the FESA satisfies the CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with the CESA under California Fish and Game Code Section 2080.1. For projects that would result in take of a species that is only State listed, the project proponent must apply for a take permit under Section 2081(b).

California Fish and Game Code

Under the California Fish and Game Code, the CDFW provides protection from "take" for a variety of species. The CDFW also protects streams, water bodies, and riparian corridors through the Streambed Alteration Agreement process under Section 1601 to 1606 of the California Fish and Game Code. The California Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying the Department, incorporating necessary mitigation, and obtaining a Streambed Alteration Agreement. CDFW's jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

California Fish and Game Code Sections 1600 through 1616 regulate development to avoid and mitigate impacts or modification to rivers, streams, or lakes. Modification is defined as diverting or obstructing the natural flow of, or substantially changing or using any material from the bed, channel, or bank of, any river, stream or lake.

California Fish and Game Code Section 3503.5 prohibits "take," possession, or destruction of any raptor (bird of prey species in the orders Falconiformes and Strigiformes), including their nests or eggs. Violations of this law include destruction of active raptor nests as a result of tree removal and disturbance to nesting pairs by nearby human activity that causes nest abandonment and reproductive failure.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 prohibits importation of rare and endangered plants into California, "take" of rare and endangered plants, and sale of rare and endangered plants. The CESA

defers to the California Native Plant Protection Act, which ensures that State-listed plant species are protected when State agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the California Native Plant Protection Act are not protected under the CESA but rather under CEQA.

California Native Plant Society (CNPS) is a non-governmental conservation organization that has developed a list of plants of special concern in California. The following explains the designations for each plant species:[2]

- Rank 1A – Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
- Rank 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere
- Rank 2A – Plants Presumed Extirpated in California, But Common Elsewhere
- Rank 2B – Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- Rank 3 – Plants About Which More Information is Needed - A Review List
- Rank 4 – Plants of Limited Distribution - A Watch List

California Natural Communities

Sensitive natural communities are natural community types considered to be rare or of a "high inventory priority" by the CDFW. Although sensitive natural communities have no legal protective status under the federal ESA or CESA, they are provided some level of consideration under CEQA. Appendix G of the CEQA Guidelines identifies potential impacts on a sensitive natural community as one of six criteria to consider in determining the significance of a proposed project. While no thresholds are established as part of this criterion, it serves as an acknowledgement that sensitive natural communities are an important resource and, depending on their rarity, should be recognized as part of the environmental review process. The level of significance of a project's impact on any particular sensitive natural community will depend on that natural community's relative abundance and rarity.

As an example, a discretionary project that has a substantial adverse effect on any riparian habitat, native grassland, valley oak woodland and/or other sensitive natural community would normally be considered to have a significant effect on the environment. Further loss of a sensitive natural community could be interpreted as substantially diminishing habitat, depending on its relative abundance, quality and degree of past disturbance, and the anticipated impacts to the specific community type.

Porter-Cologne Water Quality Control Act

This Act authorizes the RWQCB to regulate the discharge of waste that could affect the quality of the State's waters. Projects that do not require a federal permit may still require review and approval by the RWQCB. The RWQCB focuses on ensuring that projects do not adversely affect the "beneficial uses" associated with waters of the State. In most cases, the RWQCB requires the integration of water quality control measures into projects that will require discharge into waters of the State. For most construction projects, the RWQCB requires the use of construction and post-construction Best Management Practices (BMPs). The San Francisco Bay RWQCB would be concerned with stormwater runoff and activities in

[2] California Native Plant Society, 2010, The CNPS Ranking System, http://www.cnps.org/cnps/rareplants/ranking.php accessed on February 27, 2015.

Menlo Park that directly impact creeks, ponds, or wetlands. Also as noted in the discussion of the federal CWA in Section A.1.c, the RWQCB has jurisdiction under section 401 of the CWA.

Oak Woodlands Conservation Act

The California Oak Woodlands Conservation Act[3] of 2001 acknowledges the importance of private land stewardship to the conservation of the state's valued oak woodlands. This Act established the California Oak Woodlands Conservation Program, which aims to conserve oak woodlands existing in the state's working landscapes by providing education and incentives to private landowners. The program provides technical and financial incentives to private landowners to protect and promote biologically-functional oak woodlands.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.3.3, Impact Discussion.

Menlo Park Municipal Code

The City of Menlo Park Municipal Code, organized by title, chapter, and section, contains all ordinances for Menlo Park. Title 16, Zoning, includes regulations relevant to biological resources in Menlo Park as discussed below.

Chapter 12.44, Water-Efficient Landscaping

Chapter 12.44, Water-Efficient Landscaping, includes regulations regarding invasive species and noxious weeds. Invasive species are defined as those plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. A noxious weed refers to any weed designated by the weed control regulations in the Weed Control Act and identified on a regional district noxious weed control list. In addition, Section 12.44.070(1)(F) states that the use of invasive and/or noxious plant species is prohibited.

Chapter 13.24, Heritage Trees

Chapter 13.24, Heritage Trees establishes regulations for the preservation of heritage trees. This chapter defines heritage trees as:

1. Trees of historical significance, special character or community benefit, specifically designated by resolution of the City Council;

[3] California Fish and Game Code Section 1360 et seq.

2. An oak tree (*Quercus* sp.), which is native to California and has a trunk with a circumference of 31.4 inches (diameter of 10 inches) or more, measured at 54 inches above natural grade; and
3. All trees other than oaks, which have a trunk with a circumference of 47.1 inches (diameter of 15 inches) or more, measured 54 inches above natural grade, with the exception of trees that are less than 12 feet in height, which will be exempt from this section.

For residential properties, one tree must be planted for each tree removed. The City provides a list of recommended trees, which are subject to review and approval beforehand by the City Arborist.[4]

To protect heritage trees, Section 13.24.025 requires that a tree protection plan prepared by a certified arborist be submitted for any work performed within a tree protection zone, which is an area ten times the diameter of the tree. Furthermore, all tree protection plans should be reviewed and approved by the Director of Community Development or his or her designee prior to issuance of any permit for grading or construction.

The removal of heritage trees or pruning of more than one-fourth of the branches or roots within a 12-month period requires a permit from the City's Director of Public Works or his or her designee and payment of a fee. The Director of Public Works may issue a permit when the removal or major pruning of a heritage tree is reasonable based on a number of criteria, including condition of the tree, need for removal to accommodate proposed improvements, the ecological and long-term value of the tree, and feasible alternatives that would allow for tree preservation.

Tree Protection Specifications

Additionally, Menlo Park has established a series of construction-related Tree Protection Specification measures that must be taken to protect any trees that are not designated for removal.[5] The construction-related measures include designating at Tree Protection Zone, requiring the oversight of a project arborist, protective fencing, sheeting, and paying particular attention to minimize damage to tree roots, limbs, or the spilling of harmful materials at the roots of these trees during the laying of piping.

Stanford University Habitat Conservation Plan

Stanford University in partnership with U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA Fisheries) developed a Habitat Conservation Plan (HCP) in order to maintain populations of species covered under the Environmental Species Act (ESA) inhabiting land owned by Stanford University. The HCP sets forth goals and objectives that aim to enhance and protect listed species' habitat, including riparian vegetation, creeks, grasslands, and seasonal wetlands. The HCP and Final Environmental Impact Statement was published in November 2012 and the HCP was updated in March 2013.[6] The conservation goals and objectives set forth by the HCP apply to all land owned by

[4] City of Menlo Park, 2014. *City-Approved Tree Species for Planting in Front of Homes and Businesses*. http://www.menlopark.org/documentcenter/view/1315, accessed on February 26, 2015.

[5] City of Menlo Park. *Tree Protection Specifications*. http://www.menlopark.org/documentcenter/view/90, accessed on February 26, 2015.

[6] Stanford University Habitat Conservation Plan, http://hcp.stanford.edu/about.html, accessed on December 22, 2015.

Stanford University which totals 8,180 acres in four cities: Palo Alto, Menlo Park, Woodside, and Portola Valley. Portions of Menlo Park and unincorporated San Mateo County are located within the Stanford University HCP area.[7]

San Francisco Bay Conservation and Development Commission

In 1969, the McAteer-Petris Act designated the San Francisco Bay Conservation and Development Commission (BCDC) as the agency responsible for the protection of the San Francisco Bay and its natural resources. BCDC fulfills this mission through the implementation of the San Francisco Bay Plan (Bay Plan), an enforceable plan that guides the future protection and use of San Francisco Bay and its shoreline. The Bay Plan includes a range of policies on public access, water quality, fill, and project design, and designates shoreline areas that should be reserved for water-related purposes like ports, industry, and public recreation, airports, and wildlife areas.

As a permitting authority along the San Francisco Bay shoreline, BCDC is responsible for granting or denying permits for any proposed fill, extraction of materials, or change is use of any water, land, or structure within the Commission's jurisdiction. Projects in BCDC jurisdiction that involve Bay fill must be consistent with the Bay Plan policies on the safety of fills and shoreline protection.

San Francisco Bay Basin Water Quality Control Plan

The San Francisco Bay RWQCB adopted a Water Quality Control Plan for the San Francisco Bay Basin (the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan, which includes wetlands in and near the study. It is the RWQCB's master water quality control planning document. The most recent amendments were incorporated into the Basin Plan as of March 2015.[8]

4.3.1.2 EXISTING CONDITIONS

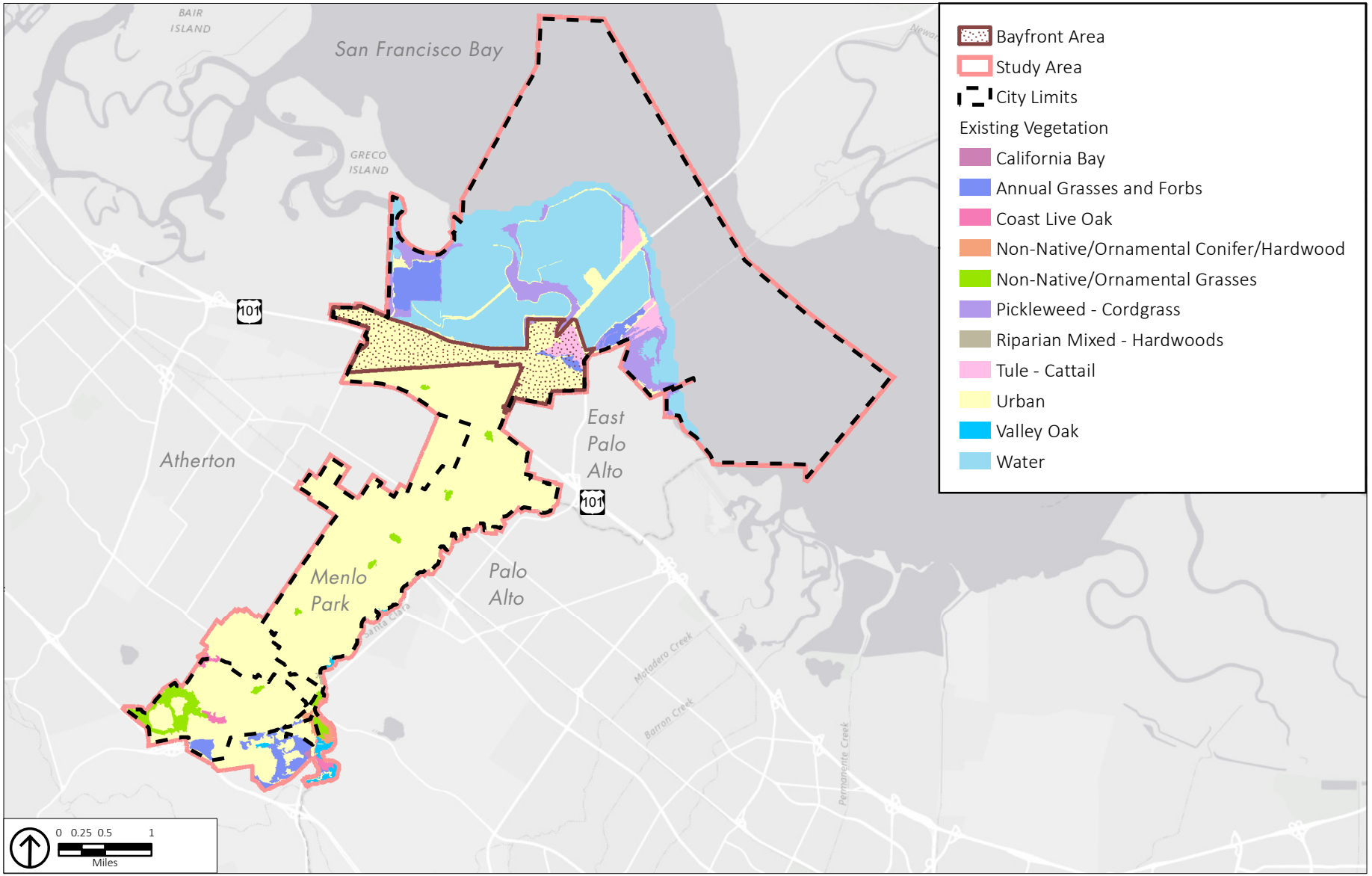
This section provides a discussion of the existing biological conditions in Menlo Park, which includes the natural and built environment, special-status plant and animal species, sensitive habitats, and wildlife dispersal corridor. The Menlo Park General Plan Open Space/Conservation, Noise and Safety Elements provides a useful summary of biological resources in the study area, which are summarized below.

Urbanized and Natural Environment

Most of the Menlo Park Plan Area has been urbanized and is now occupied by structures, roadways and ornamental landscaping. The existing cover types in the study area are shown on Figure 4.3-1.

[7] Stanford University Habitat Conservation Plan, http://hcp.stanford.edu/documents.html, accessed on December 29, 2015.

[8] California Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board website, http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml, accessed on February 27, 2015.



Source: City of Menlo Park, 2015; PlaceWorks, 2015; USDA Forest Service, 2015.

Figure 4.3-1
Existing Vegetation

Of the approximately 6,868 acres in the study area, an estimated 4,035 or roughly 59 percent are urbanized and another 1,939 acres or roughly 28 percent are open waters and tidelands of the Bay. The remaining approximately 13 percent consist of grasslands, marshlands, riparian woodlands, and oak woodlands.

The well-landscaped, suburban character of developed areas of Menlo Park includes parks, yards, and vacant lots which provide habitat for a variety of wildlife species that have adapted to human disturbance. Native and ornamental trees and shrubs in the urban area provide nesting sites for birds such as scrub jays, brewer's black birds, and mourning dove, among others. Urbanized areas also support a range of introduced species that have become adapted to human disturbance. These include common non-native pest species such as house mouse, Norway rat, opossum, and raccoon.

The remaining natural community types in Menlo Park are defined by a combination of dominant plant community characteristics, landform, land use, and ecological function. These natural communities correspond to the geographic regions within the city as noted above, and consist of: coastal salt marsh and salt ponds, tidal mudflats, riparian habitat along San Francisquito Creek, remnant oak woodlands, and grasslands. The natural community types are summarized as follows:

Coastal Salt Marsh and Salt Ponds

Salt ponds and marshes once covered the edges of Bay, including the baylands in Menlo Park. In 1850, the conversion of these marshes through diking and filling began. Menlo Park has large, intact marshes within its borders. Ravenswood Slough, Westpoint Slough, and Flood Point Slough contribute to the approximately 2,300 acres of tidal mudflats and open water, and 300 acres of salt marsh of the City.[9] These salt and brackish water marshes that border the Bay are a part of the Don Edwards Bay National Wildlife Refuge, and are associated with the South Bay Salt Pond Restoration Project.[10] Most of the salt ponds and marshes in or near Menlo Park have been restored to or are retained in an undeveloped state.

Coastal salt marshes are closely associated with tidal action and are characterized by sloughs (marshy creeks). These habitats are dominated by native species such as pickleweed and edged by cordgrass and salt grass. Coastal salt marshes are high biodiversity wildlife habitats, and support a wide variety of native shorebirds, raptors, songbirds, waterfowl, fish, and crustaceans, many of which are considered to be special-status species.

Tidal Mudflats

Tidal mudflats consist of unvegetated mud deposits along the shoreline that are regularly inundated and exposed by the tides of the Bay waters. These mudflats provide habitat for a wide variety of crabs, snails,

[9] City of Menlo Park, 1994. Amendments to the City of Menlo Park General Plan and to the City of Menlo Park General Plan and Zoning Ordinance, Final Environmental Impact Report, page IV.J-1.

[10] San Francisco Bay National Wildlife Refuge Complex Map, http://www.fws.gov/sfbayrefuges/Images/complexmap_no%20inset.jpg, accessed on February 26, 2015.

sea squirts, clams, mussels, and tubeworms.[11] These species offer a rich feeding ground of macro-invertebrates to the migratory and resident shorebirds that travel from as far as Canada and Alaska.[12] At higher tides, large marine species such as leopard sharks, starry flounder, and bat rays feed on these same macro-invertebrates.

San Francisquito Creek

The San Francisquito Creek corridor bisects the study area and continues to support important riparian habitat. It originates southwest of Menlo Park just below Searsville Lake in Jasper Ridge, defines the border of Menlo Park for roughly three miles until it reaches Euclid Avenue at U.S. 101, then turns and drains into the Bay at the border with East Palo Alto. It remains in its natural alignment through much of Menlo Park with riparian woodland forming a canopy of native trees—willow, bay laurels, redwoods, alders, cottonwoods, California buckeye, valley oaks, and coast live oaks.[13] In the urbanized lower reaches of the creek, non-native exotics such as eucalyptus, black locust, acacia, bamboo, pines, and redwoods are mixed in with the native plant species.

Riparian habitats, even in heavily urbanized areas, are very valuable to wildlife, providing opportunities for food, water, and shelter. Areas with remaining riparian woodland habitat support a wide variety of native resident and migratory songbirds, raptors, rodents, bats, and other mammals, as well as fish and amphibians.

Oak Woodlands

Native valley oaks dominate the 88-acre Saint Patrick's Seminary in central Menlo Park, in the vicinity of Middlefield Road and Santa Monica Avenue. Due to its large size, contiguous shape, and relatively healthy condition of native and non-native vegetation, this site has distinct biological value, despite its location within the urbanized city limits. It has been mapped as a sensitive natural community type by the California Natural Diversity Database (CNDDB) (see Figure 4.3-2) because of the abundance of valley oaks in the woodland. Valley oak woodlands are considered by the CDFW to have a high inventory priority because of their relative rarity and threats due to development.

Mature oaks provide nesting and foraging opportunities for birds, including raptors. They also provide essential food resources for animals which include acorns in their diet, such as squirrels and woodpeckers. Other wildlife species that commonly nest or den in woodland habitat include mammals such as woodrats and deer mice, and birds such as owls, raptors, and songbirds. Native reptiles and amphibians associated with this habitat include snakes, newts, and salamanders.

[11] Marine Science Institute, San Francisco Bay Ecology. http://sfbaymsi.org/schoolprograms/refrencelibrary/sfbayecology.html, accessed on February 26, 2015.

[12] South Bay Salt Pond Restoration Project. *Science Update: The Carrying Capacity of Mudflats*, http://www.southbayrestoration.org/news/e-newsletters/nov-2010/article2.html, accessed on February 26, 2015

[13] Stanford University Habitat Conservation Plan. *San Francisquito Creek Watershed*. http://hcp.stanford.edu/sfcreek.html, accessed on February 26, 2015.

Grasslands

The foothills of Menlo Park, located on the city's southwestern border, are dominated by common non-native annual grasses. Portions of this area have been developed with housing and related uses, while another portion of these foothills, owned by Stanford University, have been preserved as open space. Plant species include wild oats, Italian ryegrass, foxtail barley, yellow star thistle, field bindweed, prickly lettuce, prickly ox-tongue, and field mustard. The grasslands are also dotted with taller trees and shrubs, including native California species such as coyote bush, toyon, valley oak, and coast live oak. Non-native trees, such as black walnut, red gum, and acacia, are also present.

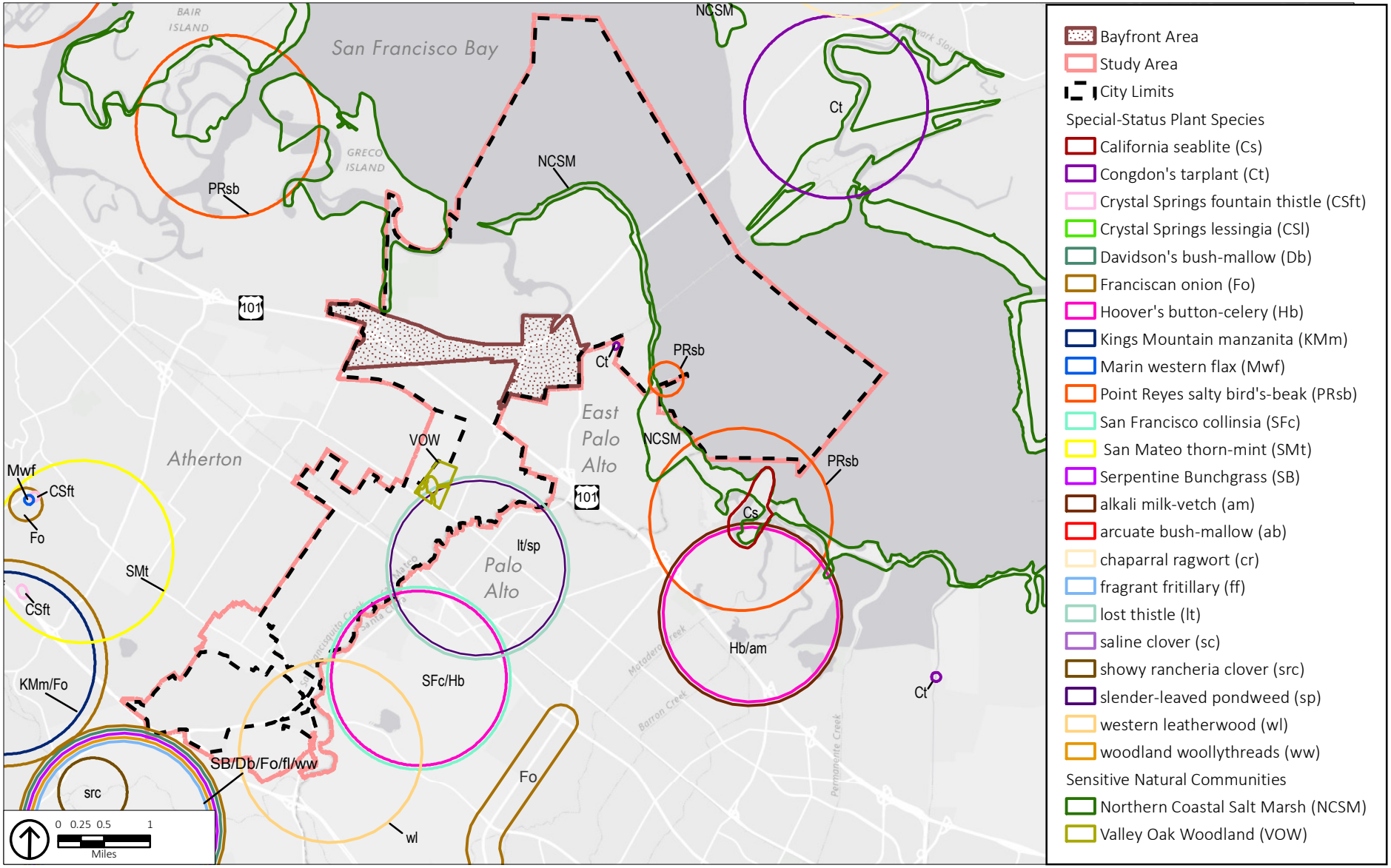
The remaining grassland habitats in the study area provides important foraging habitat for raptors, native prey and predator mammals, and reptiles. Grasslands which are large and contiguous are usually the most species-rich. Some grassland species, such as nesting raptors, are under special protection.

Special-Status Species

Special-status plant and wildlife species include those listed under the State and federal Endangered Species Acts, plants listed by the CNPS *Inventory of Rare and Endangered Vascular Plants of California*, and wildlife designated as Species of Special Concern by the CDFW. The special-status species addressed in this section are based on a review of records from the CNDDB and the CNPS on-line inventory, as well as the information contained in the 2013 Open Space/Conservation Element. For the purposes of this section, special-status species include:

- Species listed, proposed, or candidate species for listing as Threatened or Endangered by the USFWS pursuant to the federal ESA of 1969, as amended;
- Species listed as Rare, Threatened, or Endangered by the CDFW pursuant to the CESA of 1970, as amended;
- Species designated as Fully Protected under Sections 3511 (birds), 4700 (mammals), and 5050 (reptiles and amphibians) of the California Fish and Game Code;
- Species designated by the CDFW as California Species of Concern; and
- Species not currently protected by statute or regulation, but considered rare, threatened, or endangered under CEQA (Section 15380).

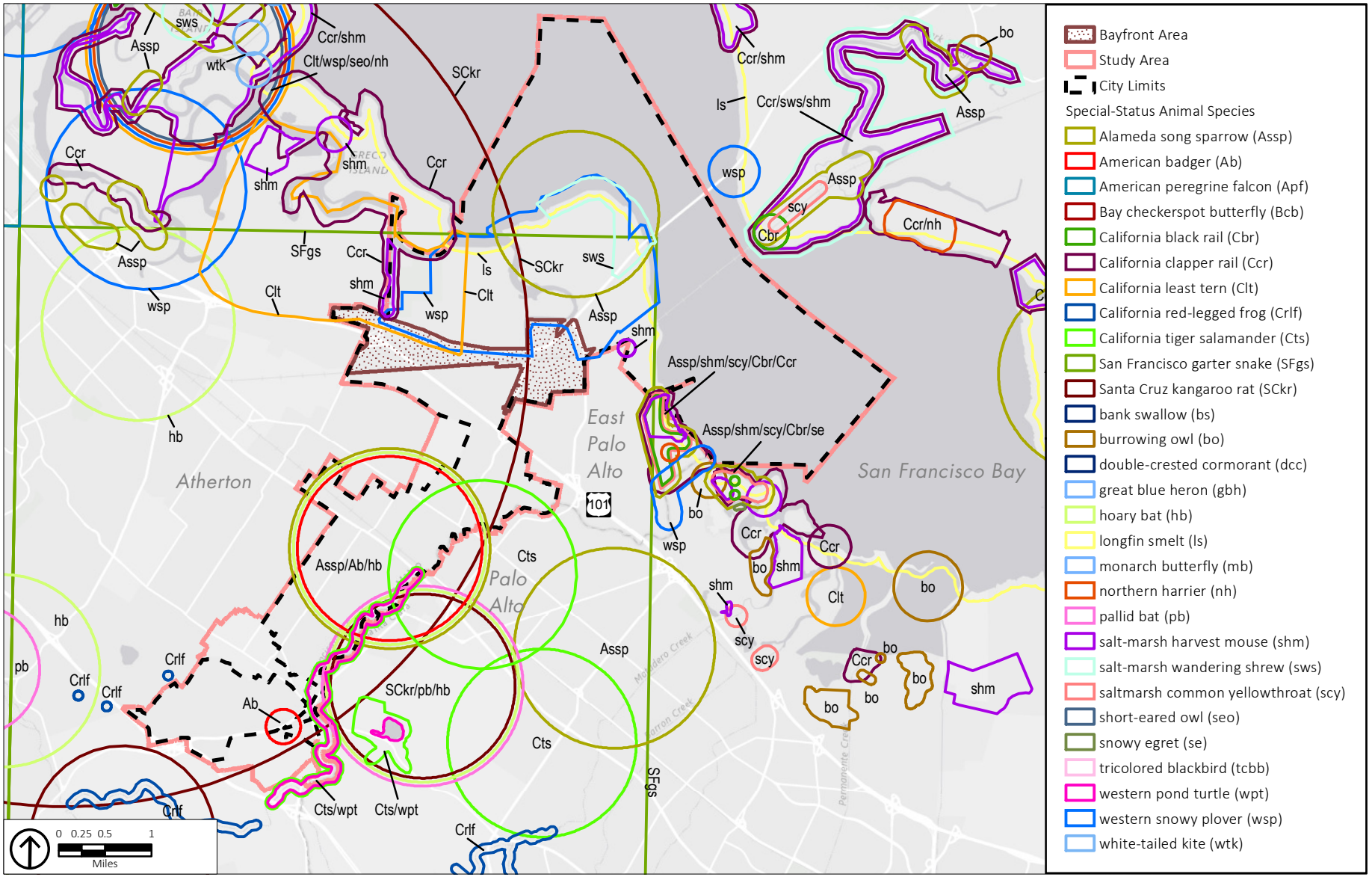
A number of special-status species have been reported from the Menlo Park vicinity. Most of these occurrences are from the remaining natural areas along the shoreline of the Bay, or the open hillsides to the south of the study area. Figures 4.3-2 and 4.3-3 show the known occurrences of special-status plant and animal species, respectively, known from the vicinity of Menlo Park as mapped by the CNDDB. Table 4.3-1 provides a summary of the special-status species which have occurrences reported by the CNDDB extending within the study area, providing information on their status and preferred habitat types. These consist of seven special-status plant species and 14 special-status animal species.



Source: City of Menlo Park, 2015; PlaceWorks, 2015; California National Diversity Database, 2015.

Figure 4.3-2

Special-Status Plant Species and Sensitive Natural Communities



Source: City of Menlo Park, 2015; PlaceWorks, 2015; California National Diversity Database, 2015.

Figure 4.3-3
Special-Status Animal Species

BIOLOGICAL RESOURCES

TABLE 4.3-1 SPECIAL STATUS SPECIES IN MENLO PARK VICINITY

Scientific Name	Common Name	Presence	Federal List	California List	CDFW	CNPS List	General Habitat	Micro Habitation
Plants								
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	Possibly Extirpated	None	None	--	1B.2	Coastal salt marsh.	Usually in coastal salt marsh with *Salicornia, distichlis, jaumea,* and *spartina*.
Cirsium praeteriens	Lost thistle	Presumed Extant	None	None	--	1A	Little information exists on this plant; it was collected from the Palo Alto area at the turn of the 20th century.	Although not seen since 1901, this *cirsium* is thought to be quite distinct from other species.
Collinsia multicolor	San Francisco collinsia	Presumed Extant	None	None	--	1B.2	Closed-cone coniferous forest, coastal scrub.	On decomposed shale (mudstone) mixed with humus.
Dirca occidentalis	western leatherwood	Presumed Extant	None	None	--	1B.2	Upland forest, chaparral, woodland, riparian forest, riparian woodland.	On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities.
Eryngium aristulatum var. hooveri	Hoover's button-celery	Possibly Extirpated	None	None	--	1B.1	Vernal pools.	Alkaline depressions, vernal pools, roadside ditches, and other wet places near the coast.
Hemizonia parryi ssp. congdonii	Congdon's tarplant	Possibly Extirpated	None	None	--	1B.2	Grasslands and disturbed locations.	Alkaline substrates, particularly near seasonal wetland, brackish marsh, and muted tidal marsh.
Stuckenia filiformis	Slender-leaved pondweed	Presumed Extant	None	None	--	2.2	Marshes and swamps.	Shallow, clear water of lakes and drainage channels.
Animals								
Ambystoma californiense	California tiger salamander	Extirpated	Threatened	Threatened	Special Concern		Central Valley DPS federally listed as threatened. Santa Barbara and Sonoma Counties DPS federally listed as endangered.	Need underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding.

TABLE 4.3-1 SPECIAL STATUS SPECIES IN MENLO PARK VICINITY

Scientific Name	Common Name	Presence	Federal List	California List	CDFW	CNPS List	General Habitat	Micro Habitation
Antrozous pallidus	Pallid bat	Presumed Extant	None	None	Special Concern		Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
Athene cunicularia	Western burrowing owl	Presumed Extant	None	None	Special Concern		Grasslands, shrub lands.	Burrows into ground. Uses a variety of natural and artificial burrowing sites. Prefers short grasses.
Charadrius alexandrinus nivosus	Western snowy plover	Presumed Extant	Threatened	None	Special Concern		Sandy beaches, salt pond levees and shores of large alkali lakes.	Needs sandy, gravelly, or friable soils for nesting.
Circus cyaneus	Northern harrier	Presumed Extant	None	None	Special Concern		Grasslands, salt marshes, open habitats with rodent populations.	Ground nesting, typically near shrubs in marshes.
Dipodomys venustus venustus	Santa Cruz kangaroo rat	Presumed Extant	None	None	--		Silverleaf manzanita mixed chaparral in the Zayante sand hills ecosystem of the Santa Cruz Mountains.	Needs soft, well-drained sand.
Emys marmorata	Western pond turtle	Presumed Extant	None	None	Special Concern		A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation.	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.
Lasiurus cinereus	Hoary bat	Presumed Extant	None	None	--		Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding.	Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.
Lanius ludovicianus	Loggerhead shrike	Presumed Extant	None	None	Special Concern		Grasslands, shrub-grasslands, savannah.	Nests in landscaping trees and shrubs. Uses barbed wire to impale prey, and for perching.
Reithrodontomys raviventris	Salt-marsh harvest mouse	Presumed Extant	Endangered	Endangered	--		Only in the saline emergent wetlands of San Francisco Bay and its tributaries.	Pickleweed is primary habitat. Do not burrow, build loosely organized nests. Require higher areas for flood escape.

BIOLOGICAL RESOURCES

TABLE 4.3-1 SPECIAL STATUS SPECIES IN MENLO PARK VICINITY

Scientific Name	Common Name	Presence	Federal List	California List	CDFW	CNPS List	General Habitat	Micro Habitation
Sorex vagrans halicoetes	Salt-marsh wandering shrew	Presumed Extant	None	None	Special Concern		Salt marshes of the south arm of San Francisco Bay.	Medium high marsh 6 to 8 feet above sea level where abundant driftwood is scattered among Salicornia.
Spinus lawrencii	Lawrence's gold finch	Presumed Extant	None	None	Special Concern		Uplands, non-native grasslands, ruderal.	Forages from seed-bearing plants, such as thistles.
Taxidea taxus	American Badger	Presumed Extant	None	None	Special Concern		Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable (easy to dig) soils.	Needs sufficient food, friable soils & open, uncultivated ground. Preys on burrowing rodents. Digs burrows.
Thamnophis sirtalis tetrataenia	San Francisco garter snake	Presumed Extant	Endangered	Endangered	--		Vicinity of freshwater marshes, ponds, and slow moving streams in San Mateo County and extreme Northern Santa Cruz County.	Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important.
	Tree Nesting Raptors	Presumed Extant	None	None	Special Concern		Grasslands, woodlands	Trees

Notes:
Agencies
USFWS = U.S. Fish and Wildlife Service
CDFW = California Department of Fish and Wildlife
CNPS = California Native Plant Society

CNPS California Rare Plant Rank
1A: Plants presumed extinct in California.
1B: Plants rare, threatened, or endangered in California and elsewhere.
2: Plants rare and endangered in California but more common elsewhere.
3: Plants about which additional data are needed – a review list.
4: Plants of limited distribution – a watch list

Source: California Natural Diversity Database, 2015.

Sensitive Natural Communities

The CNDDB search identifies two types of sensitive habitat within the planning area: coastal salt marsh and oak woodland. As indicated on Figure 4.3-2 above, these consist of northern coastal salt marsh and valley oak woodlands. The coastal salt marsh occurs at the northeastern edge of Menlo Park where the baylands have not been converted to salt ponds and urbanization. The mapped oak woodlands occur within the center of Menlo Park and consist of a large stand of valley oak-dominated woodland within the otherwise urbanized city center. This stand of oak woodland is located on the Saint Patrick's Seminary property. Additionally, while San Francisquito Creek does not officially appear in the CNDDB database as a mapped sensitive natural community type, it does support riparian and freshwater marsh habitat. Steelhead, a fish species that is listed as federally threatened under the federal Endangered Species Act, also occurs in San Francisquito Creek, providing an indication of the importance of this stream to wildlife.[14]

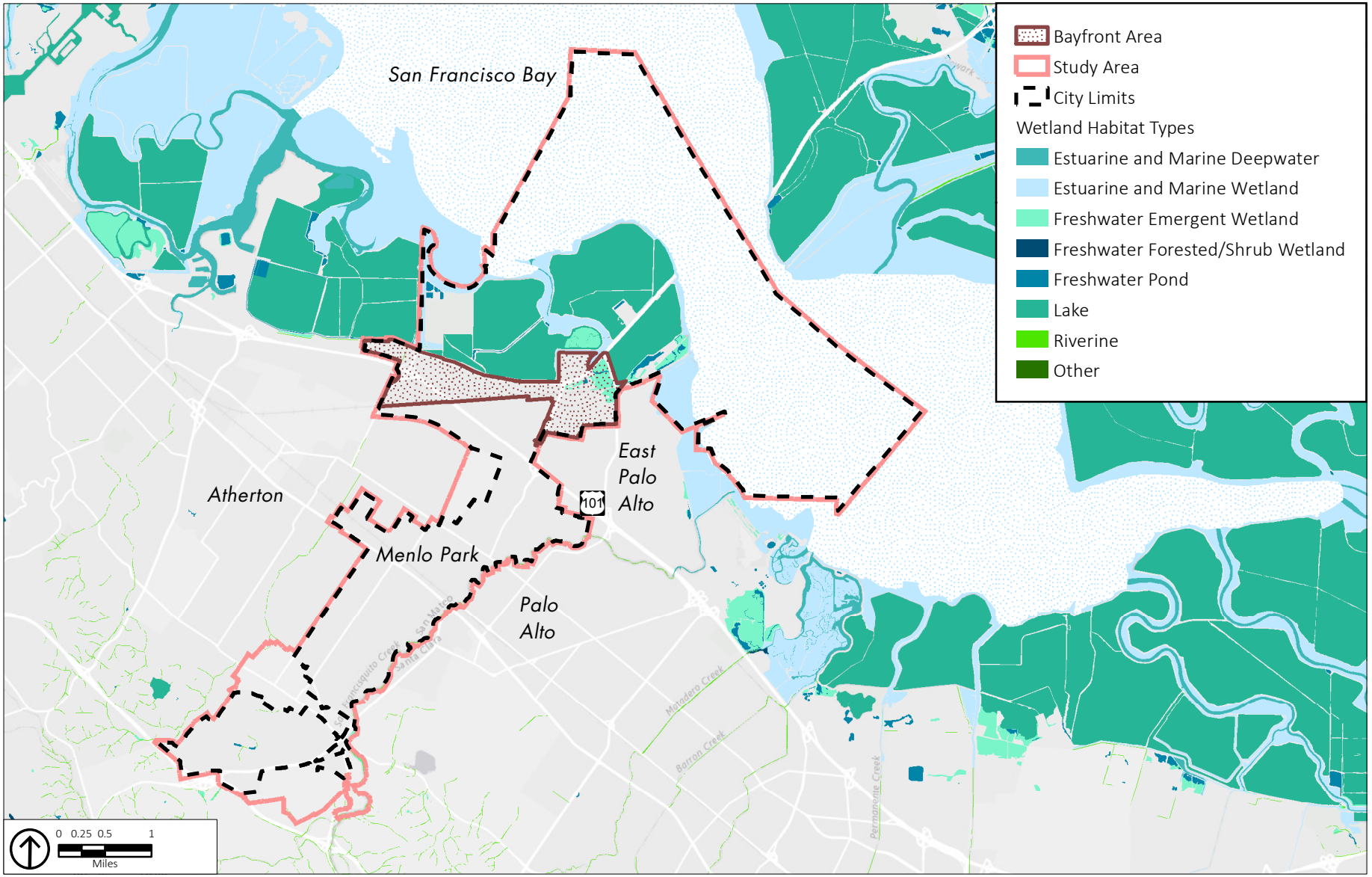
Jurisdictional Wetlands and Other Waters

Jurisdictional wetlands and other waters in the study area include the coastal salt marsh, tidal mudflats and open waters of the Bay, and riparian habitat along San Francisquito Creek. Figure 4.3-4 shows the mapped wetlands in the study area according to the National Wetland Inventory, part of a national mapping program by the USFWS to better understand the extent and status of wetlands in the U.S. While this mapping effort is rather generalized, it does provide an indication of more conspicuous wetland features in the study area. These include what has been mapped as "freshwater emergent" wetlands in the diked baylands of the study area along University Avenue and south of Bayfront Expressway, "freshwater pond" in the diked former salt flats, and "estuarine and marine" wetlands along major sloughs and open waters of the Bay. As discussed previously, the USACE, RWQCB and/or CDFW generally exercise authority over these various wetland habitat types. A detailed wetland delineation and verification by the USACE would be required to determine the extent of jurisdictional federal waters on sites where modifications are proposed. Further review by the RWQCB may be required on sites with hydrologically isolate wetlands that are exempt from USACE jurisdiction but still regulated as State waters under the Porter-Cologne Act by the RWQCB.

Wildlife Dispersal Corridors

Wildlife dispersal corridors are important habitat features allowing for movement of terrestrial species and the genetic exchange necessary to prevent isolation that can leave a native population vulnerable to extirpation or extinction. Important dispersal corridors can include unchannelized creeks, unobstructed ridgelines, and shorelines of the Bay. Although most of the study area has been urbanized, which limits or precludes the dispersal by terrestrial wildlife species, the shoreline and open waters of the Bay continue to provide unobstructed habitat for terrestrial and aquatic species. San Francisquito Creek's intact, multi-layered canopy of riparian habitat and large creek channel also serves as an important dispersal corridor for fish and wildlife.

[14] San Francisquito Creek Joint Powers Authority, 2004. *San Francisquito Creek Bank Stabilization and Revegetation Master Plan, Section 6: Fisheries and Wildlife Protection and Enhancement Guidelines.* http://www.menlopark.org/DocumentCenter/Home/View/845, accessed on February 26, 2015.



Source: City of Menlo Park, 2015; PlaceWorks, 2015; National Wetlands Inventory, 2015

Figure 4.3-4
National Wetland Inventory Wetland Habitat Types

4.3.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to biological resources if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Wildlife, or U.S. Fish and Wildlife Service.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife, or U.S. Fish and Wildlife Service.
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

4.3.3 IMPACT DISCUSSION

BIO-1	**Implementation of the proposed project could have a substantial adverse effect, either directly or through habitat modifications, on species identified as a special status species in local or regional plans, policies, or regulations by the California Department of Fish and Wildlife, or U.S. Fish and Wildlife Service.**

Local, State, and federal regulations provide varying levels of protection for special-status species, depending on a number of factors, including, legal protective status, rarity and distribution, the magnitude of the potential impact on essential habitat, specific occurrence and overall population levels, and take of individual plants or animals. Activities requiring discretionary approvals by local, State, and federal agencies provide for the greatest oversight because proposed activities must be evaluated for their potential impact on special-status species and other sensitive biological resources.

The proposed project would occur in urbanized areas where special-status species are generally not expected to occur. The potential for occurrence of special-status species in developed areas is generally very remote in comparison to undeveloped lands with natural habitat that contain essential habitat characteristics for the range of species known in the Menlo Park vicinity. As shown on Figure 4.3-3 above, the western snowy plover, Santa Cruz kangaroo rat, salt-marsh harvest mouse and California least tern, among others, have the potential for occurrence in the remaining undeveloped lands in Bayfront Area.

Several other special-status species, including the Alameda song sparrow, American Badger, hoary bat, Santa Cruz kangaroo rat, pallid bat, California tiger salamander, western pond turtle, California red-legged frog have the potential for occurrence elsewhere in the study area.

The proposed Land Use (LU) Element which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements contain general goals, policies and programs that would require local planning and development decisions to consider impacts to biological resources, including special status species. The following General Plan goals, policies and programs would serve to minimize potential adverse impacts on special status species:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.
  - Policy LU-6.5: Open Space Retention. Maximize the retention of open space on larger tracts (e.g., portions of the St. Patrick's Seminary site) through means such as rezoning consistent with existing uses, clustered development, acquisition of a permanent open space easement, and/or transfer of development rights.
  - Policy LU 6.6: Public Bay Access. Protect and support public access to the Bay for the scenic enjoyment of open water, sloughs, and marshes, including restoration efforts, and completion of the Bay Trail.
  - Policy LU-6.7: Habitat Preservation. Collaborate with neighboring jurisdictions to preserve and enhance the Bay, shoreline, San Francisquito Creek, and other wildlife habitat and ecologically fragile areas to the maximum extent possible.
  - Policy LU-6.8: Landscaping in Development. Encourage extensive and appropriate landscaping in public and private development to maintain the City's tree canopy and to promote sustainability and healthy living, particularly through increased trees and water-efficient landscaping in large parking areas and in the public right-of-way.
  - Policy LU-6.10: Stanford Open Space Maintenance. Encourage the maintenance of open space on Stanford lands within Menlo Park's unincorporated sphere of influence.
  - Policy LU-6.11: Baylands Preservation. Allow development near the Bay only in already developed areas.
    - Program LU-6.A: San Francisquito Creek Setbacks. Establish Zoning Ordinance requirements for minimum setbacks for new structures or impervious surfaces within a specified distance of the top of the San Francisquito Creek bank.

- Program LU-6.D: Design for Birds. Explore whether new buildings along the Bayfront should employ façade, window, and lighting design features that make them visible to birds as physical barriers and eliminate conditions that create confusing reflections to birds.

- Goal OSC-1: Maintain, Protect and Enhance Open Space and Natural Resources.
  - Policy OSC-1.1: Natural Resources Integration with Other Use. Protect Menlo Park's natural environment and integrate creeks, utility corridors, and other significant natural and scenic features into development plans.
  - Policy OSC-1.2: Habitat for Open Space and Conservation Purposes. Preserve, protect, maintain, and enhance water, water-related areas, and plant and wildlife habitat for open space and conservation purposes.
  - Policy OSC-1.3: Sensitive Habitats. Require new development on or near sensitive habitats to provide baseline assessments prepared by qualified biologists, and specify requirements relative to the baseline assessments.
  - Policy OSC-1.4: Habitat Enhancement. Require new development to minimize the disturbance of natural habitats and vegetation, and requires revegetation of disturbed natural habitat areas with native or non-invasive naturalized species.
  - Policy OSC-1.5: Invasive, Non-Native Plant Species. Avoid the use of invasive, non-native species, as identified on the lists of invasive plants maintained at the California Invasive Plant Inventory and United States Department of Agriculture invasive and noxious weeds database, or other authoritative sources, in landscaping on public property.
  - Policy OSC-1.6: South Bay Salt Pond Restoration Project and Flood Management Project. Continue to support and participate in Federal and State efforts related to the South Bay Salt Pond Restoration Project and flood management project. Provide public access to the Bay for the scenic enjoyment and recreation opportunities as well as conservation education opportunities related to the open Bay, the sloughs, and the marshes.
  - Policy OSC-1.7: San Francisquito Creek Joint Powers Authority. Continue efforts through San Francisquito Creek Joint Powers Authority to enhance the value of the creek as a community amenity for trails and open space, conservation and educational opportunities.
  - Policy OSC-1.8: Regional Open Space Preservation Efforts. Support regional and sub-regional efforts to acquire, develop, and maintain open space conservation lands.
  - Policy OSC-1.9: Federal, State, and County Open Space and Conservation Programs. Make maximum use of federal, state, and county programs wherever possible in all matters concerned with open space and conservation.
  - Policy OSC-1.10: Public Education and Stewardship. Promote public education, environmental programs, and stewardship of open space and natural resources conservation.
  - Policy OSC-1.11: Sustainable Landscape Practices. Encourage the enhancement of boulevards, plazas and other urban open spaces in high-density and mixed-use residential developments, commercial and industrial areas with landscaping practices that minimize water usage.

- Policy OSC-1.12: Landscaping and Plazas. Include landscaping and plazas on public and private lands, and well-designed pedestrian and bicycle facilities in areas of intensive non-vehicular activity. Require landscaping for shade, surface runoff, or to obscure parked cars in extensive parking areas.
- Policy OSC-1.13: Yard and Open Space Requirements in New Development. Ensure that required yard and open spaces are provided for as part of new multi-family residential, mixed-use, commercial and industrial development.
- Policy OSC-1.14: Protection of Conservation and Scenic Areas. Protect conservation and scenic areas from deterioration or destruction by vandalism, private actions or public actions.
    - Program OSC-1.A: Provide Incentives for Maintaining Private Lands in Open Space. Establish programs to provide incentives for maintaining private lands in open space and for insuring open areas within future developments through programs including but not limited, to cluster development, acquisition of a permanent open space easement, and/or transfer of development rights.
    - Program OSC-1.B: Continue Subdivision Assessments. Continue subdivision assessments for parks and open space purposes consistent with the Subdivision Ordinance.
    - Program OSC-1.C: Promote Environmental Stewardship. Promote public education, environmental programs and stewardship of natural resources and open space preservation within the City.

In addition, with respect to the new development potential in the Bayfront Area, the proposed project includes zoning regulations consistent with the proposed General Plan Program LU-6.D to explore whether new buildings along the Bayfront should employ facade, window, lighting design that make them visible to birds as physical barriers and eliminate conditions that create confusing reflections to birds. Proposed bird safe design measures of the Green and sustainable building regulation for the Bayfront Area are as follows:

(A) No more than ten (10) percent of façade surface area shall have non-bird- friendly glazing.

(A) Bird- friendly glazing includes, but is not limited to opaque glass, covering of clear glass surface with patterns, paned glass with fenestration patterns, and external screens over non-reflective glass.

(B) Occupancy sensors or other switch control devices shall be installed on non-emergency lights and shall be programmed to shut off during non-work hours and between 10 PM and sunrise.

(C) Placement of buildings shall avoid the potential funneling of flight paths towards a building façade.

(D) Glass skyways or walkways, freestanding glass walls, and transparent building corners shall not be allowed.

(E) Transparent glass shall not be allowed at the rooflines of buildings, including in conjunction with green roofs.

(F) A project may receive a waiver from one or more of the items (A) to (F) listed above, subject to the submittal of a site specific evaluation from a qualified biologist and review and approval by the Planning Commission.

The General Plan goals, policies, and programs and bird-safe design regulations for the Bayfront Area would help protect special-status species and birds, and minimize impacts; however, without the preparation of project-specific assessments for future projects on or near sensitive habitats, impacts are considered potentially *significant*.

Impact BIO-1: Impacts to special-status species or the inadvertent loss of bird nests in active use, which would conflict with the federal Migratory Bird Treaty Act and California Fish and Game Code could occur as a result of new development potential in the Bayfront Area and from existing and ongoing development potential in the remainder of the city if adequate controls are not implemented.

Mitigation Measure BIO-1: Prior to individual project approval, the City shall require project applicants to prepare and submit project-specific baseline biological resources assessments on sites containing natural habitat with features such as mature and native trees or unused structures that could support special-status species and other sensitive biological resources, and common birds protected under Migratory Bird Treaty Act (MBTA). The baseline biological resources assessment shall be prepared by a qualified biologist. The biological resource assessment shall provide a determination on whether any sensitive biological resources are present on the property, including jurisdictional wetlands and waters, essential habitat for special-status species, and sensitive natural communities. If sensitive biological resources are determined to be present, appropriate measures, such as preconstruction surveys, establishing no-disturbance zones during construction, and applying bird-safe building design practices and materials, shall be developed by the qualified biologist to provide adequate avoidance or compensatory mitigation if avoidance is infeasible. Where jurisdictional waters or federally and/or State-listed special-status species would be affected, appropriate authorizations shall be obtained by the project applicant, and evidence of such authorization provided to the City prior to issuance of grading or other construction permits. An independent peer review of the adequacy of the biological resource assessment may be required as part of the CEQA review of the project, if necessary, to confirm its adequacy.

Significance With Mitigation: Less than significant.

In summary, implementation of the proposed project and compliance with the federal, State, and local regulations described in Section 4.3.1.1, Regulatory Framework, of this chapter would minimize potentially significant impacts to special-status species; however, implementation of Mitigation Measure BIO-1would reduce potentially significant impacts to a *less-than-significant* level.

BIO-2 Implementation of the proposed project could have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife, or U.S. Fish and Wildlife Service.

Impacts to riparian habitats and other sensitive natural communities include both direct and indirect impacts that may occur. Direct impacts occur as a result of converting natural resources to developed properties, including the addition of impervious surfaces or hydrologic alterations. Habitat loss and degradation of existing habitat are direct impacts. Direct impacts may also be temporary impacts if they disturb a habitat that is subsequently restored after construction. An indirect impact is a physical change in the environment, which is not immediately related to, but is caused by the project. For example, if development results in reducing the sizes of remaining habitats, the values and functions of that habitat would be reduced and indirect impacts would occur. Increased stormwater runoff could potentially contribute to the loss of wetland habitat, affecting special status species that rely on this habitat.

As discussed above in Section 4.3.1.2, Existing Conditions, sensitive natural communities in the study area include areas of coastal salt marsh vegetation in the baylands, native valley oaks dominate the 88-acre Saint Patrick's Seminary in central Menlo Park and possibly areas of riparian scrub and woodland along San Francisquito Creek and other drainages. A portion of the Bayfront Area along University Avenue has a designation of Life Sciences over areas of marshland cover as indicated on Figure 4.3-4. These marshlands appear to be primarily freshwater and brackish in nature, but would still be a sensitive natural community type and are most likely regulated wetlands as discussed further under BIO-3.

Several policies in the General Plan listed under BIO-1 above would serve to protect and enhance the sensitive natural communities in the study area. Policy OSC-1.2, Habitat for Open Space and Conservation Purposes, calls for preserving and enhancing habitat for open space and conservation purposes. Policy OSC-1.4, Habitat Enhancement, requires new development to minimize the disturbance of natural habitats and vegetation, which would include areas of sensitive natural communities if present on a site. Policy OSC-1.6, South Bay Salt Pond Restoration Project and Flood Management Project, calls for continued support and participation in federal and State efforts to complete the South Bay Salt Pond Restoration Project. Policy OSC-1.7, San Francisquito Creek Joint Powers Authority, calls for continuing efforts to protect and enhance the habitat along San Francisquito Creek. Policy OSC-1.14, Protection of Conservation and Scenic Areas, calls for protecting conservation and scenic areas from deterioration or destruction by vandalism, private actions or public actions, which would include adverse impacts from proposed development applications.

Furthermore, as discussed under BIO-1 above, site-specific assessments for areas on or near sensitive habitats called for in Policy OSC-1.3, Sensitive Habitats, and required under Mitigation Measure BIO-1, would determine the extent of any sensitive natural communities on undeveloped lands where development is proposed. This project-specific assessment would serve to identify presence of any sensitive natural communities, and would ensure sensitive resources are adequately protected or appropriate compensatory mitigation is provided as part of new development. Without the preparation of

project-specific assessments for future projects on or near sensitive habitats, impacts to coastal salt marsh vegetation in the baylands, and possibly areas of riparian scrub and woodland along San Francisquito Creek and other drainages in the study area are considered potentially *significant*.

Impact BIO-2: Impacts to coastal salt marsh vegetation in the baylands, and possibly areas of riparian scrub and woodland along San Francisquito Creek and other drainages in the study area could occur as a result of new development potential in the Bayfront Area and from existing and ongoing development potential in the remainder of the city if adequate controls are not implemented.

Mitigation Measure BIO-2: Implement Mitigation Measure BIO-1.

Significance With Mitigation: Less than significant.

BIO-3 Implementation of the proposed project could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act, through direct removal, filling, hydrological interruption, or other means.

Development and land use activities consistent with the proposed project could result in direct loss or modification to existing wetlands and unvegetated other waters, as well as indirect impacts due to water quality degradation. Affected wetlands could include both the wetland-related sensitive natural community types described above, as well as areas of open water, degraded and modified streams and channels, unvegetated waters, and isolated seasonal wetlands or freshwater seeps. Of particular concern is the area of mapped wetlands indicated on Figure 4.3-4 in the Baylands Area along University Avenue that is proposed as the Life Sciences General Plan land use designation.

Indirect impacts to wetlands and jurisdictional other waters include an increase in the potential for sedimentation due to construction grading and ground disturbance, an increase in the potential for erosion due to increased runoff volumes generated by impervious surfaces, and an increase in the potential for water quality degradation due to increased levels in non-point pollutants. Water quality degradation may occur even when wetlands and unvegetated channels are avoided by proposed development if setbacks are inadequate to provide critical vegetation filtration functions. The indirect water quality-related issues are discussed further in Chapter 4.8, Hydrology & Water Quality, of this Draft EIR. As discussed in HYDRO-1, water quality impacts would be *less than significant*.

As discussed above under BIO-1, site-specific assessments for development on or near sensitive habitats are called for in Policy OSC-1.3, Sensitive Habitats, and required under Mitigation Measure BIO-1, would be necessary to determine the extent of any jurisdictional waters on undeveloped lands where development is proposed. In addition, a site-specific wetland delineation would be necessary to determine the extent of possible jurisdictional waters where wetlands may be present, including undeveloped properties in the Bayfront Area. This project-specific assessment would serve to identify presence of any jurisdictional waters, and would ensure sensitive resources are adequately protected or appropriate compensatory mitigation is provided as part of new development. Without the preparation of

project-specific assessments for future projects on or near wetlands, impacts in the study area are considered potentially *significant*.

Impact BIO-3: Implementation of the proposed project could result in direct and indirect impacts to wetland habitat if adequate controls are not implemented.

Mitigation Measure BIO-3: Implement Mitigation Measure BIO-1.

Significance With Mitigation: Less than significant.

BIO-4	**Implementation of the proposed project could interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.**

Development and land use activities consistent with the proposed project would result in a reduction in the remaining natural habitat in the study area. However, most wildlife in these areas are already acclimated to human activity in the urbanized portions of the study area. While the proposed project includes proposed bird-safe design regulations for the Bayfront Area as described under BIO-1, which would help to protect migrating birds, on sites with remaining natural habitat and important movement corridors, including the fringe of the baylands, site-specific assessments called for in Policy OSC-1.3, Sensitive Habitats, and required under Mitigation Measure BIO-1, would be necessary to determine whether any important wildlife movement corridors are present on undeveloped lands where development is proposed. This project-specific assessment would serve to identify presence of any sensitive wildlife movement corridors, and would ensure sensitive resources are adequately protected or appropriate compensatory mitigation is provided as part of new development. Without the preparation of project-specific assessments for future projects on or near sensitive habitats, impacts in the study area are considered potentially *significant*.

Impact BIO-4: Implementation of the proposed project could result in impacts on the movement of fish and wildlife, wildlife corridors, or wildlife nursery sites if adequate controls are not implemented.

Mitigation Measure BIO-4: Implement Mitigation Measure BIO-1.

Significance With Mitigation: Less than significant.

BIO-5 Implementation of the proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The City of Menlo Park General Plan is the primary planning document for the City of Menlo Park. The proposed amendments are intended to ensure consistency between the General Plan and Zoning Ordinance. Because the General Plan is the overriding planning document for Menlo Park, and because the proposed project involves amending the General Plan and Zoning Ordinance for internal consistency, implementation of the proposed project would not conflict with local policies and ordinances protecting biological resources. Furthermore, with adherence to the General Plan goals, policies and programs in the proposed Land Use (LU) Element and Section II, Open Space/Conservation (OSC), of the Open Space/Conservation, Noise and Safety Elements listed in BIO-1 and the City's Tree Preservation Ordinance, which calls for a permit to remove any protected trees, in combination with Municipal Code Chapters 12.44, Water-Efficient Landscaping, and 13.24, Heritage Trees, and federal and State laws, no conflicts with local plans and policies are anticipated, and impacts are considered *less than significant*.

Significance Without Mitigation: Less than significant.

BIO-6 Implementation of the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

As described above under Section 4.3.1.1, the Stanford Habitat Conservation Plan (Stanford HCP) was published in November 2012 and implementation of the HCP began in 2013. Portions of Menlo Park and unincorporated San Mateo County are located within the Stanford University HCP area. Accordingly, development within the Stanford HCP area could occur under the proposed project.

Several policies in the General Plan, listed under BIO-1 above, would serve to protect and enhance the sensitive natural communities in the study area, including those in the Stanford HCP area. Specifically, Policy LU-6.7 requires the City to collaborate with neighboring jurisdictions to preserve and enhance the Bay, shoreline, San Francisquito Creek, and other wildlife habitat and ecologically fragile areas to the maximum extent possible, and Policy LU-6.10 requires the City to encourage the maintenance of open space on Stanford lands within Menlo Park's unincorporated sphere of influence. Furthermore, as discussed under BIO-1 above, site-specific assessments for areas on or near sensitive habitats called for in Policy OSC-1.3, Sensitive Habitats, and required under Mitigation Measure BIO-1, would determine the extent of any sensitive natural communities on undeveloped lands where development is proposed. The General Plan policies would help protect biological resources identified in the Stanford HCP and minimize impacts; however, without the preparation of project-specific assessments for future projects on or near sensitive habitats in the Stanford HCP, impacts related to potential conflicts with the Stanford HCP are considered potentially *significant*.

Impact BIO-6: Impacts to sensitive habitat in the Stanford HCP area could occur as a result of existing development potential in the study area that is located within the Stanford HCP area if adequate controls are not implemented.

Mitigation Measure BIO-6: Implement Mitigation Measure BIO-1.

Significance With Mitigation: Less than significant.

4.3.4 CUMULATIVE IMPACTS

BIO-7 Implementation of the proposed project in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to biological resources.

The potential impacts of proposed development on biological resources tend to be site-specific, and the overall cumulative effect would be dependent on the degree to which significant vegetation and wildlife resources are protected on a particular site. This includes preservation of well-developed native vegetation (e.g., native grasslands, oak woodlands, riparian woodland), populations of special-status plant or animal species, and wetland features (e.g., coastal salt marsh, freshwater marsh and seeps, and riparian corridors and drainages). Further biological assessments for future projects of specific development on or near sensitive habitats called for in Policy OSC-1.3, Sensitive Habitats, and required under Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4 and BIO-6, would serve to ensure that important biological resources are identified, protected, and properly managed, and to prevent any significant adverse development-related impacts, including development for the remaining undeveloped lands in the planning area and surrounding incorporated and unincorporated lands.

To some degree, cumulative development contributes to an incremental reduction in the amount of existing wildlife habitat, particularly for birds and larger mammals. Habitat for species intolerant of human disturbance can be lost as development encroaches into previously undeveloped areas, disrupting or eliminating movement corridors and fragmenting the remaining suitable habitat retained within parks, private open space, or undeveloped properties. New development in the region would result in further conversion of existing natural habitats to urban and suburban conditions, limiting the existing habitat values of the surrounding area. This could include further loss of wetlands and sensitive natural communities, reduction in essential habitat for special-status species, removal of mature native trees and other important wildlife habitat features, and obstruction of important wildlife movement corridors. Additional development may also contribute to degradation of the aquatic habitat in the creeks throughout the region, including the study area. Grading associated with construction activities generally increases erosion and sedimentation, and urban pollutants from new development would reduce water quality. However, goals, policies and programs in the proposed Land Use (LU) Element and existing Section II, Open Space/Conservation of the Open Space/Conservation, Noise and Safety Elements as well as the proposed zoning regulations that employ bird-safe design together with implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4 and BIO-6 would serve to address these contributions to cumulative impacts on sensitive biological and wetland resources, as discussed above. Therefore, the proposed

project would result in a *less-than-significant* cumulative impact to biological resources with implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4 and BIO-6.

Impact BIO-7: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, could result in a significant cumulative impact with respect to biological resources.

Mitigation Measure BIO-7: Implement Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4 and BIO-6.

Significance With Mitigation: Less than significant.

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4.4 CULTURAL RESOURCES

This chapter describes the regulatory framework and existing conditions in the study area related to cultural resources, and the potential impacts of the proposed project on cultural resources. Cultural resources include historically and architecturally significant resources, as well as archaeological, paleontological, and tribal cultural resources.

4.4.1 ENVIRONMENTAL SETTING

4.4.1.1 REGULATORY FRAMEWORK

This section describes the existing federal, State, and local policies and regulations that apply to cultural resources in the city of Menlo Park.

Federal Regulations

National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966 established the National Register of Historic Places (National Register) as the official designation of historical resources, including districts, sites, buildings, structures, and objects. For a property to be eligible for listing in the National Register, it must be significant in American history, architecture, archaeology, engineering, or culture, and must retain integrity in terms of location, design, setting, materials, workmanship, feeling, and association. Resources less than 50 years in age, unless of exceptional importance, are not eligible for the National Register. Though a listing in the National Register does not prohibit demolition or alteration of a property, California Environmental Quality Act (CEQA) requires the evaluation of project effects on properties that are listed in the National Register.

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

Paleontological Resources Preservation Act

The federal Paleontological Resources Preservation Act of 2002 limits the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers who have obtained a permit from the appropriate state or federal agency. Additionally, it specifies these researchers must agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers. This Act incorporates key findings of a report, *Fossils on Federal Land and*

Indian Lands, issued by the Secretary of Interior in 2000, which establishes that most vertebrate fossils and some invertebrate and plant fossils are considered rare resources.[1]

State Regulations

California Register of Historic Resources

California Code of Regulations (CCR) Title 14, Chapter 11.5, Section 4850 creates the California Register of Historical Resources (California Register) which is maintained by the California Department of Parks and Recreation Office of Historic Preservation (OHP). Historic properties listed, or formally designated for eligibility to be listed, on the National Register are automatically listed on the California Register. State Landmarks and Points of Interest are also automatically listed. The California Register can also include properties designated under local preservation ordinances or identified through local historical resource surveys.

The criteria for inclusion on the California Register (CCR Section 4852[a]) are listed below:

- Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- Is associated with the lives of persons important to local, California, or national history.
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
- Has yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, eligibility for the California Register requires that a resource retains sufficient integrity to convey a sense of its significance or importance. Seven elements are considered key in considering a property's integrity; location, design, setting, materials, workmanship, feeling, and association.

California Environmental Quality Act

California State law also provides for the protection of cultural resources by requiring evaluations of the significance of prehistoric and historic resources identified in documents prepared consistent with CEQA. The CEQA Statute is contained in Public Resources Code (PRC) 21000–2117 and the CEQA Guidelines are contained in CCR, Title 14, Division 6, Chapter 3, Sections 15000–15387.

Under CEQA, a cultural resource is considered a "historical resource" if it meets any of the criteria found in Section 15064.5(a) of the CEQA Guidelines. Criteria identified in the CEQA Guidelines are similar to those described under the NHPA. Under CEQA, the lead agency determines whether projects may have a

[1] U.S. Department of the Interior. *Fossils on Federal & Indian Lands, Report of the Secretary of the Interior*, May 2000. http://www.blm.gov/pgdata/etc/medialib/blm/wo/Planning_and_Renewable_Resources/coop_agencies/paleontology_library/paleon_legis.Par.15714.File.dat/fossil.pdf, accessed February 26, 2015.

significant effect on archaeological and historical resources. CEQA Guidelines Section 15064.5 defines what constitutes a historical resource, including: (1) a resource determined by the State Historical Resources Commission to be eligible for the California Register of Historical Resources (including all properties on the National Register), as described above; (2) a resource included in a local register of historical resources, as defined in Public Resources Code (PRC) Section 5020.1(k); (3) a resource identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (4) any object, building, structure, site, area, place, record, or manuscript that the City determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the City's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered to be historically significant if it meets the criteria for listing on the California Register.

If the lead agency determines that a project may have a significant effect on a historical resource, the project is determined to have a significant effect on the environment, and these effects must be addressed. However, no further environmental review needs to be completed if, under the qualifying criteria, a cultural resource is not found to be a historical resource or unique archaeological resource.

State Historical Building Code

The State Historical Building Code (SHBC) provides alternative building regulations and building standards for the rehabilitation, preservation, restoration (including related reconstruction), or relocation of buildings or structures designated as historic buildings. These regulations are intended to facilitate the restoration or change of occupancy so as to preserve their original or restored architectural elements and features, to encourage energy conservation and enable a cost-effective approach to preservation, and to provide for the safety of the building occupants.

Public Resources Code Section 5097.5

California Public Resources Code (PRC) Section 5097.5 prohibits “knowing and willful” excavation or removal of any “vertebrate paleontological site…or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands.” Public lands are defined to include lands owned by or under the jurisdiction of the State or any city, county, district, authority, or public corporation, or any agency thereof.

State Laws Pertaining to Human Remains

Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner’s authority. If the human remains are determined to be of Native American origin, the county coroner must contact the California Native American Heritage Commission (NAHC) within 24 hours of this identification. A NAHC representative will then identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. In addition, CEQA Guidelines Section 15064.5

specifies the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the NAHC.

Senate Bill 18

Senate Bill (SB) 18, signed into law in September 2004, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places through local land use planning. This legislation, which amended Sections 65040.2, 65092, 65351, 65352, and 65560, and added Sections 65352.3, 653524, and 65562.5 to the Government Code; also requires the Governor's Office of Planning and Research (OPR) to include in the General Plan Guidelines advice to local governments for how to conduct these consultations.

The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to cultural places. The consultation and notice requirements apply to adoption and amendment of both general plans (Government Code Section 65300 et seq.) and specific plans (Government Code Section 65450 et seq.). Specifically, Government Code Section 65352.3 requires local governments, prior to making a decision to adopt or amend a general plan, to consult with California Native American tribes identified by the NAHC for the purpose of protecting or mitigating impacts to cultural places. As previously discussed, the NAHC is the State agency responsible for the protection of Native American burial and sacred sites.

Assembly Bill 52

The Native American Historic Resource Protection Act (Assembly Bill 52 or AB 52), which went into effect July 1, 2015, sets forth a proactive approach intended to reduce the potential for delay and conflicts between Native American and development interests. AB 52 adds "tribal cultural resources" (TCR) to the specific cultural resources protected under CEQA, and requires lead agencies to notify relevant tribes about development projects. It also mandates lead agencies to consult with tribes if requested by the tribe, and sets the principles for conducting and concluding consultation.

Projects subject to AB 52 are those that file a notice of preparation for an EIR or notice of intent to adopt a negative or mitigated negative declaration on or after July 1, 2015. The Governor's Office of Planning and Research (OPR) has until July 1, 2016, to develop guidelines, and the NAHC has until then to inform tribes which agencies are in their traditional area. In absence of the adopted guidelines, OPR suggests addressing if the project would cause a substantial adverse change in the significance of a TCR as defined in Public Resources Code 21074.

Under AB 52, a TCR is defined as a site, feature, place, cultural landscape (must be geographically defined in terms of size and scope), sacred place, and object with cultural value to a California Native American tribe that are either included or eligible for inclusion in the California Register of Historic Resources or included in a local register of historical resources. Or the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR.[2]

[2] Public Resources Code (PRC) Sections 21074(a)(1) and (2).

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.4.3, Impact Discussion.

Menlo Park Municipal Code

The City of Menlo Park Municipal Code, organized by title, chapter, and section, contains all ordinances for Menlo Park. Title 16, Zoning, includes regulations relevant to cultural resources in Menlo Park as discussed below.

Chapter 16.54, Historic Site District

This chapter outlines the requirements for protecting, enhancing, and preserving the use of structures, sites and areas that are reminders of people, events or eras, or which provide significant examples of architectural styles and the physical surroundings in which past generations lived. Under Section 16.54.030, the City Council can designate a structure, feature, or natural landscape elements, identified as having a special character or historical, architectural, or aesthetic interest, as a landmark.

Chapter 16.68, Buildings

This chapter outlines the requirements for attaining a building permit for the construction, alteration or remodeling of any building other than a single family dwelling, duplex and accessory building, or for any structure on land designated as a historic landmark site. Under Section 16.68.020, request for building permits to do work on a historic landmark site shall be granted by the planning commission if the proposed work is consistent with the historic landmark site district and if the proposed work will preserve, enhance or restore, and not damage the exterior and interior architectural features of the landmark.

4.4.1.2 EXISTING CONDITIONS

Historic Setting

Pre-Western and European Settlement Periods

Prior to the arrival of European missionaries and immigrants, the area surrounding San Francisco Bay, including what would become Menlo Park, was populated by Native Americans, specifically the Ohlone People. The Ohlone People lived a seasonal hunter gatherer lifestyle, relying on the abundant foodstuffs and natural resources provided by the San Francisco Bay ecosystem and trading with neighboring Native American groups. Artifacts from the lives of these early residents of what is now Menlo Park are still being discovered today. As recently as 2012, Native American remains were found at a construction site along

Willow Road, in Menlo Park.[3] Additionally, Native American remains were found at the Prologis commercial development site in the Bayfront Area.

Arrival of Spanish missionaries in the Bay Area disrupted the lifestyle and culture of the Ohlone People, and few Ohlone remained when California became a part of Mexico and later the United States. During California's periods of Spanish and Mexican rule, what would become the Rancho de Las Pulgas was granted to José Argüello and later his son, Luís Argüello. San Francisquito Creek, which served as the boundary of the Rancho, now forms nearly the entirety of the boundary between Menlo Park and Palo Alto. In ensuing battles over ownership, the Argüello family lost much of the original Rancho, opening the door to others who would eventually put down the roots that would establish Menlo Park.

Menlo Park was first given its name when Irish immigrants Dennis Oliver and Daniel McGlynn established farms in the area in the 1850s and named their new home after their Irish home community of Menlough. A distinctive gate, built by Oliver and McGlynn, bore and popularized the name Menlo Park. The gate stood as an important symbol of the town until an automobile crashed into the local landmark in 1922.

Incorporation as a City

In the years after McGlynn and Oliver settled in Menlo Park, the area became a vacation destination for the upper class of San Francisco, with palatial houses on sprawling estates. The arrival of the railroad in 1863 and its connection to San Jose in 1864 dramatically cut the time it took to travel the Peninsula and cemented Menlo Park's role as an easily accessible rural getaway from San Francisco. In response to early infrastructure problems that emerged in the growing town, Menlo Park incorporated in 1874. This first incorporation, which included what would later become Atherton, was undertaken to bring about improvements such as the surfacing of Middlefield Road. Once the desired improvements were completed, however, local leaders ceased to meet and the incorporation lapsed in 1876.

The late 19th century and the early part of the 20th century witnessed a number of events that transformed Menlo Park. The opening of Stanford University in 1891 changed the course of history for Menlo Park and the San Francisco Peninsula. The growth of the University itself and the research and business it generated would become integral to the economy and character of Menlo Park. Perhaps just as transformative was the opening of Camp Fremont, a training ground for US Soldiers to be sent off to World War I, which temporarily increased Menlo Park's population, previously less than 2,000 people, by as much as 40,000 according to some estimates. After the end of WWI, Camp Fremont closed and later became the Veterans Medical Center. The closure of the camp returned the town to more incremental growth, but left behind a number of new businesses and city improvements.

The Modern Era

The modern era brought considerable change and growth to Menlo Park, taking it from a small town to a major player in an increasingly urbanized region. Menlo Park's population marched steadily upward,

[3] Eslinger, Bonnie, 2012. San Jose Mercury News. *Native American Remains Found at Menlo Park Construction Site,* November 14. http://www.mercurynews.com/ci_21991249/native-american-remains-found-at-menlo-park-construction, accessed February 26, 2015.

increasing from 2,414 in 1930 to 26,826 in 1970. In 1923, the citizens of Atherton voted to effectively secede from Menlo Park, formally incorporating as Atherton in 1923. Efforts to bring Atherton into a broader reincorporation of Menlo Park were unsuccessful, and in 1927, Menlo Park voted to incorporate as a municipality independent of Atherton.[4,5]

The 1920s and 1930s saw the expansion of both Menlo Park's transportation infrastructure and its residential neighborhoods. In 1927, the same year as Menlo Park's official incorporation, the original Dumbarton Bridge opened, creating a new link between the East Bay and the Peninsula. Between 1929 and 1931 the Bayshore Highway (now US 101) was constructed and expanded to Menlo Park. Even then, the new bridges and freeways were subject to traffic and agitated drivers, especially when roads leading to the bridge proved inadequate and football games brought traffic to a standstill. Other roadways underwent similar expansions. In the late 1930s, El Camino Real was paved and widened from two lanes to four. This change meant the closure, demolition, or relocation of many Menlo Park businesses and structures. This time period also saw the beginnings of the Belle Haven neighborhood, with two-bedroom homes in the new development selling for as low as $2,950 ($50,000 in 2015 dollars).[6] Belle Haven was the only major housing development undertaken locally during the worst of the Great Depression, and it was not fully built out until the 1950s.[7]

The mid-twentieth century witnessed Menlo Park becoming a major regional and global leader in technology and the broader economy. In 1946, the Stanford Research Institute was established, making Menlo Park a center of research and innovation. Although the Stanford Research Institute separated from Stanford University and changed its name to SRI International in 1970, this institution is still headquartered in Menlo Park and has contributed to innovations ranging from the computer mouse to the 9-1-1 emergency call system. The 1950s brought increased industrial development to Menlo Park near the San Francisco Bay. Job opportunities in the study area led to an increasingly diverse population in Menlo Park, especially in the areas between US 101 and the Bay. Today, the Belle Haven neighborhood is a focal point for Menlo Park's Latino, African American, and Pacific Islander communities. The expansion of the Silicon Valley economy in the 1980s and 1990s made Menlo Park and the entire San Francisco Peninsula increasingly popular and expensive places to live. The "Dot-Com Boom" in the late 1990s drove up demand for housing in Menlo Park and similar areas with good schools, convenient access to job centers, and high quality of life. Although the recessions that began in 2001 and more recently in 2008 slowed or even temporarily reversed regional job growth, Menlo Park has remained a highly desired community. The latest and ongoing economic expansion has brought new growth and real estate demand to Menlo Park. The bayside campus that once hosted Sun Microsystems is now occupied by Facebook, one of the world's leading technology firms, which continues to grow its headquarters and build

[4] Svanevik, Michael and Shirley Burgett, 2000, *Menlo Park California Beyond the Gate,* San Francisco: Custom & Limited Editions.

[5] US Department of Commerce Economics and Statistics Administration Bureau of the Census, 1990. *CPH-2-1 1990 Census of Population and Housing Population and Housing Unit Counts United States.*

[6] Bureau of Labor Statistics CPI Inflation Calculator. http://www.bls.gov/data/inflation_calculator.htm, accessed February 26, 2015.

[7] Svanevik, Michael and Shirley Burgett, 2000. *Menlo Park California Beyond the Gate,* San Francisco: Custom & Limited Editions.

additional office facilities in the city. In addition, the Venture Capital Corridor along Sand Hill Road hosts a number of large employers.

Historical Resources

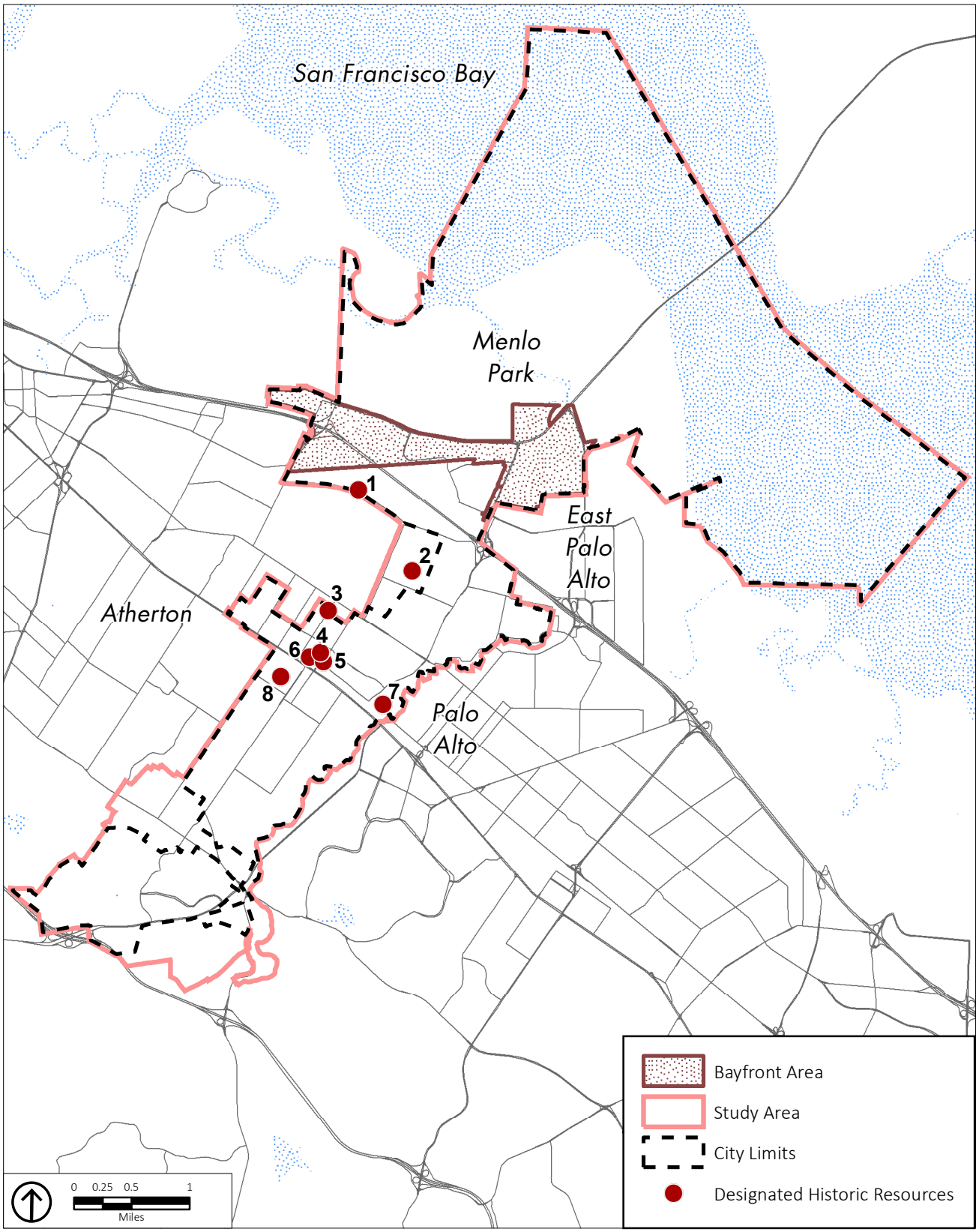
Information about existing historic resources was obtained from archival research that included a review of the Menlo Park Historical Association,[8] a *Historic Resources Report* prepared by Knapp Architects in February 2013 for the *City of Menlo Park Housing Element Update, General Plan Consistency Update, and Zoning Ordinance Amendments Environmental Assessment.* The Environmental Assessment included a review of the National Register, California Historical Resources Information System (CHRIS) database, the Historic Property Data File for San Mateo County, the City's 1990 Historic Sites Survey and the Subdivision Maps and the 1925 Sanborn Fire Insurance Map (updated as late as 1968). In addition, a review of current listings of properties on the National Register, California Historical Landmarks, California Register, and California Points of Historical Interest as listed in the 2012 Office of Historic Preservation's Historic Property Directory was conducted in preparation of the 2015 *ConnectMenlo Existing Conditions Report*.[9] The city contains two H-zoned sites (Historic Site District), the AAGP (Allied Arts Guild Preservation District) and the study area includes several designated historic resources. These are listed in Table 4.4-1 and shown on Figure 4.4-1.

TABLE 4.4-1 DESIGNATED HISTORIC RESOURCES IN THE STUDY AREA

Site	Name/Address	Status	Year Built
1	Flood Park 215 Bay Road	California Points of Historical Interest	1930s, 1950s
2	James Valentine Coleman Home 920 Peninsula Way[a]	California Points of Historical Interest	1880
3	Church of the Nativity 210 Oak Grove Avenue	National Register of Historic Places[b] California Points of Historical Interest	1872, 1879, 1888
4	Bright Eagle Mansion 1040 Noel Drive	Menlo Park H-Zoning	1869
5	Barron-Latham-Hopkins Gate Lodge 555 Ravenswood Avenue	National Register of Historic Places California Points of Historical Interest	1864, 1897
6	Menlo Park Railroad Station 1100 Merrill Street	National Register of Historic Places California Historical Landmarks	1867, 1890s
7	Alma Street/East Creek Drive at San Francisquito Creek Portola Journey's End	California Historical Landmarks	November 6-10, 1769 (occurrence)
8	Nativity of the Holy Virgin Russian Orthodox Church (Holy Trinity Episcopal Church) 1220 Crane Street	Menlo Park H-Zoning	1886, 1957

a. This property is not located in Menlo Park, but it is within the Menlo Park General Plan's Sphere of Influence.
b. Properties listed in the National Register of Historic Places are automatically listed in the California Register of Historical Resources.
Source: Knapp Architects, December 2015.

[8] Menlo Park Historical Association, https://sites.google.com/site/mphistorical/home, retrieved on November 30, 2015.
[9] City of Menlo Park, ConnectMenlo, Background Information, Maps and Graphics, Existing Conditions Reports, http://www.menlopark.org/879/Background-Information-Maps-and-Graphics.



Source: City of Menlo Park; PlaceWorks, 2015

Figure 4.4-1
Designated Historic Resources in Menlo Park

Archeological Resources

Archaeological resources may be considered to be either “unique archaeological resources” or "historical resources" as defined by CEQA and described previously under subheading “California Environmental Quality Act.” CEQA Section 21083.2, defines a “unique archaeological resource” as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

- Contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information;
- Has a special and particular quality, such as being the oldest of its type or the best available example of its type; and/or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Future development under the proposed project would occur on developed or highly disturbed sites in the study area; however, there is potential for archeological resources to exist.

Paleontological Resources

Paleontological resources, or fossils, are any evidence of past life, including remains, traces, and imprints of once-living organisms preserved in rocks and sediments and provide information about the history of life on earth dating back billions of years ago. According to the Society of Vertebrate Paleontology, significant paleontological resources include fossils of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils. Fossils are nonrenewable paleontological resources that are afforded protection by federal, State, and local environmental laws and regulations (Paleontological Resources Preservation Act). Accordingly, the potential of a particular area to produce a valuable paleontological resource is largely dependent on the geologic age and origin of the underlying rocks.

The natural geology of the study area is comprised of Pleistocene-age (10,000 to 2.6 million years ago) alluvial fan deposits and Holocene-age (less than 10,000 years ago) levee deposits. These geologic deposits are likely to underlie the artificial fill or disturbed soil located directly under the urbanized and developed areas of the city, which is typical of urbanized areas. A summary of each of the three areas is described below.

Artificial Fill

Artificial fill is an engineered mixture of sand, silt and gravel used to prepare areas for urban development and are sourced from natural geologic deposits, but have been excavated, reworked, and transported to their present location; Artificial fill would not comprise any significant fossil records that could contribute to science or natural history, and would not contain unique or significant paleontological resources.

Holocene Levee Deposits

Holocene levee deposits are loose, moderately to well-sorted sandy or clayey silt that border stream channels, usually both banks, and slope away to flatter flood plains and basins. Holocene-age (less than

10,000 years ago) deposits are considered too young to have fossilized the remains of organisms (fossilization processes take place over millions of years). These alluvial deposits contain vertebrate and invertebrate fossils of extant, modern taxa,[10] which are generally not considered significant paleontological resources.[11] In addition, there is no record of fossils from such young deposits within San Mateo County in the University of California Museum of Paleontology collections database.[12]

Pleistocene Alluvium

Pleistocene alluvium is characterized by sequences of sand, silt, and gravel that form gently sloping surfaces. These deposits originated from modern stream courses, which now deposit their sediment loads closer to the bay and in narrow stream valleys. Stabilized alluvial fan deposits are old enough to have stiffened and preserved the remains of Pleistocene organisms; therefore, could have high potential for producing paleontologically significant resources.[13]

The University of California Museum of Paleontology database records show that similar deposits have yielded vertebrate fossils at eight different locations in San Mateo County.[14] These include fossils from a bison, mammoth, camel, horse, sloth and moose, as well as one bird species. The fossils were found in locations along the Pacific coast as well as along Skyline Drive in South San Francisco and along Middlefield Road in San Mateo County. However, the database did not have specific information on the location of the non-coastal fossils, and the presence and extent of paleontological resources beneath the study area is unknown.

Native American Resources

As previously discussed under the subheading "Pre-western and European Settlement Periods," Native American remains were found in the study area at a construction site along Willow Road in Menlo Park as recently as 2012.[15]

In compliance with SB 18, a letter was sent to the State of California's Native American Heritage Commission seeking information from the sacred lands files, which track Native American cultural resources, and the names of Native American individuals and groups that would be appropriate to contact regarding the proposed project. The NAHC replied with a letter dated February 11, 2016 in which they

[10] Helley, E.J, et al, 1979. *Flatland Deposits of the San Francisco Bay Region - Their Geology and Engineering Properties, and Their Importance to Comprehensive Planning*, Geological Survey Professional Paper 943, Washington, D.C.: U.S. Geological Survey and Department of Housing and Urban Development.

[11] Society of Vertebrate Paleontology, 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*.

[12] University of California Museum of Paleontology (UCMP), *Collections Database*. http://www.ucmp.berkeley.edu/science/collections.php. accessed February 26, 2015.

[13] Society of Vertebrate Paleontology, 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*.

[14] University of California Museum of Paleontology (UCMP), *Collections Database*. http://www.ucmp.berkeley.edu/science/collections.php, accessed February 26, 2015.

[15] Eslinger, Bonnie, 2012. San Jose Mercury News. Native American Remains Found at Menlo Park Construction Site, November 14. http://www.mercurynews.com/ci_21991249/native-american-remains-found-at-menlo-park-construction, accessed February 26, 2015.

indicated that the sacred land file has no information about the presence of Native American cultural resources in the study area, and provided a list of Native American contacts (groups and individuals) who may have information regarding known and recorded sites. Letters were sent to the following contacts:

- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Costanoan Rumsen Carmel Tribe
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the SF Bay Area
- The Ohlone Indian Tribe

A log of contact efforts is provided in Appendix F, Cultural Resources Data, of this Draft EIR, along with copies of correspondence. No responses or comments from any Tribes have been received as of the date of this Draft EIR.

In response to AB 52, the City has not received any request from any Tribes in the geographic area with which it is traditionally and culturally affiliated with or otherwise to be notified about projects in the city of Menlo Park. Nonetheless, the evaluation of potential impacts to TCRs is addressed below in Section 4.4.3, Impact Discussion, of this chapter.

4.4.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to cultural resources if it would:

1. Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5.
2. Cause a substantial adverse change in the significance of an archeological resource pursuant to 15064.5.
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
4. Disturb any human remains, including those interred outside of formal cemeteries.
5. Cause a substantial adverse change in the significance of a tribal cultural resources as defined in Public Resources Code 21074.

4.4.3 IMPACT DISCUSSION

This section analyzes potential project-specific and cumulative impacts to cultural resources.

CULT-1 Implementation of the proposed project would not cause a substantial adverse change in the significance of a historical resource.

The types of cultural resources that meet the definition of historical resources under CEQA Section 21084.46 generally consist of districts, sites, buildings, structures, and objects that are significant for their traditional, cultural, and/or historical associations. Under CEQA, both prehistoric and historic-period

archaeological sites may qualify based on historical associations.[16] As such, the two main historical resources that are subject to impact, and that may be impacted by development allowed under the General Plan, are historical archaeological deposits and historical architectural resources. The following impact discussion focuses on impacts to historical architectural resources. Impacts to archaeological resources are discussed under CULT-2, and human remains are addressed in impact discussion CULT-4.

As listed in Table 4-4.1 and shown on Figure 4.4-1 under Section 4.4.1.2, Existing Conditions, there are several recognized historic properties in Menlo Park. While none of these sites are within the Bayfront Area, where the new development potential would occur under the proposed land uses changes, future development throughout the 2040 buildout horizon could have the potential to impact historical architectural resources. For sites where historical buildings are demolished or materially altered to allow new development, implementation of the General Plan would cause significant impacts.

Even if the historical resources were retained, future development under the General Plan could cause a significant impact on the historical resource in question if the new construction were incompatible with the site relationships that characterize the existing property (for example, new construction which extends to all property lines where the historical pattern is to have setbacks) or if the massing (height and bulk) of the new construction were incompatible with the historical resource. Lastly, the design characteristics and materials of the new construction could cause an impact on adjoining or nearby historical buildings (for example, a flat-roofed building with aluminum windows and a rain-screen wall finish next to a gable-roofed building with period-revival stucco walls). Because the General Plan would allow new development and because the factors described above which could impair the historic integrity of resources are generally more important with larger and denser new construction, the impacts on historical resources would be *significant*.

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements and Housing (H) Element, contain general goals, policies and programs. These would require local planning and development decisions to consider impacts to cultural resources, including historic resources. The following General Plan goals and policies would serve to minimize potential adverse impacts on historic resources:

- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
  - Policy LU-2.1: Neighborhood Compatibility. Require new residential development to possess high-quality design that is compatible with the scale, look, and feel of the surrounding neighborhood and that respects the city's residential character.
  - Policy LU-2.4: Second Units. Encourage development of second residential units on single family lots consistent with adopted City standards.

[16] California Code of Regulations (CCR), Title 14, Chapter 3, Section 15064.5(c), Determining the Significance of Impacts on Historical and Unique Archaeological Resources.

CULTURAL RESOURCES

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
  - Policy LU-7.8: Cultural Resource Preservation. Promote preservation of buildings, objects, and sites with historic and/or cultural significance.
- Goal OSC-3: Protect and enhance historic resources.
  - Policy OSC-3.6: Identification of Potential Historic Resources. Identify historic resources for the historic district in the Zoning Ordinance and require design review of proposals affecting historic buildings.
- Goal OSC-1: Maintain, protect and enhance open space and natural resources.
  - Policy OSC-1.15: Heritage Trees. Protect Heritage Trees, including during construction activities through enforcement of the Heritage Tree Ordinance (Chapter 13.24 of the Municipal Code).
- Goal H-4: New Housing: Use land efficiently to meet housing needs for a variety of income levels, implement sustainable development practices and blend well-designed new housing into the community.
  - Policy H-4.3 Housing Design. Review proposed new housing in order to achieve excellence in development design through an efficient process and will encourage infill development on vacant and underutilized sites that is harmonious with the character of Menlo Park residential neighborhoods. New construction in existing neighborhoods shall be designed to emphasize the preservation and improvement of the stability and character of the individual neighborhood.

    The City will also encourage innovative design that creates housing opportunities that are complementary to the location of the development. It is the City's intent to enhance neighborhood identity and sense of community by ensuring that all new housing will (1) have a sensitive transition with the surrounding area, (2) avoid unreasonably affecting the privacy of neighboring properties, or (3) avoid impairing access to light and air of structures on neighboring properties.

While implementation of the policies and programs identified above, as well as compliance with federal and State laws and the Zoning Ordinance, would minimize potential impacts to historical architectural resources, future development in Menlo Park that is on or adjacent to historical architectural resources could lead to:

- Demolition, which by definition results in the material impairment of a resource's ability to convey its significance.

- Inappropriate modification, which may use incompatible materials, designs, or construction techniques in a manner that alters character-defining features.
- Inappropriate new construction, which could introduce incompatible new buildings that clash with an established architectural context.

Any of these scenarios described above, but especially demolition and alteration, have the potential to change the historic fabric or setting of an architectural resource such that the resource's ability to convey its significance may be materially impaired, which would result in a *significant* impact.

Impact CULT-1: Future development in Menlo Park could lead to demolition and alteration that has the potential to change the historic fabric or setting of historic architectural resources such that the resource's ability to convey its significance may be materially impaired.

Mitigation Measure CULT-1: At the time that individual projects are proposed on a site with a building more than 50 years old or any site adjoining a property with a building more than 50 years old, the City shall require the project applicant to prepare a site-specific evaluation to determine if the project is subject to completion of a site-specific historic resources study. If it is determined that a site-specific historic resources study is required, the study shall be prepared by a qualified architectural historian meeting the Secretary of the Interior's Standards for Architecture or Architectural History. At a minimum, the study shall consist of a records search of the California Historical Resources Information System, an intensive-level pedestrian field survey, an evaluation of significance using standard National Register Historic Preservation and California Register Historic Preservation evaluation criteria, and recordation of all identified historic buildings and structures on California Department of Parks and Recreation 523 Site Record forms. The study shall describe the historic context and setting, methods used in the investigation, results of the evaluation, and recommendations for management of identified resources. If applicable, the specific requirements for inventory areas and documentation format required by certain agencies, such as the Federal Highway Administration and California Department of Transportation (Caltrans), shall be adhered to.

If the project site or adjacent properties are found to be eligible for listing on the California Register, the project shall be required to conform to the current *Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, and Restoring Historic Buildings,* which require the preservation of character defining features which convey a building's historical significance, and offers guidance about appropriate and compatible alterations to such structures.

Significance With Mitigation: Less than significant.

CULTURAL RESOURCES

CULT-2 Implementation of the proposed project would not cause a substantial adverse change in the significance of an archeological resource pursuant to 15064.5.

Archaeological deposits that meet the definition of historical resource under CEQA Section 21084.1 or CEQA Guidelines Section 15064.5 could be present within the study area and could be damaged or destroyed by ground-disturbing construction activities (e.g., site preparation, grading, excavation, and trenching for utilities) associated with development allowed under the General Plan. Should this occur, the ability of the deposits to convey their significance, either as containing information about prehistory or history, or as possessing traditional or cultural significance to Native American or other descendant communities, would be materially impaired.

Archival research did not uncover any archeological resources within the city; however, as described in Section 4.5.1.2, Existing Conditions, Native American remains have been found in the study area. Impacts to human remains are discussed below under CULT-4.

While it is highly improbable that archaeological deposits associated with the historic period of Menlo Park and Native American prehistoric archeological sites exist on the locations identified for future development, because these locations are concentrated on sites either already developed, and/or in close proximity to existing development, where development will have a lesser impact on historical archeological resources, the proposed project includes goals, policies and programs to protect impacts to archeological resources. The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements contain general goals and policies that would require local planning and development decisions to consider impacts to cultural resources, including archeological resources. The following General Plan goals and policies would serve to minimize potential adverse impacts on archeological resources:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.
  - Policy LU-6.11: Baylands Preservation. Allow development near the Bay only in already developed areas.
- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
  - Policy LU-7.8: Cultural Resource Preservation. Promote preservation of buildings, objects, and sites with historic and/or cultural significance.

- Goal OSC-3: Protect and Enhance Historic Resources. Protect and enhance cultural and historical resources for their aesthetic, scientific, educational, and cultural values.
  - Policy OSC-3.1: Prehistoric or Historic Cultural Resources Investigation and Preservation. Preserve historical and cultural resources to the maximum extent practical.
  - Policy OSC-3.2: Prehistoric or Historic Cultural Resources Protection. Require significant historic or prehistoric artifacts be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation, and to ensure compliance with local, state and federal regulations.
  - Policy OSC-3.3: Archaeological or Paleontological Resources Protection. Protect prehistoric or historic cultural resources either on site or through appropriate documentation as a condition of removal. Require that when a development project has sufficient flexibility, avoidance and preservation of the resource shall be the primary mitigation measure, unless the City identifies superior mitigation. If resources are documented, undertake coordination with descendants and/or stakeholder groups, as warranted.
  - Policy OSC-3.4: Prehistoric or Historic Cultural Resources Found During Construction. Require that if cultural resources, including archaeological or paleontological resources, are uncovered during grading or other on-site excavation activities, construction shall stop until appropriate mitigation is implemented.
  - Policy OSC-3.5: Consultation with Native American Tribes. Consult with those Native American tribes with ancestral ties to the Menlo Park city limits regarding General Plan Amendments and land use policy changes.
  - Policy OSC-3.6: Identification of Potential Historic Resources. Identify historic resources for the historic district in the Zoning Ordinance and require design review of proposals affecting historic buildings.

Compliance with existing federal, State, and local laws and regulations, and the General Plan goals and policies listed above would protect recorded and unrecorded archaeological deposits in the study area by providing for the early detection of potential conflicts between development and resource protection, and by preventing or minimizing the material impairment of the ability of archaeological deposits to convey their significance through excavation or preservation. However, where future projects require substantial excavation that could reach significant depths below the ground surface where no such excavation has previously occurred, which could disturb unidentified subsurface materials that have the potential to contain prehistoric archaeological resources, including unrecorded Native American prehistoric archaeological sites, and without proper consultation with Native American Tribes impacts to archeological resources would be *significant*.

Impact CULT-2a: Implementation of the proposed project could have the potential to cause a significant impact to an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

Mitigation Measure CULT-2a: If a potentially significant subsurface cultural resource is encountered during ground disturbing activities, all construction activities within a 100-foot radius of the find shall cease until a qualified archeologist determines whether the resource requires further study. All

developers in the study area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resources found during construction activities shall be recorded on appropriate California Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of the California Environmental Quality Act (CEQA) criteria by a qualified archeologist. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant. The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources. The report shall be submitted to the City of Menlo Park, Northwest Information Center (NWIC), and State Historic Preservation Office (SHPO), if required.

Impact CULT-2b: Future development in Menlo Park could impact archeological resources without proper consultation with Native American Tribes.

Mitigation Measure CULT-2b: As part of the City's application approval process and prior to project approval, the City shall consult with those Native American Tribes with ancestral ties to the Menlo Park city limits regarding General Plan Amendments and land use policy changes. Upon receipt of an application for proposed project that requires a General Plan amendment or a land use policy change, the City shall submit a request for a list of Native American Tribes to be contacted about the proposed project to the Native American Heritage Commission (NAHC). Upon receipt of the list of Native American Tribes from the NAHC, the City shall submit a letter to each Tribe on the provided list requesting consultation with the Native American Tribe about the proposed project via the via the City's preferred confirmation of receipt correspondence tracking method (e.g., Federal Express, United States Postal Service Certified Mail, etc.).

Significance With Mitigation: Less than significant.

CULT-3 Implementation of the proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

No known fossils or unique paleontological resources or unique geologic features are present in the study area; however, geological formations underlying Menlo Park have the potential for containing paleontological resources (i.e., fossils). There could also be fossils of potential scientific significance in other geological formations that are not recorded in the database. It is possible that ground-disturbing construction associated with development allowed under the General Plan could reach significant depths below the ground surface. Should this occur, damage to, or destruction of, paleontological resources could result, which would prevent the realization of their scientific data potential through documentation and analysis.

The existing Land Use (LU) Element, which would be adopted as part of the proposed project, and Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and programs that would require local planning and development decisions to

consider impacts to cultural resources, including paleontological resources. The following General Plan goals and policies would serve to minimize potential adverse impacts on paleontological resources:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
    - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal OSC-3: Protect and Enhance Historic Resources. Protect and enhance cultural and historical resources for their aesthetic, scientific, educational, and cultural values.
    - Policy OSC-3.3: Archaeological or Paleontological Resources Protection. Protect prehistoric or historic cultural resources either on site or through appropriate documentation as a condition of removal. Require that when a development project has sufficient flexibility, avoidance and preservation of the resource shall be the primary mitigation measure, unless the City identifies superior mitigation. If resources are documented, undertake coordination with descendants and/or stakeholder groups, as warranted.
    - Policy OSC-3.4: Prehistoric or Historic Cultural Resources Found During Construction. Require that if cultural resources, including archaeological or paleontological resources, are uncovered during grading or other on-site excavation activities, construction shall stop until appropriate mitigation is implemented.

Compliance with existing federal, State, and local laws and regulations, and the aforementioned General Plan policies listed above would protect unrecorded paleontological resources or unique geological features in the study area by providing for the early detection of potential conflicts between development and resource protection, and by preventing or minimizing the material impairment of the ability of paleontological resources or unique geological features to convey their significance through excavation or preservation. However, where future development requires substantial excavation that could reach significant depths below the ground surface where no such excavation has previously occurred, unrecorded fossils of potential scientific significance and other unique geologic features could exist. Should this type of construction occur, damage to, or destruction of, unknown paleontological resources or unique geologic features could result and impacts would be *significant*.

Impact CULT- 3: Implementation of the proposed project would have the potential to directly or indirectly affect a unique paleontological resource or site, or unique geologic feature.

Mitigation Measure CULT-3: In the event that fossils or fossil bearing deposits are discovered during ground disturbing activities, excavations within a 50-foot radius of the find shall be temporarily halted or diverted. Ground disturbance work shall cease until a City-approved qualified paleontologist determines whether the resource requires further study. The paleontologist shall document the discovery as needed (in accordance with Society of Vertebrate Paleontology standards [Society of Vertebrate Paleontology 1995]), evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify

the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the City of Menlo Park for review and approval prior to implementation, and all construction activity shall adhere to the recommendations in the excavation plan.

Significance With Mitigation: Less than significant.

CULT-4 Implementation of the proposed project would not disturb any human remains, including those interred outside of formal cemeteries.

Human remains associated with pre-contact archaeological deposits could exist in the study area and could be encountered at the time potential future development occurs. The associated ground-disturbing activities, such as site grading and trenching for utilities, have the potential to disturb human remains interred outside of formal cemeteries. Any human remains encountered during ground-disturbing activities are required to be treated in accordance with California Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations Section 15064.5(e) (CEQA), which state the mandated procedures of conduct following the discovery of human remains. Descendant communities may ascribe religious or cultural significance to such remains, and may view their disturbance as an unmitigable impact. Disturbance of unknown human remains would be a *significant* impact.

Impact CULT-4: Ground-disturbing activities as a result of future development in Menlo Park could encounter human remains the disturbance of those remains could result in a significant impact under CEQA.

Mitigation Measure CULT-4: Procedures of conduct following the discovery of human remains have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations Section 15064.5(e) (CEQA). According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The San Mateo County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the NAHC within 24 hours, who will, in turn, notify the person the NAHC identifies as the Most Likely Descendant (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

Significance With Mitigation: Less than significant.

CULT-5 Implementation of the proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074.

As previously described in Section 4.4.1.1, Regulatory Framework, under the subheading "Native American Historic Resources Protection Act," a TCR is defined under AB 52 as a site, feature, place, cultural landscape that is geographically defined in terms of size and scope, sacred place, and object with cultural value to a California Native American tribe that are either included or eligible for inclusion in the California Register or included in a local register of historical resources, or if the City of Menlo Park, acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a TCR.[17]

As discussed under CULT-2 and CULT-4, impacts from future development in the study area could impact unknown archeological resources including Native American artifacts and human remains. Impacts would be reduced to less-than-significant impacts with implementation of Mitigation Measures CULT-2a and CULT-2b, and CULT-4.

Therefore, compliance with existing federal, State, and local laws and regulations, and the General Plan goals and policies listed under CULT-2 above, would protect unrecorded TCR's in the study area by providing for the early detection of potential conflicts between development and resource protection, and by preventing or minimizing the material impairment of the ability of archaeological deposits to convey their significance through excavation or preservation. Furthermore, implementation of these Mitigation Measures CULT-2a and CULT-2b, and CULT-4 would reduce any impacts to TCR discovered in the study area as a result of future development under the proposed project.

Impact CULT-5: Ground-disturbing activities as a result of future development in Menlo Park could encounter TCRs the disturbance of which could result in a significant impact under CEQA.

Mitigation Measure CULT-5a: Implement Mitigation Measures CULT-2a.

Mitigation Measure CULT-5b: Implement Mitigation Measures CULT-2b.

Mitigation Measure CULT-5c: Implement Mitigation Measures CULT-4.

Significance With Mitigation: Less than significant.

[17] Public Resources Code (PRC) Sections 21074(a)(1) and (2).

4.4.4 CUMULATIVE IMPACTS

CULT-6 Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would result in a significant cumulative impacts with respect to cultural resources.

Cumulative impacts would occur when a series of actions leads to the loss of a substantial type of site, building, or resource. For example, while the loss of a single historic building may not be significant to the character of a neighborhood or streetscape, continued loss of such resources on a project-by-project basis could constitute a significant cumulative effect. This is most obvious in historic districts, where destruction or alteration of a percentage of the contributing elements may lead to a loss of integrity for the district overall. For example, changes to the setting or atmosphere of an area by adding modern structures on all sides of a historically significant building, thus altering the aesthetics of the streetscape, would create a significant impact. Destruction or relocation of historic buildings would also significantly impact the setting.

Future development planned for under the General Plan would be located within the developed portions of the study area, this, in conjunction with buildout of the city and the region, has the potential to cumulatively impact historical resources. As previously mentioned, impacts to historic architectural resources would be mitigated with implementation of Mitigation Measure CULT-1. Impacts to archaeological resources, paleontological resources, human remains, or TCR's identified within the areas of potential development in the study area and implementation of Mitigation Measures CULT-2a, CULT-2b, CULT-3, CULT-4, and CULT-5a through CULT-5c would reduce these impacts to a less-than-significant level; thus, future development set to occur under the General Plan would not create or contribute to a cumulative impact on known cultural resource. Additionally, the existing federal, State, and local regulations and General Plan goals, policies and programs described throughout this chapter serve to protect cultural resources in Menlo Park. For example, development proposals received by the City would, if necessary, undergo review by a cultural resources professional, as outlined in Program OSC-3.A, and project-specific mitigations would be provided as a result of this review. Continued compliance with these regulations and mitigation measures would avoid impacts to historical, archaeological, paleontological resources, human remains, and TCR's to the maximum extent practicable. Therefore, in combination with past, present, and reasonably foreseeable projects, the project would result in a *less-than-significant* cumulative impact with respect to cultural resources.

Impact CULT-6: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, could result in a significant cumulative impact with respect to cultural resources.

> Mitigation Measure CULT-6: Implement Mitigation Measures CULT-1, CULT-2a, CULT-2b, CULT-3, CULT-4, and CULT-5a through CULT-5c.

Significance With Mitigation: Less than significant.

4.5 GEOLOGY, SOILS, AND SEISMICITY

This chapter provides an overview of the regulatory framework and existing geologic conditions for the study area. The chapter also evaluates the potential environmental impacts of the proposed project as they relate to geology, soils, and seismicity.

4.5.1 ENVIRONMENTAL SETTING

4.5.1.1 REGULATORY FRAMEWORK

This section summarizes key State and local regulations pertaining to geology, soils, and seismicity that are applicable to the proposed project. There are no Federal regulations relating to geology, soils, and seismicity that are directly applicable to the proposed project.

State Regulations

The most relevant State laws that regulate geology, soils, and seismicity in the study area are the Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping Act, and the California Building Code, each of which is described below.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface fault rupture to structures used for human occupancy.[1] The main purpose of this Act is to prevent the construction of buildings used for human occupancy on top of active faults. This Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards, such as earthquake-induced liquefaction or landslides.[2]

The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones or Alquist-Priolo Zones) around the surface traces of active faults, and to issue appropriate maps.[3] The maps, which are developed using existing US Geological Survey (USGS) 7.5-minute quadrangle map bases, are then distributed to all affected cities, counties, and State agencies for their use in planning and controlling new or renewed construction. Generally, construction within 50 feet of an active fault zone is prohibited.

[1] California Geological Survey, Alquist-Priolo Earthquake Fault Zoning Act, http://www.consrv.ca.gov/cgs/rghm/ap/Pages/main.aspx, accessed on November 4, 2015.

[2] California Geological Survey, Alquist-Priolo Earthquake Fault Zoning Act, http://www.consrv.ca.gov/cgs/rghm/ap/Pages/main.aspx, accessed on November 4, 2015.

[3] California Geological Survey, Alquist-Priolo Earthquake Fault Zoning Act, http://www.consrv.ca.gov/cgs/rghm/ap/Pages/main.aspx, accessed on November 4, 2015.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, which was passed in 1990, addresses seismic hazards such as liquefaction and seismically-induced landslides.[4] Under this Act, seismic hazard zones are mapped by the State Geologist to assist local governments in land use planning. Section 2691(c) of this Act states that "it is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety." Section 2697(a) of the Act states that "cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard."

California Building Code

The State of California provides a minimum standard for building design through Title 24 of the California Code of Regulations (CCR), commonly referred to as the "California Building Code" (CBC). The CBC is located in Part 2 of Title 24. The CBC is updated every three years, and the current 2013 CBC went into effect in January 2014. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. The 2013 CBC has been adopted for use by the City of Menlo Park, according to Section 12.04.010 of the Menlo Park Municipal Code.

Through the CBC, the State provides a minimum standard for building design and construction. The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

Local Regulations

Emergency Operation Plan

The City of Menlo Park adopted an Emergency Operation Plan (EOP) in January 2011.[5] The City developed the EOP to better prepare for responses to "extraordinary" emergency situations that could result from natural disasters and technological incidents. To prepare for these emergencies, the City assessed the potential risks associated with earthquakes, flooding, wildland fire, and other disasters. Based on this evaluation, various response strategies were developed. These strategies are addressed in Volume 2 of the EOP as follows: Chapter 1 introduces the City's Emergency Management System and four emergency management phases, as well as required activities and responsible parties for each phase; Chapter 2 describes regulatory frameworks and relevant legal authorities; Chapter 3 provides a threat assessment including estimated potential risks associated with various natural and man-made disasters; and Chapter 4 provides a recovery plan, including damage assessments and disaster assistance programs.

[4] California Geological Survey, Alquist-Priolo Earthquake Fault Zoning Act, http://www.consrv.ca.gov/cgs/rghm/ap/Pages/main.aspx, accessed on November 4, 2015.

[5] City of Menlo Park, 2011. *Emergency Operation Plan, Basic Plan*, Volume 2, http://www.menlopark.org/documentcenter/view/815, accessed on February 26, 2015.

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.5.3, Impact Discussion.

Menlo Park Municipal Code

The City of Menlo Park Municipal Code, organized by title, chapter, and section, contains all ordinances for Menlo Park. Title 12, Buildings and Construction, includes regulations relevant to geology and seismic events in Menlo Park as discussed below.

Chapter 12.04, Adoption of Codes

Under Chapter 12.04, Adoption of Codes, the City has adopted all parts of the most recent triennial publication of the California Code of Regulations, Title 24 except Part 9, California Fire Code. Together, they are referred to as the building code of the city. In addition, Chapters 12.06 through 12.18 of the City of Menlo Park Municipal Code implement certain amendments to the City's building code.

Land Development Guidelines[6]

The City of Menlo Park Department of Public Works, Engineering Division has a variety of development-related guidelines that govern new residential and commercial construction, additions to existing buildings, and redevelopment projects. Some of the guidelines prescribe construction-related stormwater control and treatment measures (including Best Management Practices [BMPs] such as underground detention systems, vegetated swales, inlet/filter basins, and the like) that are intended to reduce stormwater runoff and prevent sediment and pollutants from entering the City's storm drain system and creeks, as well as San Francisco Bay.[7]

The guidelines also set forth submittal requirements for landscaping plans and grading and drainage (G&D) plans. Pursuant to the Engineering Division's grading guidelines, G&D plans are required for construction projects where more than 500 square feet of a given lot will be changed from pervious areas to impervious cover (i.e., buildings, paved areas). The guidelines also require the inclusion of site plans and storm drain control plans in a G&D plan, so that proposed storm drain and utility systems, frontage improvements, and irrigation plans are clearly identified. The City also requires G&D plans to address erosion and sedimentation control details and to include an Impervious Area Worksheet that evaluates potential changes to impervious areas.

[6] City of Menlo Park, Department of Public Works, Engineering Division, Guidelines & Information, http://menlopark.org/147/Engineering-Division, accessed on November 5, 2015.

[7] City of Menlo Park, Department of Public Works, Engineering Division, *Construction Erosion and Sediment Control Plan Requirements*, http://menlopark.org/DocumentCenter/View/5672, accessed on November 6, 2015.

4.5.1.2 EXISTING CONDITIONS

Regional Seismicity

The Earth's crust includes tectonic plates that locally collide with or slide past one another along plate boundaries. California is particularly susceptible to such plate movements, notably the largely horizontal or "strike-slip" movement of the Pacific Plate, as it impinges on the North American Plate. In general, earthquakes occur when the accumulated stress along a plate boundary or fault is suddenly released, resulting in seismic slippage. This slippage can vary widely in magnitude, ranging in scale from a few millimeters or centimeters, to tens of feet.

The performance of man-made structures during a major seismic event varies widely due to a number of factors, including location with respect to active fault traces or areas prone to liquefaction or seismically-induced landslides; the type of building construction (i.e., wood frame, unreinforced masonry, non-ductile concrete frame); the proximity, magnitude, and intensity of the seismic event itself; and many other factors. In general, evidence from past earthquakes shows that wood frame structures tend to perform well especially when their foundations are properly designed and anchored. Conversely, older, unreinforced masonry structures and non-ductile reinforced concrete buildings (especially those built in the 1960s and early 1970s), do not perform as well, especially if they have not undergone appropriate seismic retrofitting. Applicable building code requirements, such as those found in the CBC, include seismic requirements that are designed to ensure the satisfactory performance of building materials under prescribed seismic conditions.

Faults

The study area, like much of the San Francisco Bay area, is vulnerable to seismic activity due to the presence of active faults in the region. The closest and most prominent active fault near the study area is the San Andreas Fault System, which is located about 2.5 miles west of the southwest boundary of the city limits.[8] Other active earthquake faults in the region include the Monte Vista Fault, which lies roughly 3 miles to the south, the Hayward Fault which lies roughly 13 miles to the north, the Calaveras Fault which is approximately 19 miles to the east, and the San Gregorio Fault, whose trace passes as close as 13 miles southwest of the study area.[9] No mapped earthquake faults run within the study area. Thus, surface fault rupture is not considered a significant hazard within the study area.[10]

Although it has not been classified as an "active" fault (i.e., having ruptured in the past 11,000 years) by the California Geological Survey (CGS), the Pulgas Fault is interpreted to cross the south-central part of

[8] United States Geological Survey (USGS), Montara Mountain (1980), Palo Alto (1973), San Mateo (1980), and Woodside (1973), Quadrangles, California, 7.5 Minute Series (Topographic), scale 1:24,000.

[9] Hart, E.W., and Bryant, W.A., *Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps*, California Geological Survey, Special Publication 42, revised 1997, Supplements 1 and 2, 1999, Supplement 3, 2003. 19 International Conference of Building Officials, Uniform Building Code, Volumes 1, 2 & 3; Chapter 16, Structural Forces (earthquake provisions).

[10] Annex to 2010 Association of Bay Area Governments (ABAG), *Local Hazard Mitigation Plan Taming Natural Disasters, City of Menlo Park*, http://resilience.abag.ca.gov/wp-content/documents/2010LHMP/MenloPark-Annex-2011.pdf, accessed on February 26, 2015.

Menlo Park. According to geologic maps published by the USGS, the main trace of this thrust fault trends northwest-southeast along the base of the foothills that occupy the southwest part of the study area.[11]

Ground Shaking

The severity of ground shaking depends on several variables such as earthquake magnitude, hypocenter proximity, local geology including the properties of unconsolidated sediments, groundwater conditions, and topographic setting. In general, ground shaking hazards are most pronounced in areas that are underlain by loosely consolidated soil/sediment.[12]

When earthquake faults within the Bay Area's nine-county area were considered, the USGS estimated that the probability of a magnitude (M) 6.7 or greater earthquake prior to year 2032 is 62 percent, or roughly a two-thirds probability over this timeframe. Individually, the forecasted probability for each individual fault to produce an M 6.7 or greater seismic event by the year 2032 is as follows: 27 percent for the Hayward Fault, 21 percent for the San Andreas Fault, 11 percent for the Calaveras Fault, and ten percent for the San Gregorio Fault.[13] Earthquakes of this magnitude can create ground accelerations severe enough to cause major damage to structures and foundations not designed to resist the forces generated by earthquakes. Underground utility lines are also susceptible where they lack sufficient flexibility to accommodate the seismic ground motion.[14] In the event of a M 7.9 earthquake on the San Andreas Fault, the seismic forecasts presented on the Association of Bay Area Governments' interactive GIS website (developed by a cooperative working group that included the USGS and the CGS) suggest that most parts of the study area are expected to experience "very strong" shaking, whereas certain foothill areas and areas near the Dumbarton Bridge are expected to experience "violent" shaking.[15]

The April 1906 earthquake on the San Andreas Fault, estimated between M 7.7 and 8.3, was the largest seismic event in recent history that affected the study area. More recently, the M 6.9 Loma Prieta earthquake of October 1989 on the San Andreas Fault caused significant damage throughout the Bay Area, although no deaths were reported in San Mateo County.

Liquefaction

Liquefaction typically occurs in areas where moist, fine-grained, cohesionless sediment or fill materials are subjected to strong, seismically-induced ground shaking. Under certain circumstances, the ground shaking can temporarily transform an otherwise solid material to a fluid state. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may subside and suffer major structural damage.

[11] USGS, 1993, Geologic Map of the Palo Alto and Part of the Redwood Point 7 ½ Minute Quadrangles, San Mateo and Santa Clara Counties, Miscellaneous Investigations Series Map I-2371, by Earl H. Pampayan.

[12] Southern California Earthquake Center (SCEC), 2011. *Putting Down Roots in Earthquake Country*, Lucile M. Jones, United States Geological Survey (USGS), and Mark Benthien, SCEC.

[13] United States Geological Survey (USGS), San Francisco Region Earthquake Probability, http://earthquake.usgs.gov/regional/nca/wg02/images/percmap-lrg.html, accessed on February 26, 2015.

[14] Association of Bay Area Governments (ABAG), 1995. *The San Francisco Bay Area On Shaky Ground*, Publication Number P95001EQK, 13 maps, scale 1:1,000,000.

[15] Association of Bay Area Governments (ABAG), 2013, Interactive Hazards Map, Earthquake Shaking Scenarios., http://gis.abag.ca.gov/website/Hazards/?hlyr=northSanAndreas, source: USGS 2013, accessed on November 6, 2015.

Liquefaction is most often triggered by seismic shaking, but it can also be caused by improper grading, landslides, or other factors. In dry soils, seismic shaking may cause soil to consolidate rather than flow, a process known as densification.

Liquefaction potential in the study area ranges from very low in the southern hill areas to very high in the Baylands. Close to San Francisco Bay, in the northeastern most part of the study area, the prevailing soil type is known as "Bay Mud," which consists of silty clay, sand, gravel, peat, and shell fragments. These low-lying areas that front the bay are particularly susceptible to liquefaction. According to hazard maps published by the CGS, the northeast part of the study area (generally, within 1¾ miles of the west end of the Dumbarton Bridge) and areas flanking San Francisquito Creek to the northwest, have been designated as liquefaction hazard zones.[16] In the southern parts of the study area, the prevailing soil type often consists of alluvium that lies atop the sandstone, chert, shale, and limestone of the Late Jurassic to Early Cretaceous Franciscan Formation.[17] These areas are judged to have a low susceptibility to liquefaction.

Landslides, Erosion, and Subsidence

Landslides are gravity-driven movements of earth materials that may include rock, soil, unconsolidated sediment, or combinations of such materials. The rate of landslide movement can vary considerably. Some move rapidly as in a soil or rock avalanche, while other landslides creep or move slowly for extended periods of time. The susceptibility of a given area to landslides depends on many variables, although the general characteristics that influence landslide hazards are well understood. The factors that influence the probability of a landslide and its relative level of risk include the following:

- Slope Material: Loose, unconsolidated soils and soft, weak rocks are more hazardous than are firm, consolidated soils or hard bedrock.
- Slope Steepness: Most landslides occur on moderate to steep slopes.
- Structure and Physical Properties of Materials: This includes the orientation of layering and zones of weakness relative to slope direction.
- Water Content: Increased water content increases landslide hazard by decreasing friction and adding weight to the materials on a slope.
- Vegetation Coverage: Abundant vegetation with deep roots promote slope stability.
- Proximity to Areas of Erosion or Man-made Cuts: Undercutting slopes can greatly increase landslide potential.
- Earthquake Ground Motions: Strong seismic ground motions can trigger landslides in marginally stable slopes or loosen slope materials, and also increase the risk of future landslides.

[16] California Geological Survey (CGS), 2006. Seismic Hazards Zone, Palo Alto Quadrangle, Official Map, released October 18, 2006. Scale 1:24,000.

[17] City of Menlo Park, 1994. Final Environmental Impact Report for Amendments to the City of Menlo Park General Plan Land Use and Circulation Elements and Zoning Ordinance, pages IV.H-1 to IV.H-5.

Landslides have the potential to occur within the study area, most notably on some of the hilly slopes that lie southwest of the street Alameda de las Pulgas. In these areas, landslides are commonly associated with bedrock outcrops of the Franciscan Formation, which frequently form steeper slopes. Shale is the most unstable of the many rock types within the Franciscan Formation, whereas sandstone and conglomerate units tend to be more stable with a lower landslide risk. Much of the upland areas in the study area are typified by shallow soil that overlies Franciscan bedrock. Landslides are not an issue in parts of the study area where the topography is flat. Due to the differences in the physical characteristics of slope materials, which markedly influence landslide potential, some superficially similar areas may differ widely in terms of landslide hazards. For this reason, site-specific geotechnical investigations are essential to the accurate assessment of potential landslide hazards at any given project site.

Land Subsidence

Subsidence hazards are known to be present in the study area. In the Baylands and adjacent fill areas that occupy the northeastern-most part of the study area, historical subsidence has been attributed to the highly compressible nature of the underlying fill and sediments. Historical groundwater overdraft in the Menlo Park-Palo Alto area, notably from the 1920s through the mid-1960s, has been the cause of settlement in much of the study area.[18] From the late 1960s on, imported water from the Hetch Hetchy Aqueduct to the east has all but replaced groundwater as a source of drinking water. Groundwater levels have risen in response, and the subsidence hazards associated with overdraft and hydro-compaction were effectively halted as of 1969.[19]

Expansive Soil

Expansive soils can change dramatically in volume depending on moisture content. When wet, these soils can expand; conversely, when dry, they can contract or shrink. Sources of moisture that can trigger this shrink-swell phenomenon can include seasonal rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soil can exhibit wide cracks in the dry season, and changes in soil volume have the potential to damage concrete slabs, foundations, and pavement. Special building/structure design or soil treatment are often needed in areas with expansive soils.

Expansive soils are typically very fine-grained with a high to very high percentage of clay, typically montmorillonite, smectite, or bentonite clay. Linear extensibility soil tests are often used to identify expansive soils, wherein soil sample volume/length changes in response to reduced moisture content.[20] A linear extensibility of 3 percent or greater connotes moderate to high shrink-swell potential. This soil behavior has the potential to cause damage to buildings, roads, and other structures.

[18] Todd Engineers, 2005. *Feasibility of Supplemental Groundwater Resources Development Menlo Park and East Palo Alto, California*.

[19] USGS, 1999, *Land Subsidence in the United States* , edited by Devin Galloway, David R. Jones, and S.E. Ingebritsen , Circular 1182.

[20] Army Corps of Engineers Field Manual TM 5-818-7, 1985. http://armypubs.army.mil/eng/DR_pubs/dr_a/pdf/tm5_818_7.pdf, accessed on February 26, 2015.

A 1991 U.S. Department of Agriculture (USDA) soil survey of San Mateo County provides an overview of the soil types present in the study area soils as well as their physical and engineering properties.[21] The study, whose extent embraced the southernmost part of the County including the City of Menlo Park, broadly identified three major soil associations in the study area: 1) the Accelerator-Fagan association soils, typically comprised of deep, well-drained loams or clay loams that are most prevalent in the southern foothills; 2) the Botella complex soils that are generally composed of deep or very deep, well drained clay loams, and predominantly found in the central part of the study area; and 3) and Urban land-Orthents, very deep, poorly drained, texturally heterogeneous soils that have been used for fill in a (proportionally) smaller area along the Baylands edge.

The USDA county-wide soil survey notwithstanding, the shrink-swell potential at a given project within the study area may often be highly site-specific, requiring careful geotechnical investigation prior to project design and construction. For example, soils on the northeastern Baylands edge, as in the vicinity of the Facebook East and West Campus project, are known to be clay-rich and poorly drained, and are likely to possess high shrink-swell potential.[22] Elsewhere in the study area, soil test data in the USDA's Web Soil Survey (a nationwide data repository) shows soil plasticity index values of 10 to 12 percent, suggesting low to moderate shrink-swell potential at those locations.[23]

4.5.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact if it would:

1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
   - Strong seismic ground shaking.
   - Seismic-related ground failure, including liquefaction.
   - Landslides.
2. Result in substantial soil erosion or the loss of topsoil
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

[21] U.S. Department of Agriculture (USDA), 1991. Soil Conservation Service, Soil Survey of San Mateo County, Eastern Part, and San Francisco County, California, issued May 1991.

[22] City of Menlo Park, 2011. Facebook Campus Project Draft EIR, dated December 2011, prepared by Atkins, Inc.

[23] U.S. Department of Agriculture (USDA), Natural Resources Conservation Center, Web Soil Survey, 2013. http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm last accessed on February 15, 2013.

4.5.3 IMPACT DISCUSSION

GEO-1 **Implementation of the proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landsliding.**

No Alquist-Priolo Earthquake Fault Zones have been mapped within the study area. The Pulgas Fault, a northwest-trending thrust fault, has been mapped near the base of the foothills that define the southwest part of the study area. This fault shows no evidence of activity in the past 11,000 years and is not considered "active" by the CGS.[24] Based on published seismic research and forecast, in the event of a large, M 7.9 earthquake on the nearby San Andreas Fault, much of the study area is projected to experience "very strong" or even "violent" ground shaking, with the most intense shaking forecast for the northeastern and southwestern parts of the study area.[25]

Based on mapping by the CGS, certain northeastern parts of the study area, particularly those areas underlain by Bay Mud, are judged to have a high potential for seismically-induced liquefaction. Lastly, landsliding hazards are typically low in the study area, due in part to the prevailing flat topography. Exceptions are found in the foothill areas in the southeast part of the study area, where certain steeper hillsides have been mapped as seismically-induced landslide hazard zones.

State-level protections concerning the seismic hazards discussed above include the Alquist-Priolo Earthquake Fault Zoning Act of 1972, the Seismic Hazards Mapping Act of 1990, and the California Building Code (i.e., CCR Title 24).

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section IV, Safety (S) of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies and programs that would require local planning and development decisions to consider impacts related to strong seismic ground shaking; seismic-related ground failure, including liquefaction; or land sliding. The following General Plan goals, policies and programs would serve to minimize potential adverse risks specifically associated with strong seismic ground shaking, seismic-related ground failure, including liquefaction or landslides:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.

[24] United States Geological Survey (USGS), 2000. *Geologic Map and Map Database of the Palo Alto 30' X 60' Quadrangle, California*, E.E. Brabb, R.W. Graymer, and D.L. Jones.

[25] California Seismic Safety Commission (CSSC), California Geological Survey (CGS), California Emergency Management Agency (CalEMA), and United States Geological Survey (USGS), *Earthquake Shaking Potential for the San Francisco Bay Region*, 2003, http://resilience.abag.ca.gov/earthquakes/, accessed on February 26, 2015.

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

- Goal S-1: Assure a Safe Community. Minimize risk to life and damage to the environment and property from natural and human-caused hazards, and assure community emergency preparedness and a high level of public safety services and facilities.
  - Policy S-1.1: Location of Future Development. Permit development only in those areas where potential danger to the health, safety and welfare of the residents of the community can be adequately mitigated.
  - Policy S-1.3: Hazard Data and Standards. Integrate hazard data (geotechnical, flood, fire, etc.) and risk evaluations into the development review process and maintain, develop and adopt up-to-date standards to reduce the level of risk from natural and human-caused hazards for all land use.
  - Policy S-1.5: New Habitable Structures. Require that all new habitable structures to incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused hazards.
  - Policy S-1.7: California Building Standards Code. Encourage the reduction of seismically vulnerable buildings and buildings susceptible to other hazards through enforcement of the California Building Standards Code and other programs.
  - Policy S-1.13: Geotechnical Studies. Require site-specific geologic and geotechnical studies for land development or construction in areas of potential land instability as shown on the State and/or local geologic hazard maps or identified through other means.
  - Policy S-1.14: Potential Land Instability. Prohibit development in areas of potential land instability identified on State and/or local geologic hazard maps, or identified through other means, unless a geologic investigation demonstrates hazards can be mitigated to an acceptable level as defined by the State of California.
    - Program S-1.A: Link the City's Housing and Safety Elements. Continue to review and revise the Safety Element, as necessary, concurrently with updates to the General Plan Housing Element whenever substantial new data or evidence related to prevention of natural and human hazards become available.
    - Program S-1.B: Maintain Up-to-Date Hazard Maps and Databases. Maintain up-to-date databases and maps of geologic and other hazards to identify areas prone to hazards for planning purposes on an on-going basis concurrently with the Housing Element Updates.
    - Program S-1.D: Require Early Investigation of Potential Hazard Conditions. Require that potential geologic, seismic, soils, and/or hydrologic problems confronting public or private development be thoroughly investigated at the earliest stages of the design process, and that these topics be comprehensively evaluated in the environmental review process by persons of competent technical expertise.
    - Program S-1.E: Modify the Zoning and Subdivision Ordinances as Needed to Address Hazard Mitigation. Modify the Zoning Ordinance as needed when new information on natural hazards

becomes available and to provide for hazard reduction measures as a part of the design criteria for development review. Review the Subdivision Ordinance and modify as needed to include hazard reduction in the process of dividing land for development.

- Program S-1.G: Share Hazard Data with Other Agencies. Participate in a cooperative County-wide program to pool natural hazard data developed through special studies or via the project review process and continue to update and implement the Local Hazard Mitigation Plan.
- Program S-1.H: Enforce Seismic Risk Analysis and Adequate Construction Standards. Enforce seismic risk analysis and adequate construction standards through the building permit and inspection process.

Thus, because future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies that have been prepared to minimize impacts related to strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landsliding, and because the City, throughout the 2040 buildout horizon, would implement the General Plan programs that require ongoing review, identification and maintenance of maps and regulations related to geologic and seismic hazards, impacts would be *less than significant*.

Significance Without Mitigation: Less than significant.

GEO-2 Implementation of the proposed project would not result in substantial soil erosion or the loss of topsoil.

Substantial soil erosion or loss of topsoil during construction could undermine structures and minor slopes, and this could be a concern of nearly all construction resulting from implementation of the proposed project. Compliance with existing regulatory requirements, such as implementation of erosion control measures as specified in the City of Menlo Park Engineering Division's Grading and Drainage Control Guidelines, would reduce impacts from erosion and the loss of topsoil to the extent practicable. Examples of these erosion control measures include hydroseeding or short-term biodegradable erosion control blankets; vegetated swales, silt fences, or other inlet protection at storm drain inlets; post-construction inspection of drainage structures for accumulated sediment; and post-construction clearing of debris and sediment from these structures.

Furthermore, the anticipated residential and commercial construction under the proposed project would be concentrated on sites that are already developed and/or underutilized. For this reason, development would likely result in limited soil erosion or loss of topsoil. Adherence to existing regulatory requirements, that include, but are not limited to, the City of Menlo Park's grading and drainage requirements for new developments, would ensure that impacts associated with substantial erosion and loss of topsoil during the development under the proposed project would be *less than significant*.

Significance Without Mitigation: Less than significant.

GEO-3 Implementation of the proposed project would not result in a significant impact related to development on unstable geologic units and soils or result in lateral spreading, subsidence, liquefaction, or collapse.

Unstable geologic units are known to be present within the study area. The impacts of such unstable materials include, but may not be limited to, subsidence in the Baylands where the underlying sediments have been described as highly compressible, and nearby areas of artificial fill near the edge of San Francisco Bay. Elsewhere in the study area, historical groundwater over-extraction from the 1920s through the mid-1960s resulted in a sharp lowering of groundwater levels and local subsidence. A shift to imported sources of drinking water (i.e., the Hetch Hetchy Reservoir) in the late 1960s effectively halted that subsidence.

In addition to protections afforded by State laws, such as the Seismic Hazards Mapping Act of 1990, General Plan policies and programs listed under GEO-1 would require local planning and development decisions to consider impacts related to development on unstable soils. These General Plan goals, policies and programs would serve to minimize potential adverse risks specifically associated with unstable soils. For example, compliance with General Plan Policy S-1.13, which requires site-specific geologic and geotechnical studies for land development or construction in areas of potential land instability, provide additional safeguards. Similarly, General Plan Policy S-1.14 generally bars development in areas of potential land instability already identified on State and/or local geologic hazard maps.

Under the General Plan, the City is required to implement the General Plan programs related to geologic and seismic hazards over the duration of the General Plan buildout. Program S-1.A requires the City to continue to review and revise the Safety Element, as necessary, concurrently with updates to the General Plan Housing Element whenever substantial new data or evidence related to prevention of natural and human hazards become available. Program S-1.B requires the City to maintain up-to-date databases and maps of geologic and other hazards to identify areas prone to hazards for planning purposes on an on-going basis concurrently with the Housing Element Updates. Program S-1.D requires the City to require that potential geologic, seismic, soils, and/or hydrologic problems confronting public or private development be thoroughly investigated at the earliest stages of the design process, and that these topics be comprehensively evaluated in the environmental review process by persons of competent technical expertise. Program S-1.E requires the City to modify the Zoning Ordinance as needed when new information on natural hazards becomes available and to provide for hazard reduction measures as a part of the design criteria for development review. Review the Subdivision Ordinance and modify as needed to include hazard reduction in the process of dividing land for development. Program S-1.G requires the City to participate in a cooperative County-wide program to pool natural hazard data developed through special studies or via the project review process and continue to update and implement the Local Hazard Mitigation Plan. Program S-1.H: requires the City to inforce seismic risk analysis and adequate construction standards through the building permit and inspection process.

Thus, because future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies that have been prepared to minimized impacts related to development on unstable geologic units and soils where lateral spreading, subsidence, liquefaction, or collapse could occur in the study area, and because the City,

throughout the 2040 buildout horizon, would implement the General Plan programs that require ongoing review, identification and maintenance of maps and regulations related to geologic and seismic hazards, impacts would be *less than significant*.

Significance Without Mitigation: Less than significant.

GEO-4 Implementation of the proposed project would not create substantial risks to property as a result of its location on expansive soil, as defined by Section 1803.5.3 of the California Building Code.

As previously discussed, the pattern of expansive soils within the study area is such that expansive soils (denoted by soils with high linear extensibility and plasticity index) are most prevalent in the northeastern-most part of the study area, in the neighborhoods that lie closest to San Francisco Bay. Development in this part of the study area would be subject to requirements of the CBC, as adopted in Chapter 12.04 of the City's Municipal Code and enforced by the City during plan review prior to building permit issuance. The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition, and it also regulates grading activities, including drainage and erosion control. Furthermore, requirements for geotechnical investigations at development site locations where potential land instability has already been identified are bolstered by various goals, policies, and programs of the General Plan as previously cited under GEO-1. Thus, because future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies that have been prepared to minimized impacts related to development on expansive soil in the study area, and because the City, throughout the 2040 buildout horizon, would implement the General Plan programs that require ongoing review, identification and maintenance of maps and regulations related to geologic and seismic hazards, impacts would be *less than significant*.

Significance Without Mitigation: Less than significant.

GEO-5 Implementation of the proposed project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Development within the study area is not expected to require the use of septic tanks or alternative waste water disposal systems. Wastewater will be discharged into the existing public sanitary sewer system in the study area, which is serviced by the West Bay Sanitary District and the South Bayside Systems Authority (now known as Silicon Valley Clean Water or SVCW). The West Bay Sanitary District provides and maintains the sanitary sewer system in the City, whereby wastewater is conveyed to an advanced, two-stage biological treatment facility operated by the SVCW prior to discharge to San Francisco Bay.

As such, impacts of future project development where soils may be incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sanitary sewers are not available would be *less than significant*.

Significance Without Mitigation: Less than significant.

4.5.4 CUMULATIVE IMPACT DISCUSSION

GEO-6	**Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to geology, soils, and seismicity.**

This section analyzes potential cumulative geological impacts that could arise from future development under the proposed project combined with projected regional growth in its immediate vicinity and the reasonably foreseeable projects described in Chapter 4, Environmental Evaluation, of the Draft EIR.

Anticipated new development in the study area would be subject to CBC and Municipal Code requirements, as well as the General Plan polices. Compliance with these requirements would, to the maximum extent practicable, reduce cumulative, development-related impacts that pertain to seismic shaking, seismically induced landslides and liquefaction, and expansive soils.

Similarly, compliance with relevant Municipal Code requirements, as well as the requirements of the CBC, would minimize the cumulative impacts associated with substantial erosion or loss of topsoil.

Project implementation would not result in a significant impact with respect to geology, soils, and/or seismicity and would not significantly contribute to cumulative impacts in this regard. Therefore, the cumulative impacts associated with project implementation, together with anticipated growth in its immediate vicinity, would result in a *less-than-significant* cumulative impact with respect to geology, soils, and seismicity.

Significance Without Mitigation: Less than significant.

4.6 GREENHOUSE GAS EMISSIONS

This chapter describes the regulatory framework and existing conditions related to greenhouse gas (GHG) emissions, and the potential for impacts from the adoption and implementation of the proposed project. Because no single project is large enough individually to result in a measurable increase in global concentrations of GHG emissions, global warming impacts of a project are considered on a cumulative basis. The General Plan addresses GHG emissions in the existing Open Space/Conservation, Noise and Safety Element as well the proposed project's Circulation and Land Use Elements. Air Quality, GHG, and sustainability policies and programs in the proposed project and the previously adopted Elements are designed to minimize GHG emissions to the extent feasible. Additionally, the proposed project includes an update to the City's Zoning Ordinance for the Bayfront Area, resulting in three new zoning districts that would promote the creation of an employment district with travel patterns that are oriented toward pedestrian, transit, and bicycle use in an effort to reduce single-occupant vehicle trips; and thereby, reduce GHG emissions.

This chapter is based on the methodology recommended by the Bay Area Air Quality Management District (BAAQMD). The proposed project is evaluated using BAAQMD's plan-level review criteria. GHG emissions are based on vehicle miles traveled (VMT) provided by TJKM for the on-road transportation emissions section and energy use provided by the Pacific Gas & Electric (PG&E) company. The GHG emissions modeling is included in Appendix E, Air Quality and Greenhouse Gas Data, of this Draft EIR.

4.6.1 ENVIRONMENTAL SETTING

4.6.1.1 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

GHG emissions are various gases that are released into the atmosphere, largely as a by-product of burning fossil fuels, such as oil, natural gas, and coal, or as methane during the production and transport of fossil fuels. Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping GHG to the atmosphere. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.[1,2,3] The major GHGs are briefly described below.

[1] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant or a primary cause of change, but part of the feedback loop.

[2] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. According to the California Air Resources Board, California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities. However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon

GREENHOUSE GAS EMISSIONS

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (i.e., sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices, and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.
- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases. Fluorinated gases include the following:
  - **Chlorofluorocarbons (CFCs)** are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (i.e., troposphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down the ozone layer. These gases are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.
  - **Perfluorocarbons (PFCs)** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with HFCs, to ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high GWP.
  - **Sulfur Hexafluoride (SF_6)** is a colorless gas that is soluble in alcohol and ether and slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.
  - **Hydrochlorofluorocarbons (HCFCs)** contain hydrogen, fluorine, chlorine, and carbon atoms. Although they are ozone-depleting substances, they are less potent than CFCs. They have been introduced as temporary replacements for CFCs.
  - **Hydrofluorocarbons (HFCs)** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.[4,5]

[3] Intergovernmental Panel on Climate Change, Third Assessment Report: Climate Change 2001, New York: Cambridge University Press.

[4] United States Environmental Protection Agency, Greenhouse Gas Emissions, 2012, http://www.epa.gov/climatechange/ghgemissions/gases.html, accessed on September 24, 2014.

[5] Intergovernmental Panel on Climate Change, Third Assessment Report: Climate Change 2001, New York: Cambridge University Press.

The GWPs of GHGs are dependent on the lifetime or persistence of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. As noted above, they are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 4.6-1. The GWP is used to convert GHGs to CO_2-equivalence (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Second Assessment Report, the GWP value for CH_4 is 21; a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 210 MT of CO_2.[6]

California's Greenhouse Gas Sources and Relative Contribution

California is the tenth largest GHG emitter in the world and the second largest emitter of GHG in the United States, surpassed only by Texas; however, California also has over 12 million more people than the state of Texas.[7] Because of more stringent air emission regulations, in 2001 California ranked fourth lowest in carbon emissions per capita and fifth lowest among states in CO_2 emissions from fossil fuel consumption per unit of Gross State Product (total economic output of goods and services).[8]

The California Air Resources Board's (CARB) last update to the statewide GHG emissions inventory was in 2012 for year 2009 emissions and used the Second Assessment Report GWPs.[9] In 2009, California produced 457 $MMTCO_2e$ GHG emissions. California's transportation sector is the single largest generator of GHG emissions, producing 37.9 percent of the state's total emissions. Electricity consumption is the second largest source, comprising 22.7 percent. Industrial activities are California's third largest source of GHG emissions, comprising 17.8 percent of the state's total emissions. Other major sectors of GHG emissions include commercial and residential energy use, recycling and waste, high global warming potential GHGs, agriculture, and forestry.[10,11]

In 2015, the statewide GHG emissions inventory was updated for 2000 to 2013 emissions using the GWPs in IPCC's Fourth Assessment Report. Based on these GWPs, California produced 459 $MMTCO_2e$ GHG emissions in 2013. California's transportation sector remains the single largest generator of GHG emissions, producing 36.8 percent of the state's total emissions. Electricity consumption made up 19.7 percent, and industrial activities produced 20.2 percent. Other major sectors of GHG emissions

[6] CO_2-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

[7] California Energy Commission, 2005, Climate Change Emissions Estimates from Bemis, Gerry and Jennifer Allen, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2002 Update, California Energy Commission Staff Paper CEC-600-2005-025, Sacramento, California, June.

[8] California Energy Commission, 2006, Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004, Report CEC-600-2006-013-SF, December.

[9] Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (AB 32) (2006).

[10] CO_2-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

[11] California Air Resources Board, 2012, California Greenhouse Gas Inventory for 2000–2009: By Category as Defined by the Scoping Plan, April.

include commercial and residential, recycling and waste, high global warming potential GHGs, and agriculture.[12]

TABLE 4.6-1 GHG EMISSIONS AND THEIR RELATIVE GLOBAL WARMING POTENTIAL COMPARED TO CO_2

Greenhouse Gases	Atmospheric Lifetime (Years)	Second Assessment Report (SAR) Global Warming Potential Relative to CO_2 [a]	Fourth Assessment Report (AR4) Global Warming Potential Relative to CO_2 [b]
Carbon Dioxide (CO_2)	50 to 200	1	1
Methane[2] (CH_4)	12 (±3)	21	25
Nitrous Oxide (N_2O)	120	310	298
Hydrofluorocarbons:			
HFC-23	264	11,700	14,800
HFC-32	5.6	650	675
HFC-125	32.6	2,800	3,500
HFC-134a	14.6	1,300	1,430
HFC-143a	48.3	3,800	4,470
HFC-152a	1.5	140	124
HFC-227ea	36.5	2,900	3,220
HFC-236fa	209	6,300	9,810
HFC-4310mee	17.1	1,300	1,030
Perfluoromethane: CF_4	50,000	6,500	7,390
Perfluoroethane: C_2F_6	10,000	9,200	12,200
Perfluorobutane: C_4F_{10}	2,600	7,000	8,860
Perfluoro-2-methylpentane: C_6F_{14}	3,200	7,400	9,300
Sulfur Hexafluoride (SF_6)	3,200	23,900	22,800

Notes: The IPCC has published updated GWP values in its Fifth Assessment Report (2013) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2 (radiative forcing is the difference between energy from sunlight received by the earth and radiated back into space). However, GWP values identified in the Second Assessment Report are still used to maintain consistency in GHG emissions modeling and thresholds used in BAAQMD's CEQA Guidelines. In addition, the 2008 Scoping Plan was based on the GWP values in the Second Assessment Report.

a. Based on a 100-Year Time Horizon of the GWP of the air pollutant relative to CO_2. Intergovernmental Panel on Climate Change. 2001. Third Assessment Report: Climate Change 2001. New York: Cambridge University Press.

a. Based on a 100-Year Time Horizon of the GWP of the air pollutant relative to CO_2. Intergovernmental Panel on Climate Change. 2007. Fourth Assessment Report: Climate Change 2001. New York: Cambridge University Press.

c. The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

Sources: Intergovernmental Panel on Climate Change, 2001, Third Assessment Report: Climate Change 2001, New York: Cambridge University Press; Intergovernmental Panel on Climate Change, 2007, Fourth Assessment Report: Climate Change 2001, New York: Cambridge University Press.

[12] California Air Resources Board (CARB), 2015. California Greenhouse Gas Inventory for 2000–2013: By Category as Defined by the Scoping Plan, April 24.

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and climate change pollutants that is attributable to human activities. The amount of CO_2 has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million per year since 1960, mainly due to combustion of fossil fuels and deforestation.[13] These recent changes in climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is rising at a rate that cannot be explained by natural causes alone.[14] Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants.[15]

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are also hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historic trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- warmer and fewer cold days and nights over most land areas;
- warmer and more frequent hot days and nights over most land areas;
- an increase in frequency of warm spells/heat waves over most land areas;
- an increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas;
- areas affected by drought increases;
- an increase in intense tropical cyclone activity;
- increased incidence of extreme high sea level (excludes tsunamis).

Potential Climate Change Impacts for California

Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada. By 2050, California is projected to warm by

[13] Intergovernmental Panel on Climate Change, Fourth Assessment Report: Climate Change 2007, New York: Cambridge University Press.

[14] At the end of the last ice age, the concentration of CO_2 increased by around 100 ppm (parts per million) over about 8,000 years, or approximately 1.25 ppm per century. Since the start of the industrial revolution, the rate of increase has accelerated markedly. The rate of CO_2 accumulation currently stands at around 150 ppm/century—more than 200 times faster than the background rate for the past 15,000 years.

[15] California Climate Action Team, 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature, March.

approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1–8.6°F, depending on emissions levels.[16]

In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures, 2) a smaller fraction of precipitation falling as snow, 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones, 4) an advanced snowmelt of 5 to 30 days earlier in the springs, and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms.[17] According to the California Climate Action Team—a committee of state agency secretaries and the heads of agencies, boards, and departments, led by the Secretary of the California Environmental Protection Agency—even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes, and the inertia of the Earth's climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are shown in Table 4.6-2 and include public health impacts, water resources impacts, agricultural impacts, coastal sea level impacts, forest and biological resources impacts, and energy impacts.

Specific climate change impacts that could affect the proposed project include:

Water Resources Impacts. By late-century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. This drying trend is caused by an apparent decline in the frequency of rain and snowfall. Even in projections with relatively small or no declines in precipitation, central and southern parts of the state can be expected to be drier from the warming effects alone—the spring snowpack will melt sooner, and the moisture contained in soils will evaporate during long dry summer months.[18]

Wildfire Risks. Earlier snowmelt, higher temperatures and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide are estimated to increase from 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location.[19]

[16] California Climate Change Center. 2012, July. Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California.

[17] California Climate Action Team, 2006, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March.

[18] California Climate Change Center. 2012, July. Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California.

[19] California Climate Change Center. 2012, July. Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California.

TABLE 4.6-2 SUMMARY OF GHG EMISSIONS RISKS TO CALIFORNIA

Impact Category	Potential Risk
Public Health Impacts	Poor air quality made worse More severe heat
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: California Energy Commission, 2006, Our Changing Climate: Assessing the Risks to California, 2006 Biennial Report, California Climate Change Center, CEC-500-2006-077; California Energy Commission, 2008, The Future Is Now: An Update on Climate Change Science, Impacts, and Response Options for California, CEC-500-2008-0077.

Health Impacts. Many of the gravest threats to public health in California stem from the increase of extreme conditions, principally more frequent, more intense, and longer heat waves. Particular concern centers on the increasing tendency for multiple hot days in succession, and heat waves occurring simultaneously in several regions throughout the state. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California.[20]

Increase Energy Demand. Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the state will drive up the demand for cooling in the increasingly hot and longer summer season and decrease demand for heating in the cooler season.

[20] California Climate Change Center. 2012, July. Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California.

Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process at higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand.[21]

4.6.1.2 REGULATORY FRAMEWORK

This section describes the federal, state, and local regulations applicable to GHG emissions.

Federal Regulations

The United States Environmental Protection Agency (US EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The US EPA's final findings respond to the 2007 US Supreme Court ruling that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings did not themselves impose any emission reduction requirements, but allowed the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.[22]

The US EPA's endangerment finding covers emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three constitute the majority of GHG emissions from land uses in the city and, per Bay Area Air Quality Management District (BAAQMD) guidance, are the GHG emissions that should be evaluated as part of a community GHG emissions inventory.

United States Mandatory Report Rule for GHGs

In response to the endangerment finding, the US EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (e.g., large stationary sources) to report GHG emissions data. Facilities that emit 25,000 $MTCO_2e$ per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards

The current Corporate Average Fuel Economy (CAFE) standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by

[21] California Climate Change Center. 2012, July. Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California.

[22] United States Environmental Protection Agency, 2009, EPA: Greenhouse Gases Threaten Public Health and the Environment, Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity, December, http://yosemite.epa.gov/opa/admpress.nsf/0/08D11A451131BCA585257685005BF252.

roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon [mpg] by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow auto makers who show compliance with the national program to be considered in compliance with state requirements. The federal government issued new standards in 2012 for model years 2017 to 2025, which will require a fleet average of 54.5 mpg in 2025.

US EPA Regulation of Stationary Sources under the Clean Air Act

Pursuant to its authority under the Clean Air Act, the US EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to the President's 2013 Climate Action Plan, the US EPA will be directed to develop regulations for existing stationary sources.

State Laws

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Executive Order B-30-15, Assembly Bill 32 (AB 32), and Senate Bill 375 (SB 375).

Executive Order S-03-05

Executive Order S-3-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- Reduce statewide GHG emissions to 2000 levels by 2010.
- Reduce statewide GHG emissions to 1990 levels by 2020.
- Reduce statewide GHG emissions to 80 percent below 1990 levels by 2050.

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal of Executive Order B-30-15 as well as the long-term goal for 2050 in Executive Order S-03-5. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

Assembly Bill 32, the Global Warming Solutions Act

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32, the Global Warming Solutions Act. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-3-05.

GREENHOUSE GAS EMISSIONS

CARB Scoping Plan

AB 32 mandated CARB develop a plan, updated every five years, to describe the approach the State will take to reduce GHGs in order to meet the 2020 reduction goals. The *Scoping Plan* was adopted by CARB in 2008 with the first update approved in 2014.[23]

The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be approximately 596 million metric tons (MMT) of CO_2e in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the state. The 2020 target requires a total emissions reduction of 169 $MMTCO_2e$, 28.5 percent from the projected emissions of the business-as-usual (BAU) scenario for the year 2020 (i.e., 28.5 percent of 596 $MMTCO_2e$).[24] [25]

Key elements of CARB's GHG reduction plan that may be applicable to the proposed project include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards (adopted and cycle updates in progress).
- Achieving a mix of the state's energy generation in which 33 percent is from renewable sources (anticipated by 2020).
- A California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system for large stationary sources (adopted 2011). The cap-and-trade program was expanded in 2013 to include the electricity sector, and then again in 2015 to include fuels (including natural gas and gasoline).
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets (several Sustainable Communities Strategies have been adopted).
- Adopting and implementing measures pursuant to state laws and policies, including California's clean car standards (amendments to the Pavley Standards adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).
- Creating target fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation (in progress).

Table 4.6-3 shows the anticipated reductions from regulations and programs outlined in the 2008 Scoping Plan. In recognition of the critical role local governments play in the successful implementation of AB 32, the 2008 Scoping Plan cited a GHG reduction goal for local governments that is 15 percent of current

[23] The first update can be viewed here: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm, accessed on December 4, 2015.

[24] California Air Resources Board, 2008, Climate Change Scoping Plan: a Framework for Change. CARB defines BAU in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

[25] California Air Resources Board (CARB). 2008, October. Climate Change Proposed Scoping Plan: A Framework for Change.

levels (2005-2008) by 2020 to ensure that municipal and community-wide emissions match the state's reduction target.[26] Measures that local governments take to support shifts in land use patterns are anticipated to emphasize compact, low-impact growth over development in greenfields, resulting in fewer VMT.[27]

TABLE 4.6-3 SCOPING PLAN GHG REDUCTION MEASURES AND REDUCTIONS TOWARD 2020 TARGET

Recommended Reduction Measures	Reductions Counted toward 2020 Target of 169 MMT CO_2e	Percentage of Statewide 2020 Target
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets[a]	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	*146.7*	*87%*
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	*27.3*	*16%*
Total Reductions Counted toward 2020 Target	*174*	*100%*

[26] The Scoping Plan references a goal for local governments to reduce community GHG emissions by 15 percent from current (interpreted as 2008) levels by 2020, but it does not rely on local GHG reduction targets established by local governments to meet the State's GHG reduction target of AB 32.

[27] California Air Resources Board, Climate Change Scoping Plan: A Framework for Change, 2008.

TABLE 4.6-3 SCOPING PLAN GHG REDUCTION MEASURES AND REDUCTIONS TOWARD 2020 TARGET

Recommended Reduction Measures	Reductions Counted toward 2020 Target of 169 MMT CO_2e	Percentage of Statewide 2020 Target
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations[b]	To Be Determined	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	*42.8*	*NA*

Notes: The percentages in the right-hand column add up to more than 100 percent because the emissions reduction goal is 169 $MMTCO_2e$ and the Scoping Plan identifies 174 $MTCO_2e$ of emissions reductions strategies. Based on the SAR GWPs.
MMTCO2e = million metric tons of CO_2e
a. Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.
b. According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO_2e (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 target.
Source: California Air Resources Board, 2008, Climate Change Scoping Plan: A Framework for Change.

First Update to the Scoping Plan

CARB adopted the First Update to the Scoping Plan at the May 22, 2014, board hearing. The Update to the Scoping Plan defines CARB's climate change priorities for the next five years and lays the groundwork to reach post-2020 goals in Executive Orders S-3-05 and B-16-2012. The update includes the latest scientific findings related to climate change and its impacts, including short-lived climate pollutants. The GHG target identified in the 2008 Scoping Plan is based on IPCC's GWPs identified in the Second Assessment Report (see Table 4.6-1). IPCC's Fourth and Fifth Assessment Reports identified more recent GWP values based on the latest available science. CARB recalculated the 1990 GHG emission levels with the updated GWPs in the Fourth Assessment Report, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher, at 431 $MMTCO_2e$.[28]

In the First Update to the Scoping Plan (also referred to as the 2014 Scoping Plan), CARB projects that statewide BAU emissions in 2020 would be approximately 509 $MMTCO_2e$.[29] Therefore, to achieve the AB 32 target of 431 $MMTCO_2e$ (i.e., 1990 emissions levels) by 2020, the state would need to reduce emissions by 78 $MMTCO_2e$ compared to BAU conditions, a reduction of 15.3 percent from BAU in 2020. The data from the First Update to the Scoping Plan regarding GHG emissions and reductions needed to achieve the 1990 emissions target are shown in Table 4.6-4.

[28] California Air Resources Board (CARB), 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006, May 15.*

[29] The BAU forecast includes GHG reductions from Pavley and the 33% Renewable Portfolio Standard (RPS).

TABLE 4.6-4 STATE BAU FORECAST IN THE FIRST UPDATE TO THE SCOPING PLAN

Category	2020 $MMTCO_2e$ – Fourth Assessment Report GWPs
AB 32 Baseline 2020 Forecast Emissions (2020 BAU) with Pavley I and the Renewable Electricity Standard (RPS)	539
AB 32 Baseline 2020 Forecast Emissions (2020 BAU)[a]	509
Expected Reductions from Sector-Based Measures	
Energy	25
Transportation	23
High-GWPs	5
Waste	2
Cap-and-Trade Reductions[b]	23
2020 Limit	431
Percent Reduction from BAU with Pavley I and RPS	20.0%
Percent Reduction from BAU without Pavley and RPS	15.3%

a. The total projected emissions in the 2020 BAU scenario accounts for reductions anticipated from Pavley I and the Renewable Electricity Standard (30 million $MTCO_2e$ total).
b. The cap-and-trade reductions depend on the emissions forecast.
Sources: CARB 2014, First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006, May 15.

The update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the original 2008 Scoping Plan. As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the Update to the Scoping Plan also addresses the state's longer-term GHG goals within a post-2020 element. The post-2020 element provides a high level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the state to adopt a mid-term target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with, or exceeds, the trajectory created by statewide goals.[30]

According to the Update to the Scoping Plan, reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions

[30] California Air Resources Board (CARB), 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006, May 15.*

from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit.[31]

Second Update to the Scoping Plan

The new Executive Order B-30-15 requires CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. During the October 1, 2015 CARB workshop, CARB announced that the next update to the Scoping Plan to address the new 2030 interim target to achieve a 40 percent reduction below 1990 levels by 2030 would be adopted by late 2016.

Senate Bill 375

In 2008, Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPOs).

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent during the same time. California implements the Pavley I standards through a waiver granted to California by the US EPA. In 2012, the US EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under "Federal Laws," above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for a greater number of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.[32]

[31] California Air Resources Board (CARB), 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006, May 15.*

[32] See also the discussion on the update to the CAFE standards under Federal Laws, above. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

Executive Order S-01-07

On January 18, 2007, the state set a new low carbon fuel standard (LCFS) for transportation fuels sold in the state. Executive Order S-1-07 sets a declining standard for GHG emissions, measured in CO_2e grams per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and would use market-based mechanisms to allow providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

Executive Order B-16-2012

On March 23, 2012, the state directed CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels by 2050.

Senate Bills 1078 and 107, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewable portfolio standard (RPS) established under Senate Bills 1078 (Sher)[33] and 107 (Simitian)[34]. Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008 and expands the state's Renewable Energy Standard to 33 percent renewable power by 2020. This Executive Order was adopted by the legislature in 2011 under SBX1-2. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

California Building Code: Building and Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were originally adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (California Code of Regulations [CCR], Title 24, Part 6). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated about every three years to allow for

[33] Official California Legislative Information, http://www.leginfo.ca.gov/pub/01-02/bill/sen/sb_1051-1100/sb_1078_bill_20020912_chaptered.html, accessed on September 24, 2014.

[34] Official California Legislative Information , http://www.leginfo.ca.gov/pub/05-06/bill/sen/sb_0101-0150/sb_107_bill_20060926_chaptered.html, accessed on September 24, 2014.

consideration of new energy efficiency technologies and methods. In 2012, the CEC adopted the 2013 Building and Energy Efficiency Standards, which went into effect on July 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of changes in requirements for windows, insulation, lighting, ventilation systems, and other features.

Most recently, the CEC adopted the 2016 Building and Energy Efficiency Standards. The 2016 standards will continue to improve upon the current 2013 standards for new construction of, and additions and alterations to, residential and nonresidential buildings. These standards will go into effect on January 1, 2017. Under the 2016 standards, residential buildings are 28 percent more energy efficient than the 2013 standards, and non-residential buildings are 5 percent more energy efficient.[35]

The 2016 standards will not achieve zero net energy (ZNE). However, they do get very close to the state's goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve ZNE for newly constructed residential buildings throughout California.[36]

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and indoor air contaminants.[37] The mandatory provisions of CALGreen became effective January 1, 2011, and were updated most recently in 2013. The building efficiency standards are enforced through the local building permit process.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR, Section 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by any other state, and they reduce GHG emissions by reducing energy demand.

Solid Waste Regulations

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from

[35] California Energy Commission (CEC). 2015. 2016 Building Energy Efficiency Standards, Adoption Hearing Presentation. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/, accessed on September 23, 2015.

[36] California Energy Commission (CEC). 2015. 2016 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf, accessed on September 23, 2015.

[37] The green building standards became mandatory in the 2010 edition of the code.

landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each City and County prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses.

The California Solid Waste Reuse and Recycling Access Act (AB 1327, California Public Resources Code Sections 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

Section 5.408 of the 2013 California Green Building Standards Code also requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

In October of 2014, Governor Brown signed AB 1826[38] requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Water Efficiency Regulations

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the CEC to consult with the DWR, to adopt, by regulation, performance standards and labeling requirements for landscape irrigation

[38] Calrecycle, 2016. Mandatory Commercial Organics Recycling, http://www.calrecycle.ca.gov/recycle/commercial/organics/, accessed on February 4, 2016.

equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Regional Regulations

Bay Area Air Quality Management District

BAAQMD is the agency responsible for ensuring that the National and California ambient air quality standards are attained and maintained in the San Francisco Bay Area Air Basin. Building on state and other regional climate protection efforts, BAAQMD has adopted a resolution to reduce GHG emissions by:

- Setting a goal for the Bay Area region to reduce GHG emissions by 2050 to 80 percent below 1990 levels.
- Developing a Regional Climate Protection Strategy to make progress towards the 2050 goal, using the Air District's Clean Air Plan to initiate the process.
- Developing a 10-point work program to guide the Air District's climate protection activities in the near term.[39]

BAAQMD is working on a Regional Climate Protection Strategy for achieving the 2050 goal for GHG emission reductions that complements existing planning efforts at the state, regional, and local levels, and uses the Air District's 2015 Draft Clean Air Plan to initiate the process. Based on BAAQMD's 10-Point Climate Action Work Program, the Regional Climate Protection Strategy will include an updated GHG emissions inventory and forecast and GHG reduction goals and interim targets for the Bay Area.[40]

Plan Bay Area

The Association of Bay Area Governments (ABAG), Metropolitan Transportation Commission (MTC), Bay Area Air Quality Management District (BAAQMD), and San Francisco Bay Conservation and Development Commission (BCDC) share joint responsibility for creating, updating, and overseeing *Plan Bay Area*, the Sustainable Communities Strategy (SCS) for the nine-county Bay Area region pursuant to SB 375. Under SB 375, *Plan Bay Area*'s targets are a 7 percent per capita reduction in GHG emissions from 2005 by 2020, and 15 percent per capita reduction from 2005 levels by 2035.[41] SB 375 requires CARB to periodically update the targets, no later than every 8 years. CARB plans to propose updated targets for consideration

[39] Bay Area Air Quality Management District (BAAQMD), 2013. Resolution No. 2013-11: Resolution Adopting a Greenhouse House Gas Reduction Goal and Commitment to Develop a Regional Climate Protection Strategy. http://www.baaqmd.gov/~/media/files/planning-and-research/climate-protection-program/climateresolution.pdf?la=en, accessed September 23, 2015.

[40] Bay Area Air Quality Management District (BAAQMD), 2014. 10-Point Climate Action Work Program. http://www.baaqmd.gov/ ~/media/files/planning-and-research/climate-protection-program/10-point-work-program-pdf.pdf?la=en, accessed on September 23, 2015.

[41] California Air Resources Board, 2010, Staff Report Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375, August.

in 2016, with the intent to make them effective in 2018. Sustainable communities strategies (SCSs) adopted in 2018 would be subject to the updated targets.[42]

Each of the agencies involved in the SCS has a different role in regional governance. ABAG primarily deals with regional land use, housing, environmental quality, and economic development, while MTC is tasked with regional transportation planning, coordinating, and financing. BAAQMD is responsible for regional air pollution regulation. BCDC's focus is to preserve, enhance, and ensure responsible use of San Francisco Bay.

These agencies jointly created *Plan Bay Area*,[43] adopted in July 2013 and now a regulating portion of the Bay Area's 25-year Regional Transportation Plan (RTP), which in part dictates funding for local transportation programs and improvements. By federal law, the RTP must be internally consistent. Therefore, the more than $200 billion dollars of transportation investment typically included in the RTP must align with and support the SCS land use pattern. State law also requires that the updated 8-year regional housing need allocation (RHNA) prepared by ABAG for municipal housing element updates is consistent with the SCS. The update to *Plan Bay Area*, *Plan Bay Area 2040*, is currently underway.

Plan Bay Area sets a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from cars and light trucks beyond the per capita reduction targets identified by CARB pursuant to SB 375.

As part of the implementation framework for *Plan Bay Area*, local governments may identify "Priority Development Areas" (PDAs) to focus growth. The PDAs are transit-oriented, infill development opportunity areas within existing communities. Over two-thirds of overall Bay Area growth through 2040 is allocated to the PDAs, which are expected to accommodate 80 percent (or over 525,570 units) of new housing and 66 percent (or 744,230) of new jobs in the region.[44] Additionally, the plan designates "Priority Conservation Areas" (PCAs), which are regionally significant open spaces for which there exists broad consensus for long-term protection, but which face nearer-term development pressures. Menlo Park currently has one PDA that surrounds El Camino Real and includes areas in and around Downtown Menlo Park. The area covered by the El Camino Real/Downtown Specific Plan falls within Menlo Park's PDA. The Menlo Park and East Palo Alto Baylands is also identified as a PCA, which covers Bedwell, Coeley Landing, Ravenswood Salt Pond.

The SCS does not directly govern land uses within Menlo Park and does not affect local decision-making authority. However, there are a number of benefits available to the City from being consistent with *Plan Bay Area*, including potential streamlining of CEQA review for certain transit priority, residential, and/or mixed-use projects, as well as high eligibility for transportation funding, provided that policies and land use patterns proposed in the General Plan align with SCS goals.

[42] California Air Resources Board, 2015, September 15. ARB Process and Schedule for SB 375 Target Update. http://www.arb.ca.gov/cc/sb375/sb375.htm.

[43] To read more about Plan Bay Area go to www.OneBayArea.Org.

[44] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2013. *Final Plan Bay Area, Strategy for a Sustainable Region.*

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.6.3, Impact Discussion.

Menlo Park Climate Action Plan

The City's Climate Action Plan (CAP) was first adopted in May 2009[45] and identifies local emissions reduction strategies designed to help meet AB 32 targets. The CAP recommends various community and municipal strategies for near-term and mid-term considerations. The emissions reduction strategies are generally focused on community actions, since more than 99 percent of the emissions are from community sources.

The City updates its community-wide GHG inventory and CAP annually. In 2011, the City completed the first update to the City's CAP Strategy, known as the 2011 CAP Assessment Report. As part of the 2013 update, the City Council adopted a target of reducing community-wide GHG emissions by 27 percent below 2005 levels by 2020.

In June 2014, the City Council approved an updated 5-year CAP Strategy, which accounted for the current staffing levels and budget resources available post-Great Recession. The 2014 Update identified that based on the current list of strategies implemented, Menlo Park could expect to achieve 46 percent of its GHG target, which would fall far short of the 27 percent below 2005 level by 2020 goal. Additional strategies were not added.[46]

The most recent status update to the City's CAP Strategy was conducted in October 2015. The 2015 Update includes updated emissions inventories through year 2013. The 2015 CAP Update and Status Report reiterates that based on the latest inventory and trend, the City is not likely to meet State AB 32 goals to reduce emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050, unless significant local policies and programs are implemented to achieve this statewide goal. Consequently, the 2015 Update recommends additional near-term strategies to achieve the City's goals. New policies and programs would require City Council approval prior to implementation.[47]

[45] City of Menlo Park, 2009. *Climate Action Plan.*
[46] City of Menlo Park, 2011. Climate Action Plan Assessment Report. July.
[47] City of Menlo Park, 2015. Climate Action Plan Update and Status Report. October

4.6.1.3 EXISTING CONDITIONS

Menlo Park Communitywide GHG Emissions

Table 4.6-5 shows community-wide GHG emissions in the City of Menlo Park and SOI. Menlo Park's baseline emissions inventory totaled 273,599 $MTCO_2e$ in 2015. As shown in this table, the energy sector is the largest contributor of GHG emissions in the City (58 percent), with on-road transportation emissions contributing the majority of the remainder (36 percent). The energy and transportation sectors account for approximately 93 percent of total emissions. Off-road sources provide 5 percent of the inventory. Solid waste disposal, potable water use, and wastewater treatment are small contributors by comparison, making up the remaining 2 percent of the inventory.

TABLE 4.6-5 CITY OF MENLO PARK BASELINE YEAR GHG EMISSIONS

Sector	2015 $MTCO_2e$	Percentage of Inventory
On-Road Transportation[a]	98,285	36%
Residential Energy Use[b]	55,354	20%
Nonresidential Energy Use[b]	100,846	37%
Municipal Energy Use[b]	1,581	1%
Solid Waste Disposal[c]	3,546	1%
Water Use/Wastewater Generation[d]	1,291	0%
Other – Off-road Equipment[e]	12,696	5%
Total Community Emissions	273,599	100%
Service Population[f]	63,800	—
$MTCO_2e$/SP	4.29	—
BAAQMD Permitted Sources[g]	49,401	—

Notes: Emissions may not total to 100 percent due to rounding. Based on GWPs in the IPCC Second Assessment Report (SAR).
Sources:
a. Based on on-road VMT provided by TJKM and modeled using EMFAC2014-PL.
b. Based on electricity and natural gas use provided by PG&E.
c. Based on solid waste disposal in the City obtained from CalRecycle and modeled using CARB's Landfill Emissions Tool. Does not include lifecycle emissions, including solid waste diverted from landfills.
d. Based on water demand and indoor/outdoor water use identified in the Water Supply Evaluation. Fugitive GHG emissions from wastewater treatment use are based on the LGOP emissions factors.
e. GHG emissions from off-road equipment use is based on OFFROAD2007.
f. Based on the existing demographics in Menlo Park + SOI (32,900 population and 30,900 employees).
g. These emissions are not regulated by the City but provided for informational purposes. Includes GHG emissions from permitted sources in the City provided by BAAQMD for 2011, which is the latest data available on BAAQMD's website.

For CEQA purposes, the GHG emissions inventory for the proposed project is not a consumption-based emissions inventory but a combination of a geographic-based and consumption-based inventory based on emissions sources that are directly or indirectly affected by land use decisions in the city. As part of BAAQMD's *Climate Protection Program Pathway to 2050*, BAAQMD is compiling an update of emissions sources and emissions in the Bay Area, which is based on a consumption-based methodology. A

consumption based inventory supplements the geographic/production-based inventory by including upstream and downstream emissions from consumption of materials (i.e., a lifecycle analysis) and shifts emissions attributable from producers of the emissions to consumers of emissions. While the BAAQMD inventory will address lifecycle pre-consumer emissions embodied in the purchase of consumer goods, the proposed project and this EIR are not required to do so.

Stationary sources of GHG emissions are not under the direct control of the City of Menlo Park because they require a permit from BAAQMD. However, because this data is available from BAAQMD for the City of Menlo Park and provides a more complete snapshot of the sources of emissions within the City, Table 4.6-5 includes emissions from stationary source emissions as well. However, these emissions are not traditionally considered in local GHG emissions target setting for GHG emissions planning purposes because they are regulated separately by BAAQMD and CARB.

4.6.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to greenhouse gas emissions if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may a significant effect on the environment.
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

This section analyzes potential impacts to greenhouse gas emissions.

4.6.2.1 BAAQMD PLAN-LEVEL SIGNIFICANCE CRITERIA

The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality and GHG emissions impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and GHG emissions.

Chapter 4.2 of this Draft EIR, Air Quality, contains a detailed discussion of the adoption, subsequent legal challenges, and most recent court decisions regarding BAAQMD's CEQA Guidelines. As explained in that chapter, the City of Menlo Park has independently determined that use of BAAQMD's CEQA Guidelines is supported by substantial evidence, and those guidelines have been found by the courts to be valid guidelines for use in the CEQA environmental review process. In addition, CEQA grants local agencies broad discretion to develop their own thresholds of significance, or to rely on thresholds previously adopted or recommended by other public agencies or experts so long as they are supported by substantial evidence. Accordingly, the City is using the BAAQMD's 2011 thresholds to evaluate project impacts in order to evaluate the potential effects of the project on GHG emissions.

The BAAQMD CEQA Guidelines include thresholds for GHG impacts for general plan analyses that are consistent with the GHG reduction goals of AB 32. Therefore, the impact of a general plan is less than significant if it:[48]

1. Reduces emissions to 1990 GHG emission levels by 2020; or
2. Reduces emissions to 15 percent below 2008 or earlier emission levels by 2020; or
3. Meets the plan efficiency threshold of 6.6 $MTCO_2e$ per service population per year.

For the City of Menlo Park, a 1990 emissions inventory was not available, and therefore this potential significance criterion was not used. An existing emissions inventory was compiled, which could be used to evaluate the second criterion. Achieving a 15 percent reduction from existing emissions was not used as a significance criteria because the CEQA Guidelines do not establish a net zero threshold of significance.[49] While the second criterion identified by BAAQMD was not applied as the CEQA significance criteria, the overall change in GHG emissions from existing conditions has been evaluated in order to quantify GHG emissions impacts due to the project. BAAQMD's third criterion, which evaluates the efficiency of the plan, has been determined to be the applicable threshold for the proposed project. The proposed project includes existing and new land uses and, therefore, the statewide GHG targets are applicable on a citywide level. The proposed project horizon year (2040) is beyond year 2020. Therefore, the efficiency targets have been adjusted based on the long-term GHG reduction targets of Executive Order B-30-15, which set a goal of 40 percent below 1990 levels by 2030, and Executive Order S-03-05, which set a goal of 80 percent below 1990 levels by 2050, as shown in Table 4.6-6.

Consequently, for the reasons described above, total emissions are compared to the GHG efficiency targets described below.

- The City's 2020 GHG estimated efficiency target would be 6.6 $MTCO_2e$ per service population per year, to align with BAAQMD's efficiency target, identified in their CEQA Guidelines, that is consistent with AB 32.
- The City's 2040 GHG estimated efficiency target would be 2.5 $MTCO_2e$ per service population per year, to align with the mid-term GHG reduction goal of Executive Order B-30-15 and Executive Order S-03-05.[50]
- The City's 2050 GHG estimated efficiency target would be 1.2 $MTCO_2e$ per service population per year, to align with the long-term GHG reduction goals of Executive Order S-03-05. Since the 2050 horizon extends beyond the 2040 horizon year of the proposed project, this efficiency metric is only

[48] BAAQMD's CEQA Guidelines also allow cities to tier from plans adopted to mitigate the effects of GHG emissions on a city/town level, consistent with AB 32 goals. However, the proposed project is an update to the General Plan Land Use and Circulation Element, which has a horizon year beyond the analysis in the CAP.

[49] As explained by the California Natural Resources Agency's "Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to Senate Bill 97" (2009), the CEQA Guidelines do not establish a zero emissions threshold of significance because there is no one-molecule rule in CEQA.

[50] The proposed project horizon year is 2035; therefore, the BAAQMD efficiency target has been extrapolated to 2035 based on the GHG reduction goal of Executive Order B-30-15, which is to reduce GHG emissions 40 percent below 1990 levels by 2030, and Executive Order S-03-05, which is to reduce GHG emissions 80 percent below 1990 levels by 2050.

considered for consistency with the statewide GHG reduction targets, which are addressed in the CARB Scoping Plan (see Impact GHG-2). Under this criterion, efficiency is used as a way to gauge whether the City is on a trajectory to achieve the even longer-term targets under the Executive Order S-03-05.

TABLE 4.6-6 FORECASTING THE POST-2020 GHG REDUCTION TARGETS

Category	GHG Emissions $MTCO_2e$/Year[a] (SAR GWPs)		Notes
2020 Statewide GHG Target	433,290,000		1990 levels by 2020
2030 Statewide GHG Target	259,970,000		40% below 1990 levels by 2030
2050 Statewide GHG Target	86,660,000		80% below 1990 levels by 2050
2035 Statewide GHG Target[b]	**216,640,000**		Trend-line between 2030 and 2050: 60 percent reduction from 1990 levels by 2040.
Population and Employment Forecasts	**2040**	**2050**	
Population[c]		49,779,362	Based on the California Department of Finance forecasts
Employment[d]		22,895,900	Based on California Department of Transportation
Service Population (SP)		**72,342,882**	—
Efficiency Target	**2.5 $MTCO_2e$/SP**	**1.2 $MTCO_2e$/SP**	—

Notes: SAR: Second Assessment Report; GWP: Global Warming Potentials; $MTCO_2e$: metric tons of carbon dioxide-equivalent
Sources:
a. CARB. 2007, November. California Greenhouse Gas Inventory (millions of metric tonnes of CO_2 equivalent) — Summary by Economic Sector.
b. Based on the 2030 target of 40 percent below 1990 levels by 2030 under Executive Order B-30-15 and the target of 80 percent below 1990 levels by 2050 under Executive Order S-03-05.
c. California Department of Finance. 2014, Report P-1 (County): State and County Total Population Projections, 2010-2060 (5 -year increments). http://www.dof.ca.gov/research/demographic/reports/projections/P-1/, accessed on May 10, 2016.
d. California Department of Transportation. Long-Term Socio-Economic Forecasts by County. http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic.html, accessed on May 10, 2016

4.6.3 IMPACT DISCUSSION

Methodology

Community-wide GHG emissions for the proposed project, which includes growth in the city and SOI, follows BAAQMD's *GHG Plan Level Guidance*[51] and ICLEI's *US Community Protocol for Accounting and*

[51] Bay Area Air Quality Management District (BAAQMD), 2012. GHG Plan Level Guidance, May. http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/GHG%20Quantification%20Guidance%20May%202012.ashx?la=en.

Reporting of GHG Emissions.[52] For general plan level analyses, BAAQMD CEQA Guidelines recommend that GHG emissions from direct and indirect community-wide emission sources be quantified for the baseline year, the year 2020 (for consistency with AB 32), and the projected year of buildout. Direct sources of emissions include on-site combustion of energy such as natural gas used for heating and cooking, emissions from industrial processes, and fuel combustion from mobile sources. Indirect emissions are emissions produced off-site from energy production and water conveyance due to a project's energy use and water consumption. Biogenic CO_2 emissions are not included in the quantification of a project's GHG emissions impacts because biogenic CO_2 is derived from living biomass (e.g., organic matter present in wood, paper, vegetable oils, animal fat, food, animal, and yard waste) as opposed to fossil fuels. Pursuant to guidance from the Governor's Office of Planning and Research and the California Air Pollution Control Officer's Association, lifecycle emissions are also not included in the quantification of a project's GHG emissions impacts for CEQA.[53] The analysis includes the following sectors:

- On-Road Transportation: On-road transportation emissions from passenger vehicles and trucks generated by land uses in the city and SOI are based on daily VMT data provided by TJKM for existing conditions and year 2040. This differs from the methodology used for in the City's Climate Action Plan (CAP), which is based on fuel consumed. For the purposes of CEQA, the transportation sector should be based on an origin-destination methodology and needs to be internally consistent with the transportation modeling conducted for the Transportation and Traffic analysis. Accounting of VMT is based on the recommendations of CARB's Regional Targets Advisory Committee (RTAC) created under Senate Bill 375 (SB 375).[54] GHG emissions associated with the VMT provided by TJKM were modeled using CARB's EMFAC2014-PL.[55] Consistent with CARB's methodology within the *Climate Change Scoping Plan Measure Documentation Supplement*, daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual emissions.[56] The emissions forecast include the GHG emissions reductions from federal and State regulations included in EMFAC2014 including, the Pavley I fuel efficiency standards, the California Advanced Clean Car

[52] ICLEI – Local Governments for Sustainability USA, 2012. US Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions. Version 1.0, October.

[53] Lifecycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the proposed project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted.

[54] For accounting purposes, there are three types of trips: (1) Vehicle trips that originated and terminated within the City of Menlo Park (Internal-Internal, I-I). Using the accounting rules established by RTAC, 100% of the length of these trips, and their emissions, are attributed to the City of Menlo Park. (2) Vehicle trips that either originated or terminated (but not both) within the City of Menlo Park (Internal-External or External-Internal, I-X and X-I). Using the accounting rules established by RTAC, 50 percent of the trip length for these trips is attributed to Menlo Park. (3) Vehicle trips that neither originated nor terminated within the City of Menlo Park. These trips are commonly called pass-through trips (External-External, X-X). Using the accounting rules established by RTAC, these trips are not counted towards the City's VMT or emissions.

[55] California Air Resources Board (CARB), 2014. EMFAC2014-PL.

[56] California Air Resources Board (CARB), 2008. Climate Change Proposed Scoping Plan, a Framework for Change, October.

Standards, the LCFS, on-road diesel fleet rules, and the Smartway/Phase I Heavy Duty Vehicle Greenhouse Gas Regulation.

- Residential and Non-Residential Energy: Purchased electricity and natural gas use for residential and non-residential land uses in the City and SOI are based on data provided by PG&E. To account for fluctuation in annual energy use as a result of natural variations in climate between inventory years, BAAQMD recommends averaging energy use over several years.[57] Therefore, residential natural gas and electricity use are normalized based on three years of electricity and natural gas usage data (2013, 2013, and 2012) for the baseline inventory. Electricity use is then multiplied by the carbon intensity of PG&E's electricity. GHG emissions from natural gas use are based on emissions rates in CARB's Local Government Operations Protocol (LGOP), Version 1.1. For the Residential Sector, total electricity use and natural gas use in the baseline year are forecasted based on the percent increase in housing units from the baseline year. For the Non-residential Sector, total electricity use and natural gas use in the baseline year are forecasted based on the percent increase in employment from the baseline year for each of the proposed project development scenarios. This means that under the business-as-usual (BAU) conditions, the emissions forecasts for the Residential and Non-residential sectors do not include reductions in average annual building energy use (non-plug load) associated new buildings from the triennial updates to the Title 24 Building Code or energy efficiency improvements that reduce electricity use in existing buildings.
- Water/Wastewater: GHG emissions from this Sector include indirect GHG emissions from the embodied energy associated with water use and wastewater generation and fugitive GHG emissions from processing wastewater. Annual water demand and wastewater generation was based on the residential and nonresidential water demand rates in the Water Supply Evaluation. Electricity use from water use is estimated using energy rates identified by the CEC.[58] Then energy is multiplied by PG&E's carbon intensity of energy. Fugitive emissions from wastewater treatment in the city were calculated using the emission factor's in CARB's LGOP, Version 1.1.[59]
- Waste: GHG emissions from solid waste disposed of by residents and employees in the City and SOI is based on the waste-in-place (WIP) method. Consequently, unlike the City's CAP, for the community-wide emissions associated with "land uses" in the city the inventory does not include methane emissions from the closed Bedwell Bayfront Park landfill. The WIP method assumes that the degradable organic component (degradable organic carbon, DOC) in waste decays slowly throughout a few decades, during which CH_4 and biogenic CO_2 are formed. If conditions are constant, the rate of CH_4 production depends solely on the amount of carbon remaining in the waste. As a result, emissions of CH_4 from waste deposited in a disposal site are highest in the first few years after deposition, then gradually decline as the degradable carbon in the waste is consumed by the bacteria responsible for the decay. Significant CH_4 production typically begins one or two years after waste disposal in a landfill and continues for 10 to 60 years or longer. BAAQMD recommends averaging

[57] Bay Area Air Quality Management District (BAAQMD), 2012. *GHG Plan Level Guidance,* May. http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/GHG%20Quantification%20Guidance%20May%202012.ashx?la=en.

[58] California Energy Commission (CEC), 2006. Refining Estimates of Water-Related Energy Use in California. CEC-500-2006-118. Prepared by Navigant Consulting, Inc., December. Based on the electricity use for Northern California.

[59] California Air Resources Board (CARB), 2010. Local Government Operations Protocol (LGOP), Version 1.1, May.

waste disposal over several years to account for fluctuations in average annual solid was disposal.[60] Waste generated in the City and SOI is averaged over a three-year period (2011-2013),[61] based on data obtained from CalRecycle, to provide an estimate of GHG emissions for existing conditions (baseline year).[62] GHG emissions from solid waste disposal in the baseline year were modeled using CARB's Landfill Emissions Tool Version 1_2013, which includes waste characterization data from CalRecycle.[63] Only fugitive sources of GHG emissions from landfill are included. Modeling assumes a 75 percent reduction in fugitive GHG emissions from the landfill's Landfill Gas Capture System. The Landfill gas capture efficiency is based on CARB's LGOP, Version 1.1.[64] Total GHG emissions from waste disposal in the baseline year are forecasted based on the percent increase in service population. The emissions forecast do not account for reductions from increasing waste diversion.

- Other – Off-Road Equipment: OFFROAD2007[65] was used to obtain a rough estimate of GHG emissions from landscaping equipment, light commercial equipment, and construction equipment in the city and SOI. OFFROAD2007 is a database of equipment use and associated emissions for each county compiled by CARB. Annual emissions were compiled using OFFROAD2007 for the County of San Mateo for year 2015. In order to determine the percentage of emissions attributable to Menlo Park, landscaping and light commercial equipment is estimated based on population, (Landscaping),[66] employment (Light Commercial Equipment),[67] and construction building permits (Construction)[68] for Menlo Park as a percentage of San Mateo County. Daily off-road construction emissions are multiplied by 347 days per year to account for reduced/limited construction activity on weekends and holidays. Annual average construction emissions are assumed to be similar to historic conditions. Total GHG emissions from landscaping equipment and commercial equipment in the baseline year are forecasted based on the percent increase in population and employment growth, respectively. The emissions forecast for the Other Sector included GHG reductions from the LCFS.

[60] Bay Area Air Quality Management District (BAAQMD), 2012. *GHG Plan Level Guidance,* May. http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/GHG%20Quantification%20Guidance%20May%202012.ashx?la=en.

[61] 2014 data is not available from CalRecycle.

[62] CalRecycle, 2015, Disposal Reporting System, Jurisdiction Reporting by Facility, Menlo Park. http://www.calrecycle.ca.gov/LGCentral/Reports/DRS/Destination/JurDspFa.aspx

[63] California Department of Resources Recycling and Recovery (CalRecycle), Disposal Reporting System, 2016. *2013-2010 Menlo Park Jurisdiction Disposal By Facility with Reported Alternative Daily Cover (ADC) and Alternative Intermediate Cover (AIC).* Accessed April, http://www.calrecycle.ca.gov/LGCentral/Reports/DRS/Destination/JurDspFa.aspx.

[64] California Air Resources Board (CARB), 2010. Local Government Operations Protocol (LGOP), Version 1.1, May.

[65] Although there is a new OFFROAD Model, the 2011 update did not categorize emissions at the county-level, only statewide in the new model update. Therefore, GHG emissions from this sector are a conservative estimate from off-road equipment.

[66] U.S. Census Bureau, 2010.

[67] U.S. Census Bureau. 2010. *Longitudinal Employer-Household Dynamics.* http://lehd.ces.census.gov/.

[68] U.S. Census Bureau, 2010. Building Permits, http://censtats.census.gov/bldg/bldgprmt.shtml.

GREENHOUSE GAS EMISSIONS

GHG-1 Implementation of the proposed project would directly or indirectly generate GHG emissions that may have a significant impact on the environment.

Future development under the proposed project would contribute to climate change through direct and indirect emissions of GHG from energy (natural gas and purchased electricity), on-road transportation sources, potable water use, wastewater generation, solid waste disposal, and off-road sources (e.g., equipment used for landscaping, commercial activities, and construction). The proposed Land Use (LU) and Circulation (CIRC) Elements, which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and a program that would require local planning and development decisions to consider impacts to GHG. The following General Plan goals, policies and a program would serve to minimize potential GHG from development projects to the maximum extent practicable:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.
  - Policy LU-6.9: Pedestrian and Bicycle Facilities. Provide well-designed pedestrian and bicycle facilities for safe and convenient multi-modal activity through the use of access easements along linear parks or paseos.
- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
  - Policy LU-7.1: Sustainability. Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste.
  - Policy LU-7.5: Reclaimed Water Use. Implement use of adequately treated "reclaimed" ("recycled/nonpotable water sources such as, graywater, blackwater, rainwater, stormwater, foundation drainage, etc.) water for outdoor and indoor uses, as feasible.
  - Policy LU-7.9: Green Building. Support sustainability and green building best practices through the orientation, design, and placement of buildings and facilities to optimize their energy efficiency.
    - Program LU-7.A: Green Building Operation and Maintenance. Employ green building and operation and maintenance best practices, including increased energy efficiency, use of renewable energy and reclaimed water, and install drought-tolerant landscaping for all projects.
    - Program LU-7.D: Performance Standards. Establish performance standards in the Zoning Ordinance that requires new development to employ environmentally friendly technology

and design to conserve energy and water, and minimize the generation of indoor and outdoor pollutants.

- Program LU-7.E: Greenhouse Gas Emissions. Develop a Greenhouse Gas (GHG) standard for development projects that would help reduce communitywide GHG emissions to meet City and Statewide reduction goals.

- Goal OSC-2: Provide Parks And Recreation Facilities. Develop and maintain a parks and recreation system to provide areas and facilities conveniently located, sustainable, properly designed and well-maintained to serve the recreation needs and promote healthy living of residents, workers and visitors to Menlo Park.
  - Policy OSC-2.7: Conservation of Resources at City Facilities. Reduce consumption of water, energy, landfilled waste, and fossil fuels in the construction, operations and maintenance of City owned and/or operated facilities.
- Goal OSC-4: Promote Sustainability And Climate Action Planning. Promote a sustainable energy supply and implement the City's Climate Action Plan to reduce greenhouse gas emissions and improve the sustainability of actions by City government, residents, and businesses in Menlo Park. This includes promoting land use patterns that reduce the number and length of motor vehicle trips, and encouraging recycling, reduction and reuse programs.
  - Policy OSC-4.1: Sustainable Approach to Land Use Planning to Reduce Resource Consumption. Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher density residential and mixed-use development to be located adjacent to commercial centers and transit corridors, and (3) retail and office areas to be located within walking and biking distance of transit or existing and proposed residential developments.
  - Policy OSC-4.2: Sustainable Building. Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.
  - Policy OSC-4.3: Renewable Energy. Promote the installation of renewable energy technology, such as, on residences and businesses through education, social marketing methods, establishing standards and/or providing incentives.
  - Policy OSC-4.4: Vehicles Using Alternative Fuel. Explore the potential for installing infrastructure for vehicles that use alternative fuel, such as electric plug in recharging stations.
  - Policy OSC-4.5: Energy Standards in Residential and Commercial Construction. Encourage projects to achieve a high level of energy conservation exceeding standards set forth in the California Energy Code for Residential and Commercial development.
  - Policy OSC-4.6: Waste Reduction Target. Strive to meet the California State Integrated Waste Management Board per person target of waste generation per person per day through their source reduction, reuse, and recycling programs.

- Policy OSC-4.7: Waste Management Collaboration. Continue to support and participate in efforts such as the South Bayside Waste Management Authority, which provides waste reduction, recycling, and solid waste programs and solutions.
- Policy OSC-4.8: Waste Diversion. Develop and implement a zero waste policy, or implement standards, incentives, or other programs that would lead the community towards a zero waste goal.
- Policy OSC-4.9: Climate Action Planning. Undertake annual review and updates, as needed, to the City's Climate Action Plan (CAP).
- Policy OSC-4.10: Energy Upgrade California. Consider actively marketing and providing additional incentives for residents and businesses to participate in local, State, and/or Federal renewable or energy conservation programs.

- Goal OSC-5: Ensure Healthy Air Quality And Water Quality. Enhance and preserve air quality in accord with State and regional standards, and encourage the coordination of total water quality management including both supply and wastewater treatment.
  - Policy OSC-5.1: Air and Water Quality Standards. Continue to apply standards and policies established by the Bay Area Air Quality Management District (BAAQMD), San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), and City of Menlo Park Climate Action Plan through the California Environmental Quality Act (CEQA) process and other means as applicable.
  - Policy OSC-5.2: Development in Industrial Areas. Evaluate development projects in industrial areas for impacts to air and water resources in relation to truck traffic, hazardous materials use and production-level manufacturing per the California Environmental Quality Act (CEQA) and require measures to mitigate potential impacts to less than significant levels.
  - Policy OSC-5.3: Water Conservation. Encourage water-conserving practices in businesses, homes and institutions.
- Goal CIRC-6: Provide a range of transportation choices for the Menlo Park community.
  - Policy CIRC-6.1: Transportation Demand Management. Coordinate Menlo Park's transportation demand management efforts with other agencies providing similar services within San Mateo and Santa Clara Counties.
  - Policy CIRC-6.2: Funding Leverage. Continue to leverage potential funding sources to supplement City and private monies to support transportation demand management activities of the City and local employers.
  - Policy CIRC-6.3: Shuttle Service. Encourage increased shuttle service between employment centers and the Downtown Menlo Park Caltrain station.
  - Policy CIRC-6.4: Employers and Schools. Encourage employers and schools to promote walking, bicycling, carpooling, shuttles, and transit use.

Additionally, the proposed project includes an update to the City's Zoning Ordinance for the Bayfront Area, resulting in three new zoning districts that would promote the creation of a live/work/play environment with travel patterns that are oriented toward pedestrian, transit, and bicycle use, including

identifying public paseos to improve connectivity on the Zoning map. As part of the Zoning Ordinance update, the project includes minimum short-term and long-term bicycle parking standards for Office and Research Development land uses. Furthermore, new construction and building additions of 10,000 square feet or more are required to develop a Transportation Demand Management (TDM) Plan to reduce trip generation by 20 percent below standard use rates. The TDM Plan may include participation in a Transportation Management Association, preferred parking for carpools/vanpools, public and/or private bike-share programs, subsidy for alternative transportation (e.g., carpool/vanpool, shuttles, and bus service including transit passes), alternative work schedules, car-share membership, emergency ride home, and other measures to reduce trip generation.

The proposed Zoning Ordinance update also includes Residential and Non-Residential Green Building Requirements. These green building requirements identify standards based on the size of new construction. New large projects are required to be built to achieve Leadership in Energy and Environmental Design (LEED) silver (10,000 to100,000 square feet) and gold (over 100,000 square feet). The Zoning Ordinance update also requires installation of electric vehicle (EV) chargers. New construction is also required to meet 100 percent of electricity and natural gas demand through either onside generation and/or purchase of renewable electricity or electricity credits (or combination) to offset energy use. The Zoning Ordinance update also includes requirements for use of recycled water for large projects. New buildings are required to be dual plumbed for the internal use of recycled water. New buildings 250,000 square feet or larger are required to use non-potable water (e.g., recycled, greywater) and prepare an Alternate Water Source Assessment that describes the alternative water source and proposed non-potable application. The Zoning Ordinance update also requires that applicants submit a zero-waste management plan to the City, which will cover how the applicant plans to minimize waste to landfill and incineration.

The community-wide GHG emissions inventory for the proposed General Plan scenarios compared to existing conditions is included in Table 4.6-7 for years 2020 and 2040. Emissions are estimated for the year 2020 in order to evaluate consistency with AB 32, which sets a statewide target for 2020. Emissions are estimated for the year 2040 since that is the horizon year of the proposed General Plan.

Magnitude of GHG Emissions

Table 4.6-7 shows emissions in 2020 and 2040. At the near term target year of 2020, the City's GHG emissions is projected to be less than existing conditions as a result of state and federal regulations. However, the proposed project would result in a substantial increase in GHG emissions from existing conditions by the proposed General Plan horizon year 2040. This is considered a *significant impact*.

GHG Emissions Compared to the AB 32 and Executive Order Efficiency Targets

BAAQMD has not adopted a 2040 per capita GHG threshold for operation-related GHG emissions. However, a 2040 goal can be interpolated from Executive Order B-30-15, which calls for a 40 percent reduction from 1990 levels by 2030, and from Executive Order S-03-05, which calls for an 80 percent reduction from 1990 levels by 2050. A 2040 efficiency target was derived for the proposed project based on these Interpolations. Table 4.6-7 show that the proposed project would achieve the BAAQMD

efficiency metric for year 2020 with state measures alone but would not achieve the efficiency target for year 2040 without additional state, federal, and local reductions.

TABLE 4.6-7 PROPOSED PROJECT GHG EMISSIONS FORECAST

Sector	2015 $MTCO_2e$	2020 [a] $MTCO_2e$	2040 $MTCO_2e$	Percent of Total 2040
On-Road Transportation[a]	98,285	97,567	87,881	26%
Residential Energy Use[b]	55,354	58,735	75,776	22%
Nonresidential Energy Use[b]	100,846	96,820	151,059	45%
Municipal Energy Use[b]	1,581	1,455	2,070	1%
Solid Waste Disposal[c]	3,546	4,047	5,758	2%
Water Use/Wastewater Generation[d]	1,291	1,083	1,541	0%
Other – Off-road Equipment[e]	12,696	11,768	13,389	4%
Total Community Emissions	273,599	271,476	337,473	100%
Percent Change from Existing	—	**-2,123**	**63,875**	23%
Service Population[f]	63,800	72,830	103,600	—
$MTCO_2e$/SP	4.3	3.7	3.3	—
Plan-Level Efficiency Target	—	6.6	2.5 (1.2)[g]	—
Achieves Plan-Level Efficiency Target	—	**Yes**	**No**	—

Notes: Emissions may not total to 100 percent due to rounding. Based on GWPs in the IPCC Second Assessment Report (SAR).
Sources:
a. Based on on-road VMT provided by TJKM and modeled using EMFAC2014-PL.
b. Based on electricity and natural gas use provided by PG&E.
c. Based on solid waste disposal in the City obtained from CalRecycle and modeled using CARB's Landfill Emissions Tool.
d. Based on water demand and indoor/outdoor water use identified in the Water Supply Evaluation. Fugitive GHG emissions from wastewater treatment use are based on the LGOP emissions factors.
e. GHG emissions from off-road equipment use is based on OFFROAD2007.
f. Based on ABAG population and employment for Menlo Park + SOI in year 2020 (38,700 population and 34,130 employees) and at the Maximum 2040 Citywide Buildout (50,350 population and 53,250 employees).
g. The 2050 efficiency target is 1.2 $MTCO_2e$ based on the long-term target of Executive Order S-03-05. However, this target extends past the horizon year of the proposed project. This CEQA analysis considers both thresholds to provide a conservative finding of GHG emissions impacts.

While per capita emissions under the proposed project would be on a decline that is consistent with the interim GHG reductions for the state, additional state and federal actions are necessary to ensure that state and federally regulated sources (i.e., sources outside the City's jurisdictional control) achieve the deep cuts needed to meet the 2050 target. Emissions from 2020 to 2050 will have to decline several times faster than the current rate needed to reach the 2020 emissions limit.[69] According to the California Council on Science and Technology's (CCST) 2011 report, this includes switching from gasoline-powered

[69] California Air Resources Board (CARB), 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006, May 15.*

cars and trucks to plug-in hybrid, all electric vehicles, or alternative fuels (hydrogen-fuel and/or biofuels); switching from fuel to electricity to heat building space; de-carbonizing electricity[70] while maintaining a reliable electricity grid; and aggressive efficiency measures.[71] According to the CCST, emissions reductions of 80 percent can be achieved with feasible technology implementation plus research, development, and innovation. Approximately 60 percent of emissions reductions below 1990 levels can be achieved with current technology in use or in the demonstration phase. The remainder of the emission cuts to obtain the full 80 percent reduction below 1990 levels will require development and deployment of new technology.

Achieving this second cut will thus require a substantial commitment to technology development and innovation. Several subsequent studies have also highlighted the variables that drive future scenario studies and challenges to meeting the 2050 target.[72,73,74] Because no single technological approach will allow the state to accomplish its 2050 goal, obtaining an 80 percent reduction below 1990 levels will require a portfolio of solutions.[75]

Further, the overall goal in the state is to achieve an 80 percent reduction from 1990 levels by 2050. CARB's 2014 Update to the Scoping Plan identified that California continues to build its climate policy framework, and there is a need for local government climate action planning to adopt mid- and long-term reduction targets that are consistent with scientific assessments and the statewide goal of reducing emissions 80 percent below 1990 levels by 2050. CARB states that local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals as shown in Table 4.6-10, *Statewide Trajectory to Achieve Interim Goal under Executive Orders B-30-15 and S-03-05*. The proposed project would not achieve a plan-efficiency target of 1.2 $MTCO_2e$/SP at the General Plan Horizon.

Conclusion

The proposed project would result in a substantial increase in GHG emissions from existing conditions by the horizon year 2040 and would not achieve the 2040 efficiency target, which is based on a trajectory to

[70] In general, there are three ways to de-carbonize electricity: nuclear power, fossil fuel with carbon storage, and renewable energy.

[71] California Council on Science and Technology, 2011, California's Energy Future – The View to 2050. http://www.ccst.us/publications/2011/2011energy.pdf, May.

[72] Greenblatt JB, and Long J. 2012. California's Energy Future - Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Requirements, California Council on Science and Technology, September. http://ccst.us/publications/2012/2012ghg.pdf.

[73] Morrison, Geoff M., Sonia Yeh, Anthony R. Eggert, Christopher Yang, James H. Nelson, 3 Alphabetic: Jeffery B. Greenblatt, Raphael Isaac, Mark Z. Jacobson, Josiah Johnston, Daniel M. Kammen, Ana Mileva, Jack Moore, David Roland-Holst, Max Wei, John P. Weyant, James H. Williams, Ray Williams, Christina B. Zapata. Long-term Energy Planning In California: Insights and Future Modeling Needs. UC-Davis Institute of Transportation Studies. Research Report – UCD-ITS-RR-14-08. Available: http://www.its.ucdavis.edu/research/publications/publication-detail/?pub_id=2217.

[74] Energy+Environmental Economics (E3), 2015. Summary of the California State Agency's PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios http://www.energy.ca.gov/commission/fact_sheets/documents/E3_Project_Overview_20150130.pdf, January 26.

[75] California Council on Science and Technology, 2011, California's Energy Future: The View to 2050. http://www.ccst.us/publications/2011/2011energy.pdf, May.

the 2050 goal of an 80 percent reduction from 1990 levels. The policies identified in the General Plan as well as the transportation demand management (TDM) and other green building sustainability measures in the Zoning Ordinance update, as described previously, would reduce GHG emissions, to the extent feasible. However, additional state and federal actions are necessary to ensure that state and federally regulated sources (i.e., sources outside the City's jurisdictional control) take measures to ensure the deep cuts needed to achieve the 2050 target. Therefore, GHG impacts for consistency with the 2040 and more aggressive long-term targets of Executive Order S-03-15 are considered *significant*.

Applicable Regulations:

- California Global Warming Solutions Act (AB 32)
- Sustainable Communities and Climate Protection Act (SB 375)
- Greenhouse Gas Emission Reduction Targets (Executive Order S-3-05)
- Clean Car Standards – Pavley (AB 1493)
- Renewable Portfolio Standards (SB 1078)
- California Integrated Waste Management Act of 1989 (AB 939)
- California Mandatory Commercial Recycling Law (AB 341)
- California Advanced Clean Cars CARB/ Low-Emission Vehicle Program – LEV III (Title 13 CCR)
- Heavy-Duty Vehicle Greenhouse Gas Emissions Reduction Measure (Title 17 CCR)
- Low Carbon Fuel Standard (Title 17 CCR)
- California Water Conservation in Landscaping Act of 2006 (AB 1881)
- California Water Conservation Act of 2009 (SBX7-7)
- Airborne Toxics Control Measure to Limit School Bus Idling and Idling at Schools (13 CCR 2480)
- Airborne Toxic Control Measure to Limit Diesel-Fuel Commercial Vehicle Idling (13 CCR 2485)
- In-Use Off-Road Diesel Idling Restriction (13 CCR 2449)
- Building Energy Efficiency Standards (Title 24, Part 6)
- California Green Building Code (Title 24, Part 11)
- Appliance Energy Efficiency Standards (Title 20)
- City of Menlo Park Zoning Ordinance

Impact GHG-1: The proposed project would result in a substantial increase in GHG emissions from existing conditions by the proposed General Plan horizon year 2040 and would not achieve the 2040 efficiency target, which is based on a trajectory to the 2050 goal of an 80 percent reduction from 1990 levels pursuant to Executive Order S-03-05. Additional state and federal actions are necessary to ensure that state and federally regulated sources (i.e., sources outside the City's jurisdictional control) take similar aggressive measures to ensure the deep cuts needed to achieve the 2050 target.

Mitigation Measure GHG-1: Prior to January 1, 2020, the City of Menlo Park shall update the Climate Action Plan (CAP) to address the GHG reduction goals of Executive Order B-30-15 and Executive Order S-03-05 for GHG sectors that the City has direct or indirect jurisdictional control over. The City shall identify a GHG emissions reduction target for year 2030 and 2040 that is consistent with the GHG reduction goals identified in Executive Order B-30-15 and Executive Order S-03-05. The CAP shall be updated to include measures to ensure that the City is on a trajectory that aligns with the state's 2030 GHG emissions reduction target.

Significance With Mitigation: Significant and unavoidable. The City has a CAP to achieve the GHG reduction goals of AB 32 for year 2020. Mitigation Measure GHG-1 would ensure that the City updates the CAP to identify a post-2020 GHG reduction goal to align with the upcoming CARB Scoping Plan Update for statewide 2030 GHG emissions reductions target and identify a GHG reduction goal for the proposed project horizon year. At this time there are no post-2020 federal and state measures that would assist the City in achieving the efficiency target at the proposed project year. Therefore, Impact GHG-1 would remain significant and unavoidable.

GHG-2 Implementation of the proposed project could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The State's GHG emissions reductions objectives are embodied in AB 32, Executive Order B-30-15, Executive Order S-03-05, and SB 375. Applicable plans adopted for the purpose of reducing GHG emissions include the Scoping Plan, *Plan Bay Area*, and the Menlo Park Climate Action Plan (CAP).

CARB's Scoping Plan

In accordance with AB 32, CARB developed the *2008 Scoping Plan* to outline the State's strategy to achieve 1990 level emissions by year 2020. To estimate the reductions necessary, CARB projected statewide 2020 BAU GHG emissions (i.e., GHG emissions in the absence of statewide emission reduction measures). CARB identified that the State as a whole would be required to reduce GHG emissions by 28.5 percent from year 2020 BAU to achieve the targets of AB 32.[76] The GHG emissions forecast was updated as part of the First Update to the Scoping Plan. In the First Update to the Scoping Plan, CARB projected that statewide BAU emissions in 2020 would be approximately 509 million $MTCO_2e$.[77] Therefore, to achieve the AB 32 target of 431 million $MTCO_2e$ (i.e., 1990 emissions levels) by 2020, the State would need to reduce emissions by 78 million $MTCO_2e$ compared to BAU conditions, a reduction of 15.3 percent from BAU in 2020.[78,79]

Statewide strategies to reduce GHG emissions identified in the *2008 Scoping Plan* include the LCFS; California Appliance Energy Efficiency regulations; California Building Standards (i.e., CALGreen and the Building and Energy Efficiency Standards); California Renewable Portfolio Standard (RPS); changes in the corporate average fuel economy standards (e.g., Pavley I and Pavley II, which is now known as the California Advanced Clean Cars Program); and other measures that would ensure the State is on target to achieve the GHG emissions reduction goals of AB 32. The Statewide strategies in the Scoping Plan apply to State agencies only and are not directly applicable to individual projects or cities (i.e., the Scoping Plan

[76] California Air Resources Board (CARB). 2008. October. *Climate Change Proposed Scoping Plan, a Framework for Change.*

[77] The BAU forecast includes GHG reductions from Pavley and the 33% Renewable Portfolio Standard (RPS).

[78] California Air Resources Board (CARB), 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006, May 15.*

[79] If the GHG emissions reductions from Pavley I and the Renewable Electricity Standard are accounted for as part of the BAU scenario (30 million $MTCO_2e$ total), then the State would need to reduce emissions by 108 million $MTCO_2e$, which is a 20 percent reduction from BAU.

does not require the City to adopt policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the state agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that would affect a local jurisdictions' emissions inventory from the top down. Without the strategies identified in the Scoping Plan, local jurisdictions would likely not be able to achieve local GHG reduction targets. Statewide GHG emissions reduction measures reduce emissions from existing and future development and would reduce the City's future GHG emissions.

In 2014, CARB adopted its *First Update to the Scoping Plan*. As identified in the update, as California continues to build its climate policy framework, there is a need for local government climate action planning to adopt mid-term and long-term reduction targets that are consistent with scientific assessments and the statewide goal of reducing emissions 80 percent below 1990 levels by 2050. CARB identifies that local government reduction targets should chart a reduction trajectory that is consistent with, or exceeds, the trajectory created by statewide goals. CARB is also in the process of updating the Scoping Plan to address the new interim GHG reduction target for 2030 under Executive Order B-30-15.

As identified in Table 4.6-7 shown above, additional GHG reductions would be necessary to achieve the post-2020 GHG reduction target. The City is currently updating the CAP that would create a roadmap for emissions reductions necessary to align the City with the GHG reduction goals.

As discussed under GHG-1 above, the proposed Land Use (LU) and Circulation (CIRC) Elements, which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and a program that would require local planning and development decisions to consider impacts to GHG. The General Plan goals, policies and a program that would serve to minimize potential GHG from development projects to the maximum extent practicable are listed above under GHG-1.

Additionally, the proposed project includes an update to the City's Zoning Ordinance for the Bayfront Area, resulting in three new zoning districts that would promote the creation of an a live/work/play environment with travel patterns that are oriented toward pedestrian, transit, and bicycle use, including identifying public paseos to improve connectivity on the Zoning map. The proposed Zoning Ordinance update also includes green and sustainable building regulations. As part of the Zoning Ordinance update, the project includes minimum short-term and long-term bicycle parking standards for Office and Research Development land uses. The Zoning Ordinance update also allows project applicants to meet minimum parking requirements through use of nearby, off-site facilities with the approval of the City's Transportation Manager. Furthermore, new construction and building additions of 10,000 square feet or more are required to develop a Transportation Demand Management (TDM) Plan to reduce trip generation by 20 percent below standard use rates. The TDM Plan may include participation in a Transportation Management Association, preferred parking for carpools/vanpools, public and/or private bike-share programs, subsidy for alternative transportation (e.g., carpool/vanpool, shuttles, and bus service including transit passes), alternative work schedules, car-share membership, emergency ride home, and other measures to reduce trip generation.

The proposed Zoning Ordinance update also includes Residential and Non-Residential Green Building Requirements. These green building requirements identify standards based on the size of new construction. New large projects are required to be built to achieve Leadership in Energy and Environmental Design (LEED) silver (over 10,000 square feet but less than 100,000 square feet) and gold (over 101,000 square feet). The Zoning Ordinance update also requires installation of electric vehicle (EV) chargers. New construction is also required to meeting 100 percent of electricity and natural gas demand through either onside generation and/or purchase of renewable electricity or electricity credits (or combination) to offset energy use. The Zoning Ordinance update also includes requirements for use of recycled water for large projects. New buildings are required to be dual plumbed for the internal use of recycled water. New buildings 250,000 square feet or larger are required to use non-potable water (e.g., recycled, greywater) and prepare an Alternate Water Source Assessment that describes the alternative water source and proposed non-potable application. The Zoning Ordinance update also requires that applicants submit a zero-waste management plan to the City, which will cover how the applicant plans to minimize waste to landfill and incineration.

Despite the policies in the existing Open Space/Conservation, Noise and Safety Element as well the proposed project's Circulation and Land Use Elements, additional state and federal actions are necessary to ensure that State and federally regulated sources (i.e., sources outside the City's jurisdictional control) take similar aggressive measures to ensure the deep cuts needed to achieve the long-term target. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit.[80] According to the California Council on Science and Technology's (CCST) 2011 report, this includes switching from gasoline-powered cars and trucks to plug-in hybrids, all electric vehicles, or alternative fuels (hydrogen-fuel and/or biofuels); switching from fossil fuel to electricity to heat building space; de-carbonizing electricity[81] while maintaining a reliable electricity grid; and aggressive efficiency measures.[82] According to the CCST, emissions reductions of 80 percent can be achieved with feasible technology implementation plus research, development, and innovation. Approximately 60 percent of emissions reductions below 1990 levels can be achieved with current technology is use or in demonstration phase.

The remainder of the emission cuts to obtain the full 80 percent reduction below 1990 levels will require development and deployment of new or currently un-deployed technology. Achieving this second cut will thus require a substantial commitment to technology development and innovation. Several subsequent studies have also highlighted the variables that drive future scenario studies and challenges to meeting the 2050 target of 80 percent below 1990 levels. [83,84,85] Because no single technological approach will

[80] California Air Resources Board (CARB), 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006,* May 15.

[81] In general, there are three ways to de-carbonize electricity: nuclear power, fossil fuel with carbon storage, and renewable energy.

[82] California Council on Science and Technology, 2011, California's Energy Future – The View to 2050. http://www.ccst.us/publications/2011/2011energy.pdf, May.

[83] Greenblatt J.B. and Long J., 2012. California's Energy Future – Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Requirements, California Council on Science and Technology, September, http://ccst.us/publications/2012/2012ghg.pdf.

[84] Morrison, Geoff M., Sonia Yeh, Anthony R. Eggert, Christopher Yang, James H. Nelson, 3 Alphabetic: Jeffery B. Greenblatt, Raphael Isaac, Mark Z. Jacobson, Josiah Johnston, Daniel M. Kammen, Ana Mileva, Jack Moore, David Roland-Holst, Max Wei,

allow the State to accomplish its 2050 goal, obtaining an 80 percent reduction below 1990 levels will require a portfolio of solutions.[86]

While the proposed project supports progress toward these long term-goals, it cannot yet be demonstrated that Menlo Park will achieve GHG emissions reductions that are consistent with a 40 percent reduction below 1990 levels by 2030 or an 80 percent reduction below 1990 levels by the year 2050 based on existing technologies and currently adopted policies and programs.

MTC's Plan Bay Area

Plan Bay Area is the Bay Area's SCS, adopted to reduce GHG emissions from land use and transportation, as required by SB 375. ABAG and MTC are currently in the process of preparing an update to the nine-county RTP/SCS, Plan Bay Area 2040, to reflect the updated priorities of the Bay Area. The housing, population, and employment forecasts prepared by ABAG will be integrated into the scenario modeling tools used to develop Plan Bay Area 2040 in order to build upon earlier efforts to develop an efficient transportation network and grow in a financially and environmentally responsible way. The update will identify long-term goals to reduce GHG emissions from cars and light-duty trucks, house the region's projected population, improve public health, maintain the region's transportation infrastructure, and preserve open space.[87]

As explained in Section 4.6.1.1, above, the *Plan Bay Area* land use concept plan for the region concentrates the majority of new population and employment growth in the region in locally-designated PDAs. PDAs are transit-oriented, infill development opportunity areas within existing communities. In Menlo Park, *Plan Bay Area* includes the El Camino Real Corridor PDA. [88] The El Camino Real Corridor and Downtown is envisioned as a vibrant, mixed-use area that would locate new housing near the downtown proximate to transit options[89]. The proposed project would continue to identify this area for mixed use, and includes policies that are in-line with the regional objectives for land use and transportation. Therefore, the proposed project would encourage development consistent with the goals and objectives for this PDA.

The proposed Land Use (LU) and Circulation (CIRC) element, which would be adopted as part of the proposed project, contain general goals, policies, and programs that would require local planning and

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John P. Weyant, James H. Williams, Ray Williams, Christina B. Zapata. Long-term Energy Planning In California: Insights and Future Modeling Needs. UC-Davis Institute of Transportation Studies. Research Report – UCD-ITS-RR-14-08, http://www.its.ucdavis.edu/research/publications/publication-detail/?pub_id=2217.

[85] Energy+Environmental Economics (E3), 2015, Summary of the California State Agency's PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios, http://www.energy.ca.gov/commission/fact_sheets/documents/E3_Project_Overview_20150130.pdf, January 26.

[86] California Council on Science and Technology, 2011, California's Energy Future – The View to 2050, http://www.ccst.us/publications/2011/2011energy.pdf, May.

[87] Association of Bay Area Governments, and Metropolitan Transportation Commission, 2015, Plan Bay Area 2040, The Plan: The Context. http://planbayarea.org/the-plan/the-context.html

[88] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2013. *Plan Bay Area,* http://gis.abag.ca.gov/website/PDAShowcase/

[89] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2012. *Visions for Priority Development Areas, Jobs-Housing Connection Strategy.* May

development decisions to consider impacts to GHG. In addition, to those listed under GHG-1, the following goals, policies and programs would also serve to minimize potential GHG from development projects:

- Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.
  - Policy LU-1.1: Land Use Patterns. Cooperate with the appropriate agencies to help assure a coordinated land use pattern in Menlo Park and the surrounding area.
    - Program LU-1.B: Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation, water supply, drainage, and other community-serving facilities and infrastructure.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.3 Mixed Use and Nonresidential Development. Limit parking, traffic, and other impacts of mixed-use and nonresidential development on adjacent uses, and promote high-quality architectural design and effective transportation options.
  - Policy LU-4.6 Employment Center Walkability. Promote localserving retail and personal service uses in employment centers and transit areas that support walkability and reduce auto trips, including along a pedestrian-friendly, retail-oriented street in Belle Haven.
- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
  - Policy CIRC-1.7: Bicycle Safety. Support and improve bicyclist safety through roadway maintenance and design efforts
  - Policy CIRC-1.8: Pedestrian Safety. Maintain and create a connected network of safe sidewalks and walkways within the public right of way to ensure the appropriate facilities, traffic control, and street lighting are provided for pedestrian safety and convenience, including for sensitive populations.
  - Policy CIRC-1.9: Safe Routes to Schools. Support Safe Routes to School programs to enhance the safety of school children who walk and bike to school.
    - Program CIRC-1.A: Pedestrian and Bicyclist Safety. Consider pedestrian and bicyclist safety in the design of streets, intersections, and traffic control devices.
- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.8: Pedestrian Access at Intersections. Support full pedestrian access across all legs of signalized intersections.
  - Policy CIRC-2.9: Bikeway System Expansion. Expand the citywide bikeway system through appropriate roadway design, maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan, and the El Camino Real/Downtown Specific Plan.

- Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system, by minimizing cut-through vehicle traffic on residential streets and speeding traffic; reducing the number of vehicle trips, providing bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitating appropriate or adequate response times and access for emergency vehicles.

- Goal CIRC-5: Support local and regional transit that is efficient, frequent, convenient, and safe.
  - Policy CIRC-5.1: Transit Service and Ridership. Promote improved public transit service and increased transit ridership, especially to employment centers, commercial destinations, schools, and public facilities.
  - Policy CIRC-5.2: Transit Proximity to Activity Centers. Promote the clustering of as many activities as possible within easy walking distance of transit stops, and locate any new transit stops as close as possible to housing, jobs, shopping areas, open space, and parks.
  - Policy CIRC-5.3: Rail Service. Promote increasing the capacity and frequency of commuter rail service, including Caltrain; protect rail rights-of-way for future transit service; and support efforts to reactivate the Dumbarton Corridor for transit, pedestrian, bicycle, and emergency vehicle use.
  - Policy CIRC-5.6: Bicycle Amenities and Transit. Encourage transit providers within San Mateo County to provide improved bicycle amenities to enhance convenience, including access to transit including bike share programs, secure storage at transit stations and on-board storage where feasible.
    - Program CIRC-5.A: Long-Term Transit Planning. Work with appropriate agencies to agree on long-term peninsula transit service that reflects Menlo Park's desires and is not disruptive to the city.

These strategies, which encourage use of alternative modes of transportation, would strengthen support for future development within Menlo Park's PDA, consistent with the objectives of *Plan Bay Area*. Therefore, the proposed project would be consistent with the land use concept plan for Menlo Park that is identified in *Plan Bay Area*.

Menlo Park Climate Action Plan

The City's Climate Action Plan (CAP) was adopted in May 2009[90] and identifies local emissions reduction strategies designed to help meet AB 32 targets. The CAP recommends various community and municipal strategies for near-term and mid-term considerations. The City periodically evaluates the CAP, including updating the baseline inventory and reviewing the implementation measures. The most recent status update to the City's CAP Strategy was conducted in October 2015. [91] The 2011, 2014, and 2015 updates to the CAP included additional recommendations to achieve the City's goals. However, no new policies and programs would require City Council approval prior to implementation; and to date, no additional CAP

[90] City of Menlo Park, 2009. *Climate Action Plan.*
[91] City of Menlo Park, 2015. Climate Action Plan Update and Status Report. October

strategies have been formally adopted. Table 4.6-8 includes an evaluation with the City of Menlo Park's near-term CAP strategies.

TABLE 4.6-8 MENLO PARK COMMUNITY NEAR-TERM CLIMATE CHANGE ACTION PLAN STRATEGIES

Strategy	Consistency Analysis
Residential Energy Audit Program	**Not Applicable.** This measure is not directly applicable to new development under the proposed project but would reduce emissions from existing land use. PG&E provides several tools to existing residential customers to evaluate energy usage and efficiency, including the free Home Energy Check. Home energy audits are also available. Under the City's Energy Audit Rebate program, the City of Menlo Park offers a $300 rebate for energy assessments, and if the recommended improvements are completed, the City rebates the full cost of the assessment.
Energy Efficiency and Renewable Energy Financing Program	**Not Applicable.** This measure is not directly applicable to new development under the proposed project but would reduce emissions from existing land uses. The City of Menlo Park participates in the Energy Upgrade California program, which provides up to $4,000 in rebates for energy-efficient heating and air conditioning, energy efficient windows, sealing and insulation, and solar or tankless water heaters. The existing Open Space and Conservation Element includes Policy OSC-4.10 to encourage residents and businesses within the City to participate in the Energy Upgrade California program.
Expand Community Shuttle Server	**Consistent.** The City of Menlo Park provides free shuttle service to and from the Caltrain Station, the Midday Shuttle, and the Shoppers Shuttle. The Circulation Element Update includes policies that support this CAP strategy. Policy CIRC-3.4 would encourage the City to increase shuttle service between employment centers and the Downtown Menlo Park Caltrain Station. Additionally, Policy CIRC-31 would encourage schools and employers in the City to also promote shuttle use.
Enhancements to Recycling Services	**Not Applicable.** This measure is not directly applicable to the proposed project, which includes the Land Use and Circulation Element Update as well as the Zoning Ordinance update. The City of Menlo Park is served by Recology. Recology offers free recycling to residential and commercial customers. Additionally, Recology offers free organics recycling to residential customers and to commercial customers at a 50 percent reduction off an equivalent size garbage container. The General Plan Open Space and Conservation Element includes existing policies to reduce solid waste disposal in landfills. Policy OSC-4.6 identifies that the City will strive to achieve the per capita waste targets through reduction, reuse, and recycling. Policy OSC-4.2 and Policy OSC-2.7 also encourages reduction in landfilled waste from sustainable building practices and at City facilities, respectively. Policy LU-7.1 directs the City to promote practices that minimize waste. The City also supports regional waste reduction efforts, such as the efforts of the South Bayside Waste Management Authority (Policy OSC-4.7). The City also set an ambition goal of zero waste under Policy OSC-4.8. The Zoning Ordinance update also requires that applicants submit a zero-waste management plan to the City, which will cover how the applicant plans to minimize waste to landfill and incineration.
Electric and Plug-In Hybrid Vehicle Recharging Station	**Consistent.** The Circulation Element update supports use of alternative vehicles and promotes expansion of the City's electric vehicle (EV) charging infrastructure. Policy OSC-4.4 identifies that the City will explore the potential for installing infrastructure for alternative fueled vehicles, including plug-in electric recharging stations. The proposed Zoning Ordinance update also includes residential and nonresidential Green Building Requirements, which require installation of EV charging stations for new development. The City of Menlo Park has secured funding for electric vehicle charging stations through grant funds provided by the California Energy Commission and the Bay Area Climate Collaborative. Employers in the City, including Facebook, have also installed electric vehicle charging stations.
Implement Bike Improvements	**Consistent.** The Land Use and Circulation Element update includes policies to support bicycle use and expand the City's bicycle infrastructure. Policy LU-1.10 promotes mixed-use development to allow for easy walking/biking. Policy LU-5.9 directs the City to provide

GREENHOUSE GAS EMISSIONS

TABLE 4.6-8 MENLO PARK COMMUNITY NEAR-TERM CLIMATE CHANGE ACTION PLAN STRATEGIES

Strategy	Consistency Analysis
	pedestrian and bicycle facilities to allow for safe and convenient multi-modal activity. Policy CIRC-4.2 directs the City to expand the citywide bikeway system. The City supports multi-modal use of the City's transportation system (Policy CIRC-1.7, Policy CIRC-2.4, Policy CIRC-4.1, Policy CIRC-4.3, and Policy CIRC-4.4). The proposed Zoning Ordinance update also requires secured bicycle parking. As part of the Zoning Ordinance update, minimum short-term and long-term bicycle parking standards for Office and Research Development land uses.
Enhanced Collection Services	**Not Applicable.** This measure is not directly applicable to the proposed project, which includes the Land Use and Circulation Element Update. The City has since implemented enhanced collection services through its contract with Recology. As identified above, Recology offers free recycling to residential and commercial customers. Additionally, Recology offers an organics recycling program. Policy LU-7.1 directs the City to promote practices that minimize waste. The General Plan Open Space and Conservation Element includes existing policies to reduce solid waste disposal in landfills (Policy OSC-4.6, Policy OSC-4.2, Policy OSC-2.7. Consistent with this measure, the City also set an ambition goal of zero waste under Policy OSC-4.8. The Zoning Ordinance update also requires that applicants submit a zero-waste management plan to the City, which will cover how the applicant plans to minimize waste to landfill and incineration.
Incentives for Building Practices that Reduce Energy Consumption Beyond Current Codes	**Consistent.** The California Building and Energy Efficiency Standards are updated triennially. Under the 2016 standards, residential buildings are 28 percent more energy efficient than the 2013 standards, and non-residential buildings are 5 percent more energy efficient. During the last update, CEC identified that the 2019 standards for residential construction will achieve ZNE. Non-residential ZNE buildings are anticipated by the 2030 update. Consequently, new buildings in the City will be increasingly more energy efficient. The Land Use Update includes Policy LU-6.9, which support sustainability and green building practices in the City and result in reduce energy use through solar orientation, design, and placement. The General Plan Open Space and Conservation Element includes existing policies to reduce energy use, including participation in Energy Upgrade California (Policy OSC-4.10). The proposed Zoning Ordinance update also includes Residential and Non-Residential Green Building Requirements. These green building requirements identify standards based on the size of new construction. New large projects are required to be built to achieve Leadership in Energy and Environmental Design (LEED) silver (over 10,000 square feet but less than 100,000 square feet) and gold (over 101,000 square feet). The Zoning Ordinance update also requires installation of electric vehicle (EV) chargers. New construction is also required to meeting 100 percent of electricity and natural gas demand through either onside generation and/or purchase of renewable electricity or electricity credits (or combination) to offset energy use. New buildings are also required to be dual plumbed for the internal use of recycled water. New buildings 250,000 square feet or larger are required to use non-potable water (e.g., recycled, greywater) and prepare an Alternate Water Source Assessment that describes the alternative water source and proposed non-potable application.
City Car Sharing Program	**Not Applicable.** The Circulation Element update supports use of alternative vehicles (Policy OSC-4.4), transportation demand management (TDM) strategies (Policy CIRC-3.2), and emerging technological advancements in transportation (Policy CIRC-3.5). The Zoning Update also requires implementation of TDM measures for new development. The TDM Plan may include car-share membership. While, this measure is not directly applicable to new development, both existing and new residents and employees can take advantage of existing car sharing programs in the Bay Area. These service-based transportation options reduce vehicle trips and GHG emissions.
Limit Commercial Vehicle Idling	**Consistent.** CARB regulates nonessential idling under its Airborne Toxics Control Measures. Under the California Code of Public Resources, Chapter 10, Section 2485,

TABLE 4.6-8 MENLO PARK COMMUNITY NEAR-TERM CLIMATE CHANGE ACTION PLAN STRATEGIES

Strategy	Consistency Analysis
	commercial idling is limited to no more than 5 minutes at any location (school buses are allowed to idle for 10 minutes prior to passenger boarding or when passengers are boarding). Compliance with CARB's Airborne Toxic Control regulations would reduce idling in the City consistent with this CAP measure.
Transportation Demand Management Strategies	**Consistent.** The Circulation Element includes Policy CIRC-3.2 which would direct the City to coordinate local transportation demand management efforts in the City with agencies providing similar services in San Mateo and Santa Clara Counties. Policy CIRC-1.6 also direct the City to work with the Congestion Management Agency (C/CAG) to implement the CMP. The Zoning Ordinance update requires that construction and building additions of 10,000 square feet or more are required to develop a Transportation Demand Management (TDM) Plan to reduce trip generation by 20 percent below standard use rates. The TDM Plan may include participation in a Transportation Management Association (TMA), preferred parking for carpools/vanpools, public and/or private bike-share programs, subsidy for alternative transportation (e.g., carpool/vanpool, shuttles, and bus service including transit passes), alternative work schedules, car-share membership, emergency ride home, and other measures to reduce trip generation.
Residential Education on Trip Reduction	**Consistent.** The Circulation Element includes Policy CIRC-1.3 which requires new development to mitigate its impact of efficiency (e.g., VMT per capita) by implementing strategies that reduce trips and provide bicycle, pedestrian, and transit connections and facilities. The Land Use Element includes several policies that coordinate land use and transportation. Policy LU-4.7 allows local-serving retail and personal service uses in employment centers and transit areas that support walkability and can reduce auto trips. Policy LU-2.3 allow mixed-use projects with residential units if project design addresses potential compatibility issues such as traffic, parking, light spillover, dust, odors, and transport and use of potentially hazardous materials. Additionally, Policy LU-2.9 promotes residential uses in mixed-use arrangements and the clustering of compatible uses such as employment center, shopping areas, open space and parks, within easy walking and bicycling distance of each other and transit stops.
Transportation Management Associations	**Consistent.** The Circulation Element includes Policy CIRC-3.2 which would direct the City to coordinate local transportation demand management efforts in the City with agencies providing similar services in San Mateo and Santa Clara Counties. Policy CIRC-1.6 also direct the City to work with the Congestion Management Agency (C/CAG) to implement the CMP. The Zoning Ordinance update requires that construction and building additions of 10,000 square feet or more are required to develop a Transportation Demand Management (TDM) Plan to reduce trip generation by 20 percent below standard use rates. The TDM Plan may include participation in a Transportation Management Association (TMA), preferred parking for carpools/vanpools, public and/or private bike-share programs, subsidy for alternative transportation (e.g., carpool/vanpool, shuttles, and bus service including transit passes), alternative work schedules, car-share membership, emergency ride home, and other measures to reduce trip generation.
Zero Waste Plan and Target	**Not Applicable.** This measure is not directly applicable to the proposed project, which includes the Land Use and Circulation Element Update and Zoning Ordinance update. As identified above, Recology offers free recycling to residential and commercial customers. Additionally, Recology offers an organics recycling program. The General Plan Open Space and Conservation Element includes existing policies to reduce solid waste disposal in landfills (Policy OSC-4.6, Policy OSC-4.2, Policy OSC-2.7. Consistent with this measure, the City also set an ambition goal of zero waste under Policy OSC-4.8.The Zoning Ordinance update also requires that applicants submit a zero-waste management plan to the City, which will cover how the applicant plans to minimize waste to landfill and incineration.

GREENHOUSE GAS EMISSIONS

TABLE 4.6-8 MENLO PARK COMMUNITY NEAR-TERM CLIMATE CHANGE ACTION PLAN STRATEGIES

Strategy	Consistency Analysis
Requiring Recycling Service for Commercial Facilities	**Not Applicable.** This measure is not directly applicable to the proposed project, which includes the Land Use and Circulation Element Update and Zoning Ordinance update. However, AB 341, California's mandatory commercial recycling law, now requires that commercial businesses that generate more than four cubic yards of commercial waste per week or multi-family residential dwellings of five units or more shall have recycling service. As identified above, Recology offers free commercial recycling. Additionally, the existing General Plan includes policies that support waste diversion (Policy OSC-4.6, Policy OSC-4.2, OSC-2.7, and Policy OSC-4.8). The Zoning Ordinance update also requires that applicants submit a zero-waste management plan to the City, which will cover how the applicant plans to minimize waste to landfill and incineration.
Construction & Demolition Debris Ordinance Update	**Consistent.** At the time of the 2009 CAP, participation in the California Green Building Standards Code was voluntary. Compliance with CALGreen is now mandatory for both residential and nonresidential projects. Under the current CALGreen, construction and demolition debris must achieve a minimum of 50 percent diversion. City ordinances/codes are required to be consistent with CALGreen. Furthermore, Policy OSC-4.2 also encourages reduction in landfilled waste from sustainable building practices. Policy LU-7.1 directs the City to promote practices that minimize waste. New projects would be required to adhere to the current construction and demolition debris diversion requirements in CALGreen. The Zoning Ordinance update also requires that applicants submit a zero-waste management plan to the City, which will cover how the applicant plans to minimize waste to landfill and incineration.
Menlo Park Municipal Water District Conservation Programs	**Consistent.** The Land Use Element Policy LU-6.5 promotes use of reclaimed water use, such as recycled/non-potable water, gray-water, black-water, and stormwater. Additionally, the General Plan Open Space and Conservation Element includes existing policies to reduce water use in landfills. Policy OSC-2.7 identifies a goal to reduce water consumption at City facilities. Policy OSC-4.2 also promotes water conservation as part of the City's sustainable building practices. The Zoning Ordinance update also prohibits the use of single pass cooling systems and includes requirements for use of recycled water for large projects. New buildings are required to be dual plumbed for the internal use of recycled water. New buildings 250,000 square feet or larger are required to use non-potable water (e.g., recycled, greywater) and prepare an Alternate Water Source Assessment that describes the alternative water source and proposed non-potable application.
Landscape Ordinance Update	**Consistent.** In 2010, AB 1881 required that cities adopt a Water Efficient Landscape Ordinance (WELO) to reduce water use. The State's WELO has been updated pursuant to Executive Order B-29-15 to further reduce landscape water use to comply with the Governor's drought proclamation. New development would be required to adhere to the City's WELO to reduce outdoor water use. The Land Use Element Policy LU-6.5 promotes use of reclaimed water use, such as recycled/non-potable water, gray-water, black-water, and stormwater. Additionally, the General Plan Open Space and Conservation Element includes existing policies to reduce water use (Policy OSC-2.7 and Policy OSC-4.2)

Source: Menlo Park. 2009. Climate Change Action Plan.
Menlo Park, 2015. Energy Upgrade California. Accessed on January 26, 2016. http://www.menlopark.org/363/Energy-Upgrade-California.

Summary

As identified above, the proposed project would be consistent with the regional objectives of the *Plan Bay Area* and the City's CAP. The policies and programs in the proposed project would ensure substantial progress toward the long-term GHG reductions goals for 2050. However, CARB has not yet drafted a plan to achieve the statewide GHG emissions goals established in Executive Order S-03-05. In addition to the

local measures included in the proposed project, additional state and federal measures are necessary to achieve the more aggressive targets established for 2050 in Executive Order S-03-05. Therefore, GHG impacts are considered to be *significant*, requiring mitigation.

Impact GHG-2: While the proposed project supports progress toward the long term-goals identified in Executive Order B-30-15 and Executive Order S-03-05, it cannot yet be demonstrated that Menlo Park will achieve GHG emissions reductions that are consistent with a 40 percent reduction below 1990 levels by 2030 or an 80 percent reduction below 1990 levels by the year 2050 based on existing technologies and currently adopted policies and programs.

Mitigation Measure GHG-2: Implement Mitigation Measure GHG-1.

Significance With Mitigation: Significant and unavoidable. The City has a CAP to achieve the GHG reduction goals of AB 32 for year 2020. Mitigation Measure GHG-1 would ensure that the City updates the CAP to identify a post-2020 GHG reduction goal to align with the upcoming CARB Scoping Plan Update for statewide 2030 GHG emissions reductions target and identify a GHG reduction goal for the proposed project horizon year. At this time there are no post-2020 federal and state measures that would assist the City in achieving the efficiency target at the proposed project year. Therefore, Impact GHG-2 would remain significant and unavoidable.

4.6.4 CUMULATIVE IMPACTS

As described above, GHG emissions related to implementation of the proposed project are not confined to a particular air basin but are dispersed worldwide. Therefore, the analysis of impacts in Section 4.6.3, Impact Discussion, above, also addresses cumulative impacts. While the policies of the proposed General Plan ensure substantial progress toward the long term-goals of Executive Order S-03-05, GHG impacts for consistency with the more aggressive 2050 targets are conservatively considered to be cumulatively considerable and therefore potentially *significant*. This is the same impact identified above as GHG-1.

GREENHOUSE GAS EMISSIONS

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4.7 HAZARDS AND HAZARDOUS MATERIALS

This chapter describes the regulatory framework and existing conditions related to hazards and hazardous materials within the study area. The chapter also evaluates the potential impacts as they relate to hazards and hazardous materials from adopting and implementing the proposed project.

4.7.1 ENVIRONMENTAL SETTING

4.7.1.1 REGULATORY FRAMEWORK

Hazardous materials and wastes can pose a significant actual or potential hazard to human health and the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Many federal, State, and local programs that regulate the use, storage, and transportation of hazardous materials and hazardous waste are in place to prevent these unwanted consequences. These regulatory programs are designed to reduce the danger that hazardous substances may pose to people and businesses under normal daily circumstances and as a result of emergencies and disasters.

Federal Agencies and Regulations

United States Environmental Protection Agency

The United States Environmental Protection Agency (USEPA) laws and regulations ensure the safe production, handling, disposal, and transportation of hazardous materials. Laws and regulations established by the USEPA are enforced in San Mateo County by the California Environmental Protection Agency (CalEPA).

United States Department of Transportation

The United States Department of Transportation (USDOT) has the regulatory responsibility for the safe transportation of hazardous materials between states and to foreign countries. The USDOT regulations govern all means of transportation, except for those packages shipped by mail, which are covered by United States Postal Service regulations. The federal Resource Conservation and Recovery Act of 1976 imposes additional standards for the transport of hazardous wastes.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration (OSHA) oversees the administration of the Occupational Safety and Health Act, which requires specific training for hazardous materials handlers, provision of information to employees who may be exposed to hazardous materials, and acquisition of material safety data sheets (MSDS) from materials manufacturers. The MSDS describe the risks, as well as proper handling and procedures, related to particular hazardous materials. Employee training must include response and remediation procedures for hazardous materials releases and exposures.

Resource Conservation and Recovery Act of 1976, as Amended by the Hazardous and Solid Waste Amendments of 1984

Federal hazardous waste laws are generally promulgated under the Resource Conservation and Recovery Act (RCRA). These laws provide for the "cradle to grave" regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed. The Department of Toxic Substances Control (DTSC) is responsible for implementing the RCRA program, as well as California's own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law. Under the Certified Unified Program Agency (CUPA) program, the CalEPA has, in turn, delegated enforcement authority to the County of San Mateo for regulating hazardous waste producers or generators in the study area.

Comprehensive Environmental Response, Compensation, and Liability Act and the Superfund Amendments and Reauthorization Act of 1986

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, on December 11, 1980. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. Superfund Amendments and Reauthorization Act (SARA) amended CERCLA on October 17, 1986. The SARA stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites; required Superfund actions to consider the standards and requirements found in other federal and State environmental laws and regulations; provided new enforcement authorities and settlement tools; increased State involvement in every phase of the Superfund program; increased the focus on human health problems posed by hazardous waste sites; encouraged greater citizen participation in making decisions on how sites should be cleaned up; and increased the size of the trust fund to $8.5 billion.

Emergency Planning Community Right-to-Know Act

The Emergency Planning Community Right-to-Know Act (EPCRA), also known as SARA Title III, was enacted in October 1986. This law requires any infrastructure at the State and local levels to plan for chemical emergencies. Reported information is then made publicly available so that interested parties may become informed about potentially dangerous chemicals in their community. EPCRA Sections 301 through 312 are administered by EPA's Office of Emergency Management. EPA's Office of Information Analysis and Access implements the EPCRA Section 313 program. In California, SARA Title III is implemented through the California Accidental Release Program (CalARP). The State of California has delegated local oversight authority of the CalARP program to the County of San Mateo.

Hazardous Materials Transportation Act

The USDOT regulates hazardous materials transportation under Title 49 of the Code of Federal Regulations (CFR). State agencies that have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). The California State Fire Marshal's

Office has oversight authority for hazardous materials liquid pipelines. The California Public Utilities Commission has oversight authority for natural gas pipelines in California. These agencies also govern permitting for hazardous materials transportation.

Federal Response Plan

The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies and other resource providers, including the American Red Cross, that: 1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of State and local governments overwhelmed by a major disaster or emergency; 2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as well as individual agency statutory authorities; and 3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a Presidential declaration of a major disaster or emergency. The Federal Response Plan is part of the National Response Framework.

Robert T. Stafford Disaster Relief and Emergency Assistance Act

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) of 1988 authorizes the federal government to provide assistance in emergencies and disasters when State and local capabilities are exceeded. The Stafford Act constitutes statutory authority for most federal disaster response activities especially as they pertain to the Federal Emergency Management Agency (FEMA) and FEMA programs.

State Agencies and Regulations

California Environmental Protection Agency

CalEPA was created in 1991 by Governor Executive Order W-5-91. Several State regulatory boards, departments, and offices were placed under the CalEPA umbrella to create a cabinet-level voice for the protection of human health and the environment and to assure the coordinated deployment of State resources. Among those responsible for hazardous materials and waste management are the DTSC, Department of Pesticide Regulation, and Office of Environmental Health Hazard Assessment (OEHHA). CalEPA also oversees the unified hazardous waste and hazardous materials management regulatory program (Unified Program), which consolidates, coordinates, and makes consistent the following six programs:

- Hazardous Materials Release Response Plans and Inventories (Business Plans).
- Underground Storage Tank Program.
- Aboveground Petroleum Storage Tank Act.
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs.
- California Uniform Fire Code: Hazardous Material Management Plans and Inventory Statements.
- CalARP.

California Department of Toxic Substances Control

The California DTSC, which is a department of CalEPA, is authorized to carry out the federal RCRA hazardous waste program in California to protect people from exposure to hazardous wastes. The department regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California, primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (California H&SC Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (Title 22, California Code of Regulations (CCR), Divisions 4 and 4.5). Permitting, inspection, compliance, and corrective action programs ensure that people who manage hazardous waste follow federal and State requirements and other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB), through its regional boards, regulates discharge of potentially hazardous materials to waterways and aquifers and administers basin plans for groundwater resources in various regions of the State. The SWRCB provides oversight for sites at which the quality of groundwater or surface waters is threatened, and has the authority to require investigations and remedial actions. The San Francisco Bay Regional Water Quality Control Board (San Francisco Bay RWQCB) is the regional board that has jurisdiction within the study area.

California Health and Safety Code and Code of Regulations

California Health and Safety Code Chapter 6.95 and California Code of Regulations, Title 19, Section 2729 sets out the minimum requirements for business emergency plans and chemical inventory reporting. These regulations require businesses to provide emergency response plans and procedures, training program information, as well as a hazardous material chemical inventory disclosing hazardous materials stored, used, or handled on-site. A business which uses hazardous materials or a mixture containing hazardous materials must establish and implement a business plan if the hazardous material is handled in certain quantities.

California Division of Occupational Safety and Health

Like OSHA at the federal level, the California Division of Occupational Safety and Health (CalOSHA) is the responsible State-level agency for ensuring workplace safety. The CalOSHA assumes primary responsibility for the adoption and enforcement of standards regarding workplace safety and safety practices. In the event that a site is contaminated, a Site Safety Plan must be crafted and implemented to protect the safety of workers. Site Safety Plans establish policies, practices, and procedures to prevent the exposure of workers and members of the public to hazardous materials originating from the contaminated site or building.

California Education Code

The California Education Code (CEC) establishes the law for California public education. CEC requires that the DTSC be involved in the environmental review process for the proposed acquisition and/or

construction of school properties that will use State funding. The CEC requires that a Phase I Environmental Site Assessment be completed prior to acquiring a school site or engaging in a construction project. Depending on the outcome of the Phase I Environmental Site Assessment, a Preliminary Environmental Assessment and remediation may be required. The CEC also requires potential, future school sites that are proposed within two miles of an airport to be reviewed by the Caltrans Division of Aeronautics. If Caltrans does not support the proposed site, no State or local funds can be used to acquire the site or construct the school.

California Building Code

The State of California provides a minimum standard for building design through Title 24 of the California Code of Regulations (CCR), commonly referred to as the "California Building Code" (CBC). The CBC is located in Part 2 of Title 24. The CBC is updated every three years, and the current 2013 CBC went into effect in January 2014. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. The 2013 CBC has been adopted for use by the City of Menlo Park, according to Section 12.04.010 of the Menlo Park Municipal Code.

Commercial and residential buildings are plan-checked by local City and County building officials for compliance with the CBC.

California Fire Code

Part 9 of the CBC contains the California Fire Code (CFC). The CFC adopts by reference the 2012 International Fire Code (ICF) with necessary State amendments. Updated every three years, the CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution. Similar to the CBC, the CFC is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Typical fire safety requirements include: installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildlife hazard areas.

California Department of Transportation and California Highway Patrol

Two State agencies have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies: the CHP and Caltrans. Caltrans manages more than 50,000 miles of California's highway and freeway lanes, provides intercity rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Caltrans is also the first responder for hazardous material spills and releases that occur on those highway and freeway lanes and intercity rail services.

The CHP enforces hazardous materials and hazardous waste labeling and packing regulations designed to prevent leakage and spills of materials in transit and to provide detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of the CHP, which conducts regular inspections of licensed transporters to assure regulatory compliance.

Common carriers are licensed by the CHP, pursuant to the California Vehicle Code, Section 32000. This section requires licensing every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous material of the type requiring placards. Common carriers conduct a large portion of the business of delivery of hazardous materials.

California Emergency Management Agency

The California Emergency Management Agency (CalEMA) was established as part of the Governor's Office on January 1, 2009 – created by Assembly Bill 38 (Nava), which merged the duties, powers, purposes, and responsibilities of the former Governor's Office of Emergency Services with those of the Governor's Office of Homeland Security. The CalEMA is responsible for the coordination of overall State agency response to major disasters in support of local government. The agency is responsible for assuring the State's readiness to respond to and recover from all hazards – natural, manmade, emergencies, and disasters – and for assisting local governments in their emergency preparedness, response, recovery, and hazard mitigation efforts.

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped fire threat potential throughout California.[1] CAL FIRE ranks fire threat based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The rankings include no fire threat, moderate, high, and very high fire threat. Additionally, CAL FIRE produced the *2012 Strategic Fire Plan for California*, which contains goals, objectives, and policies to prepare for and mitigate for the effects of fire on California's natural and built environments.[2]

Materials-Specific Programs and Regulations

Asbestos-Containing Materials (ACM) Regulations

State-level agencies, in conjunction with the USEPA and OSHA, regulate removal, abatement, and transport procedures for asbestos-containing materials. Releases of asbestos from industrial, demolition, or construction activities are prohibited by these regulations and medical evaluation and monitoring is required for employees performing activities that could expose them to asbestos. Additionally, the regulations include warnings that must be heeded and practices that must be followed to reduce the risk for asbestos emissions and exposure. Finally, federal, State, and local agencies must be notified prior to the onset of demolition or construction activities with the potential to release asbestos.

[1] CAL FIRE, Fire Hazard Severity Zone Development, http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_development.php, accessed on November 5, 2015.

[2] CAL FIRE, *2012 Strategic Fire Plan for California,* http://calfire.ca.gov/about/about_StrategicPlan.php, accessed on November 5, 2015.

Polychlorinated Biphenyls (PCBs)

The USEPA prohibited the use of PCBs in the majority of new electrical equipment starting in 1979, and initiated a phase-out for much of the existing PCB-containing equipment. The inclusion of PCBs in electrical equipment and the handling of those PCBs are regulated by the provisions of the Toxic Substances Control Act, 15 U.S.C. Section 2601 et seq. (TSCA). Relevant regulations include labeling and periodic inspection requirements for certain types of PCB-containing equipment and outline highly specific safety procedures for their disposal. The State of California likewise regulates PCB-laden electrical equipment and materials contaminated above a certain threshold as hazardous waste; these regulations require that such materials be treated, transported, and disposed accordingly. At lower concentrations for non-liquids, regional water quality control boards may exercise discretion over the classification of such wastes.

Lead-based Paint (LBP)

CalOSHA's Lead in Construction Standard is contained in Title 8, Section 1532.1 of the California Code of Regulations. The regulations address all of the following areas: permissible exposure limits (PELs); exposure assessment; compliance methods; respiratory protection; protective clothing and equipment; housekeeping; medical surveillance; medical removal protection; employee information, training, and certification; signage; record keeping; monitoring; and agency notification.

Regional Agencies and Regulations

San Francisco Bay Regional Water Quality Control Board

The Porter-Cologne Water Quality Act[3] established the SWRCB and divided the state into nine regional basins, each under the jurisdiction of a RWQCB. The San Francisco Bay Region (Region 2) is the RWQCB that regulates water quality in the study area. The San Francisco Bay RWQCB has the authority to require groundwater investigations when the quality of groundwater or surface waters of the state is threatened, and to require remediation actions, if necessary.

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) has primary responsibility for control of air pollution from sources other than motor vehicles and consumer products (which are the responsibility of CalEPA and California Air Resources Board [CARB]). The BAAQMD is responsible for preparing attainment plans for non-attainment criteria pollutants, control of stationary air pollutant sources, and the issuance of permits for activities including demolition and renovation activities affecting asbestos containing materials (District Regulation 11, Rule 2) and lead (District Regulation 11, Rule 1).

[3] California Water Code Sections 13000 et seq.

Airport Land Use Compatibility Plans

The study area is located approximately 2 miles from Palo Alto Airport, but no portions of the city are within the airport land use compatibility zones established by the Palo Alto Airport Comprehensive Land Use Plan.[4] Furthermore, the study area is located more than 2 miles from the San Carlos Airport to the north and Moffett Federal Airfield to the south.

Local Agencies and Regulations

City of Menlo Park

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.7.3, Impact Discussion.

Menlo Park Emergency Operation Plan

The City of Menlo Park adopted an Emergency Operation Plan (EOP) in 2011. The City developed the EOP to better prepare for responses to emergency situations that could result from natural disasters and technological incidents. To prepare for these emergencies, the City estimated the potential risks associated with earthquakes, flooding, wildland fire, and other disasters. Based on this evaluation, the various preparation strategies were developed. These strategies are addressed in Volume 2 of the EOP as follows: Chapter 1 introduces the City's Emergency Management System and four emergency management phases, as well as required activities and responsible parties for each phase; Chapter 2 describes regulatory frameworks and relevant legal authorities; Chapter 3 provides a threat assessment including estimated potential risks associated with various natural and man-made disasters; and Chapter 4 provides a recovery plan, including damage assessments and disaster assistance programs.

Menlo Park Hazardous Materials Waste Disposal

Proper disposal of hazardous items such as aerosol cans (non-empty), automotive fluids, batteries, cleaners, fluorescents (compact and tubes), insecticides, paint, solvents, and thinner is available through the City of Menlo Park with the At-Your-Door Hazardous Waste Collection Service available to homes and apartments.[5] Additionally, the Public Recycling Center at the Shoreway Environmental Center accepts household hazardous waste for free. Items such as batteries, florescent lighting tubes, cooking oil, latex paint, used motor oil, used oil filters, antifreeze, and electronics can be dropped off at this location. In

[4] Santa Clara County Airport Land Use Commission, 2008. Palo Alto Airport Comprehensive Land Use Plan, page 3-15, https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_20081119_PAO_CLUP.pdf, accessed on November 5, 2015.

[5] City of Menlo Park, Environmental Programs, Hazardous Waste, http://www.menlopark.org/327/Residential-Hazardous-Waste, accessed on May 19, 2016.

addition, residents of Menlo Park may also drop off household hazardous waste at the San Mateo County Household Hazardous Waste facility free of charge by appointment.[6]

Menlo Park Fire Protection District

District Fire Prevention Code

While the City has not adopted the CFC described under the subheading "California Fire Code" above as part of the City's Municipal Code, it has been adopted by the Menlo Park Fire Protection District (MPFPD), which provides fire protection services to Menlo Park. On November 18, 2014, the Board of Directors of the MPFPD approved Ordinance No. 36A-2013 adopting the 2012 IFC with necessary California amendments for the City. The ordinance was further amended to address automatic sprinklers. The MPFPD adopted the 2013 CFC by reference on January 20, 2015 under Ordinance 36B-2013.[7] On January 27, 2015, the City adopted a resolution ratifying the MPFPD Ordinance for the adoption of and local amendments to the 2013 CFC. The District Fire Prevention Code regulates permit processes, emergency access, hazardous material handling, and fire protection systems, including automatic sprinkler systems, fire extinguishers, and fire alarms. Project applications for development in Menlo Park are plan-checked by MPFPD for compliance with the CFC.

District Fee Schedule

The MPFPD FY 2015/2016 Adopted District Budget & CA-TF3 US&R Budget (MPFPD Budget) is $37.5 million. The MPFPD requires developers in their service are pay impact fees to help implement the MPFPD's capital improvement plans, which include specific improvements to ensure the MPFPD can adequately serve its service area and population. Because the Fee Schedule is subject to change over time, project applicants are required to pay the fees per the Fee Schedule that is in place at the time of project approval.

San Mateo County Health System Department

San Mateo County Environmental Health Division

The County of San Mateo Environmental Health Division (SMCEHD) provides services to ensure a safe and healthy environment in San Mateo County through education, monitoring, and enforcement of regulatory programs and services for the community. Their services include restaurant and housing inspection, household hazardous waste and medical waste disposal, water protection and water quality monitoring, pollution prevention, and other regulatory activities and services. The SMCEHD conducts inspections, surveillances, or monitoring, or other purposes to protect the present and future public health and safety and the environment as provided in Chapter 6.5 and 6.8 of the California Health and Safety Code and Chapter 4 of Division 7 of the Water Code.

[6] City of Menlo Park, Environmental Programs, Hazardous Waste, http://www.menlopark.org/327/Residential-Hazardous-Waste, accessed on May 19, 2016.

[7] Ordinance 36A-2013 was introduced on October 21, 2014 to adopt the 2013 CFC by reference and was subsequently amended and adopted under Ordinance 36B-2013 on January 20, 2015.

Local Oversight Program (LOP)

The SMCEHD has been contracted by the State as the LOP Agency with jurisdiction within the study area. The objective of the LOP Agency is to identify and oversee the investigation and remediation of UST petroleum release sites within its jurisdiction. Pursuant to Health and Safety Code Section 25297.1, work performed by the LOP Agency shall be consistent with cleanup standards specified by the SWRCB. Corrective action shall comply with all applicable waste discharge requirements, state policies for water quality control, State and Regional Water Board water quality control plans, Health and Safety Code Chapters 6.7, and Chapters 16 of Title 23, California Code of Regulations.

Applications Involving Hazardous Materials

The City of Menlo Park has a process for reviewing the use of hazardous materials by a business.[8] The City coordinates its review process with the MPFPD, the SMCEHD, applicable sanitary districts, and the City of Menlo Park Building Division.

The City requires approval of a use permit for the use of hazardous materials. All project applicants must contact the MPFPD and describe the type and amount of hazardous materials they will have on-site at the start of their operations. The MPFPD has established threshold levels based on the CFC permit quantities threshold. The MPFPD uses their established threshold to define the maximum amount of hazardous materials that would be allowed before a use permit is required. A "finding" included with Planning Commission approvals for a use permit will state that the City Official, MPFPD, SMCEHD, and any applicable sanitary districts have reviewed the application and that any conditions recommended by these entities are included in the approval. These conditions will be explicitly stated in the approval.

The MPFPD's visits to users could reveal situations where the type or volume of materials has changed enough to warrant rehearing of a Planning Commission approval.[9] Inspections by the SMCEHD could reveal similar situations. Ultimately, the project applicant is responsible for dealing directly with the SMCEHD if there are any revisions to the Hazardous Materials Information Form (HMIF) and notifying the City of any changes from its approved use permit.

4.7.1.2 EXISTING CONDITIONS

This section describes existing conditions related to hazardous materials, airport hazards, and wildlife fires within the study area.

Hazardous Materials Sites

The term "hazardous material" is defined in different ways for different regulatory programs. The California Health and Safety Code Section 25501 definition of a hazardous material is: "any material that,

[8] City of Menlo Park – Community Development Department, Planning Division, Hazardous Materials Applications Guidelines, updated January 2011.

[9] City of Menlo Park – Community Development Department, Planning Division, *Hazardous Materials Applications Guidelines,* updated January 2011.

because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment."

The DTSC divides hazardous material sites into three categories: clean-up sites, permitted sites, and other sites. Sites listed within these three categories can be at various stages of evaluation or clean up, from the beginning to the end of the process. California Government Code Section 65962.5 requires CalEPA to compile, maintain, and update specified lists of hazardous material release sites. CEQA Guidelines (California Public Resources Code Section 21092.6) require the lead agency to consult the lists compiled pursuant to Government Code Section 65962.5 to determine whether a proposed project and any alternatives are identified on any of the following lists:

- United States EPA National Priorities List (NPL): Lists all sites under the EPA's Superfund program, which was established to fund cleanup of contaminated sites that pose risk to human health and the environment.
- United States EPA Toxics Release Inventory (TRI) Program: Tracks the management of certain toxic chemicals that may pose a threat to human health and the environment.
- United States EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and Archived Sites: CERCLIS contains 15,000 sites nationally identified as hazardous sites. This would also involve a review for archived sites that have been removed from CERCLIS due to No Further Remedial Action Planned (NFRAP) status.
- United States EPA Resource Conservation and Recovery Act Information System (RCRIS or RCRAInfo): RCRAInfo is a national inventory system about hazardous waste handlers. Generators, transporters, handlers, and disposers of hazardous waste are required to provide information for this database.
- DTSC Cortese List: The DTSC maintains the Hazardous Waste and Substances Sites (Cortese) List as a planning document for use by the State and local agencies to comply with the CEQA requirements in providing information about the location of hazardous materials release sites. This list includes the Site Mitigation and Brownfields Reuse Program Database (CalSites).
- DTSC HazNet: DTSC uses this database to track hazardous waste shipments.
- SWRCB Leaking Underground Storage Tank Information System (LUSTIS): The SWRCB maintains an inventory of USTs and leaking USTs, which tracks unauthorized releases.

The required lists of hazardous material release sites are commonly referred to as the "Cortese List" after the legislator who authored the legislation. Because the statute was enacted more than 20 years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and, in some cases, the information to be included in the Cortese List does not exist. Those requesting a copy of the Cortese List are now referred directly to the appropriate information resources contained on internet websites hosted by the boards or departments referenced in the statute, including DTSC's online EnviroStor[10] database and the SWRCB's online GeoTracker[11] database. These two

[10] Department of Toxic Substances Control, EnviroStor, http://www.envirostor.dtsc.ca gov, accessed on November 7, 2015

databases include hazardous material release sites, along with other categories of sites or facilities, specific to each agency's jurisdiction.

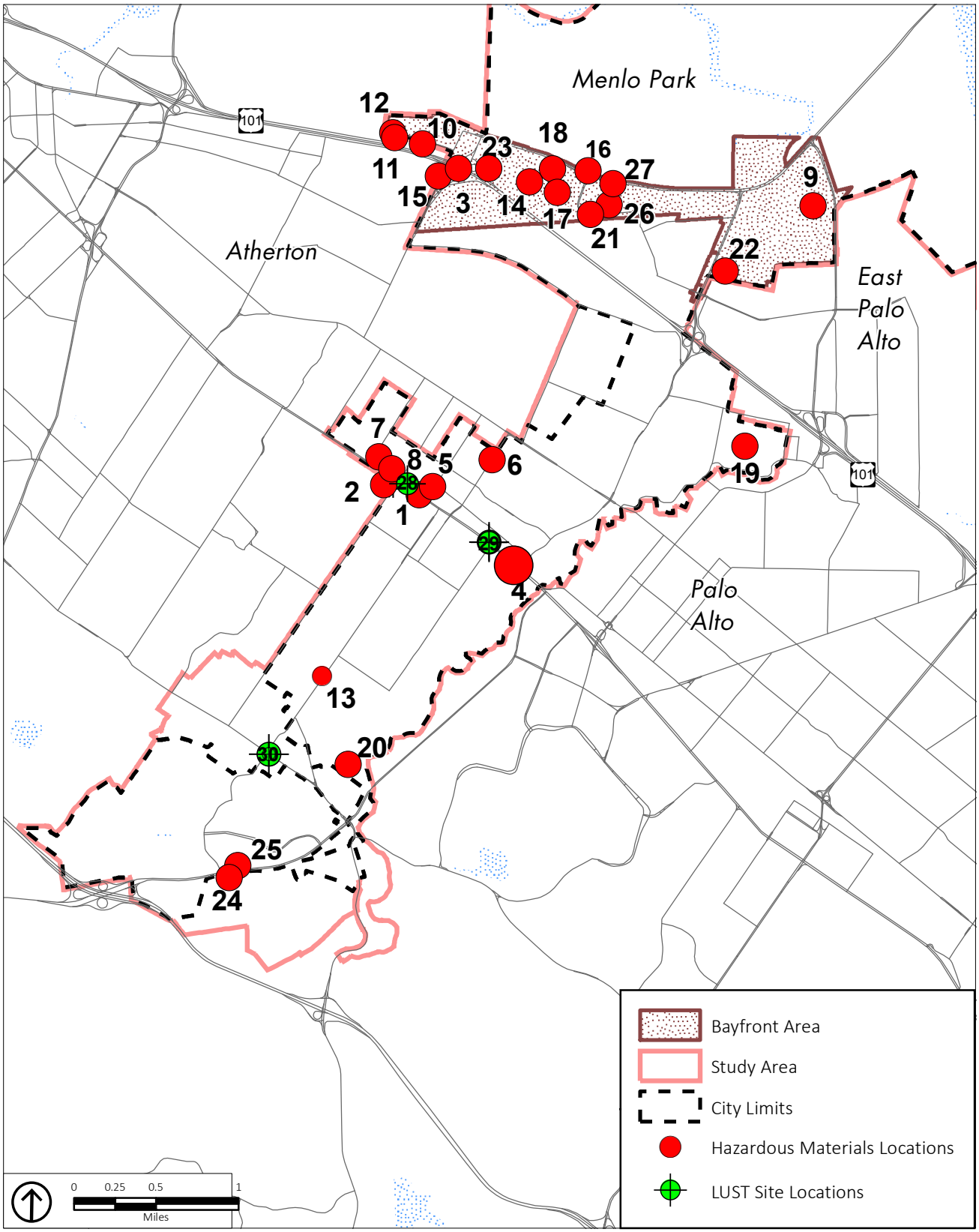
A search of DTSC's EnviroStore database on November 7, 2015 revealed 27 listings within the study area, as shown on Figure 4.7-1. Table 4.7-1 identifies the sites along with their current status. Of these 27 sites, 21 sites are listed as Cleanup Sites, four are listed as Historical Sites, meaning sites from older databases where no site type was identified and most having a status of Referred (to another agency) or No Further Action, and two are listed as Hazardous Waste Facilities Sites. Six of these sites are listed as active, indicating that an investigation and/or remediation currently is in progress and that DTSC is actively involved, five as where DTSC has determined no further action is required, five as being inactive but in need of evaluation, eight as having been referred to other agencies to be more appropriately addressed, and three land use restrictions following investigation and remediation imposed by a recorded covenant between the current land owner and DTSC as necessary to protect present and future health or safety or the environment as the result of the presence on the land of hazardous materials. There are no listed Federal Superfund sites in the study area.

A search of the SWRCBs GeoTracker database on November 7, 2015, revealed 71 records of Leaking Underground Fuel Tank (LUFT) sites scattered throughout the city, concentrated along El Camino Real and in downtown Menlo Park. LUFTs are a common source of soil and groundwater contamination. A wide variety of industries have historically used underground storage tanks for gasoline, diesel, waste oils, solvents, and other chemicals. Prior to regulation in the 1980s, these underground tanks were typically not monitored or provided with secondary containment. If a tank leaked, the contents could migrate to the soil and groundwater.

Of the 71 records found, 68 of the listed sites are identified as having a cleanup status of "Completed-Case Closed", meaning site investigation and any appropriate remedial activities have been completed to the satisfaction of the responsible regulatory agency (i.e., SMCLOP or RWQCB). Of the remaining three sites, two are identified as "Open-Site Assessment," meaning an assessment of site conditions is ongoing with regulatory agency oversight, and one is identified as "Open-Eligible for Closure," meaning cleanup action at the site was deemed completed and the case is going through the process of being closed.

In addition to the LUST sites, several locations that are listed under the Spills, Leaks, Investigation, and Cleanups (SLIC) Program, which investigates and regulates non-permitted discharges, also have been identified within the study area. These are found mostly in the downtown area and the northeastern portion of the study area. Most of these sites are listed as "Completed-Case Closed," with some of the sites still open undergoing site assessment, remediation action, or verification monitoring of remediation action.

[11] State Water Resources Control Board, GeoTracker, http://www.geotracker.waterboards.ca.gov, accessed on November 7, 2015.



Source: City of Menlo Park; PlaceWorks; Department of Toxic Substances Control, EnviroStor., 2015; GeoTracker, 2016.

Figure 4.7-1
Hazardous Materials Locations

HAZARDS AND HAZARDOUS MATERIALS

TABLE 4.7-1 HAZARDOUS MATERIALS SITES IN THE STUDY AREA

Site	Site Name	Address	Type	Status
1	1258 El Camino Real	1258 El Camino Real	Voluntary Cleanup	No Further Action
2	Beltramo Property	1452 And 1460 El Camino Real	Voluntary Cleanup	Active
3	Browning-Ferris Industries	End Of Marsh Road, East Of Highway 101	Historical	Refer: RWQCB
4	Camp Fremont (J09ca0017)		State Response	Inactive - Needs Evaluation
5	Derry Lane Mixed Use Development	Derry Lane	State Response	Active
6	Dibble General Hosp		Military Evaluation	No Further Action
7	Former Menlo Park Pet Hospital	1450 El Camino Real	Voluntary Cleanup	Active
8	Former Norge / Atherton Village Cleaners	1438 El Camino Real	Evaluation	Active
9	Former Peninsula Sportsmen's Club	East Of University Avenue	Voluntary Cleanup	Refer: RWQCB
10	General Circuits Inc	3585 Haven Avenue	Corrective Action	Inactive - Needs Evaluation
11	General Circuits Inc.	3549 J Haven Avenue	Haz Waste - RCRA	Protective Filer
12	General Circuits Inc.	3549 J Haven Avenue	Corrective Action	Refer: EPA
13	Hillview Middle School	1100 Elder Avenue	School Cleanup	Certified
14	Menlo Park Proposed School	150 Jefferson Drive	School Investigation	Active
15	Menlo Park Sanitation	1700 Marsh Road Extention	Evaluation	No Further Action
16	Menlo Park West Campus	312-314 Constitution Drive	Voluntary Cleanup	Certified / Operation & Maintenance - Land Use Restrictions
17	Menlo Tech	188 Constitution Drive	Voluntary Cleanup	Inactive - Needs Evaluation

TABLE 4.7-1 HAZARDOUS MATERIALS SITES IN THE STUDY AREA

Site	Site Name	Address	Type	Status
18	Menlotech, Inc.	188 Constitution Drive	Tiered Permit	Inactive - Needs Evaluation
19	O'Connor School Site	275 Elliott Drive	School Cleanup	Active
20	Oak Knoll Elementary School	1895 Oak Knoll Lane	School Investigation	No Action Required
21	Raychem Corporation	300 Constitution Drive	Historical	Refer: RCRA
22	Sanford Metal Processing Co.	990 O'Brien Drive	Tiered Permit	Refer: Other Agency
23	Seibert, J., Machine Corp	119 Independence Dr.	Historical	Refer: Other Agency
24	Stanford Linear Accelerator	2575 Sand Hill Road	Historical	Refer: RWQCB
25	Stanford Linear Accelerator Ctr.	2575 Sand Hill Road, Ms77	Tiered Permit	Refer: Other Agency
26	Tyco Electronics Corporation	300 Constitution Dr	Haz Waste	Undergoing Closure - Land Use Restrictions
27	Tyco Electronics Corporation	300 Constitution Dr	Corrective Action	Certified / Operation & Maintenance - Land Use Restrictions
28	Red Carpet Car Wash	1436 El Camino Real	LUST Site	Open – Eligible for Closure
29	Magnussen Buick	550 El Camino Real	LUST Site	Open – Site Assessment
30	Arco #0313	3600 Alameda De Las Pulgas	LUST Site	Open – Site Assessment

Source: California Department of Toxic Substances Control, EnviroStor website, http://envirostor.dtsc.ca.gov/public, accessed on November 7, 2015; GeoTracker website, http://geotracker.waterboards.ca.gov/, accessed on May 19, 2016.

Aircraft Hazards

Menlo Park is located approximately 6 miles to the northwest of Moffet Federal Airfield, 14 miles to the northwest of the San Jose international Airport, 15 miles to the southeast of San Francisco International Airport, and 18 miles to the south of Oakland International Airport. The project study area is also located in close proximity to two smaller airports; with portions of Menlo Park as near as 2 miles from the Palo Alto Airport and other areas of the project study area as near as approximately 4 miles from the San Carlos Airport. Additional small airports in the vicinity include the Hayward Executive Airport, at 11 miles away, and the Half Moon Bay airport, at 16 miles away. In addition, there are no heliports within Menlo Park; however, Stanford University Hospital does operate one heliport, which is located approximately 0.4-mile to the southeast of the nearest border with Menlo Park.

Wildland Fires

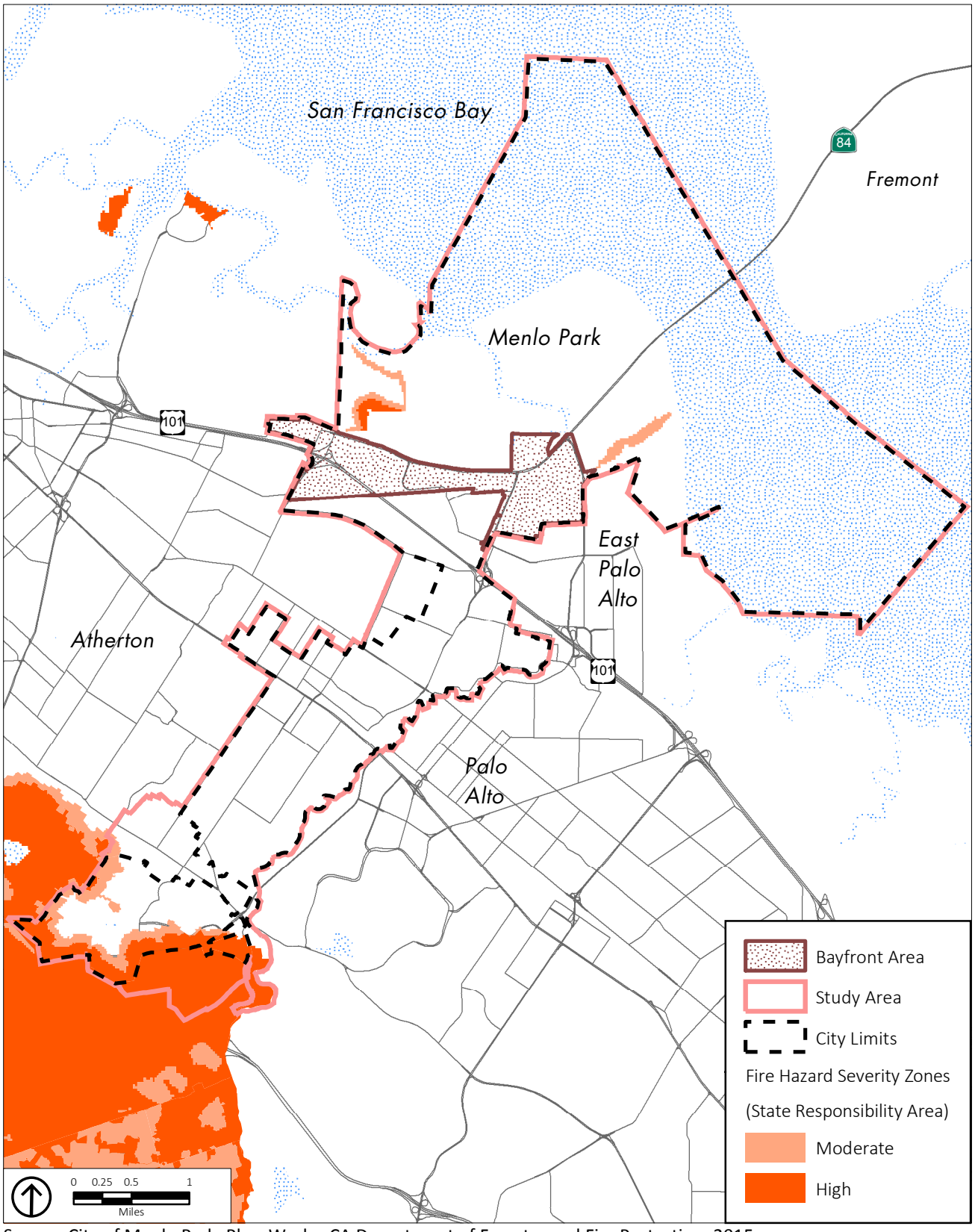
The severity of the wildfire hazard is determined by the relationship between three factors: fuel classification, topography, and critical fire weather frequency. CAL FIRE defines Fire Hazard Severity Zones for areas within the state; fire hazard is defined as a "measure of the likelihood of an area burning and how it burns," with a zone being an area characterized by a particular level of fire hazard. CAL FIRE "Fire Hazard Severity Zone" maps indicate areas for which the State of California has fiscal responsibility for wildland fire protection services as the State Responsibility Area, and areas for which local jurisdictions have fiscal responsibility as the Local Responsibility Area.

As shown on Figure 4.7-2, Menlo Park does not contain areas of moderate, high, or very high Fire Hazard Severity for the Local Responsibility Area,[12] nor does it contain any areas of moderate, high, or very high Fire Hazard Severity for the State Responsibility Area.[13] However, zones of high Fire Hazards Severity designated as State Responsibility Areas are present along the southwestern reaches of the study area.

CAL FIRE describes "wildland/urban interface" as the condition where highly flammable native vegetation meets high-value structures, such as homes. In most cases, there is not a clearly defined boundary or interface between the structures and vegetation that present the hazard. Historically, homes in these ill-defined wildland/urban intermix boundary areas were particularly vulnerable to wildfires because they were built with a reliance on fire department response for protection rather than fire resistance, survivability, and self-protection. However, in the recent past, there has developed a greater appreciation for the need to regulate development in these hazardous areas as a result of a number of serious wildland fire conflagrations throughout the state.

[12] California Department of Forestry and Fire Protection, 2007, http://frap.cdf.ca.gov/webdata/maps/san_mateo/fhszl_map.41.pdf, accessed on February 26, 2015.

[13] California Department of Forestry and Fire Protection, 2007, http://frap.cdf.ca.gov/webdata/maps/san_mateo/fhszs_map.41.pdf, accessed on February 26, 2015.



Source: City of Menlo Park; PlaceWorks; CA Department of Forestry and Fire Protection, 2015.

Figure 4.7-2
Wildland Fire Hazards

4.7.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to hazards and hazardous materials if it would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
5. Be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport it results in a safety hazard for people residing or working in the study area.
6. Be within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the study area.
7. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.
8. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.7.3 IMPACT DISCUSSION

HAZ-1 Implementation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Hazardous materials are regularly used, transported, and disposed of in Menlo Park. Future development in the study area could result in the use and storage of hazardous materials, including common cleaning products, building maintenance products, paints and solvents, fertilizers and pesticides used in landscaping and yard care, and other similar items, as well as other hazardous materials associated with research and development (R&D) and life sciences. Therefore, additional residential mixed-use, office, technology, and R&D and life sciences development would likely increase the amount of hazardous materials transported, used, or disposed of in the city. In general, these potentially hazardous materials would not be of the type or occur in sufficient quantities to pose a significant hazard to public health and safety or to the environment.

As discussed further below under HAZ-4, future development in the study area could occur on sites with known hazardous materials and/or potentially hazardous building materials (e.g., asbestos-containing materials, lead-based paint, etc.) that could be encountered during demolition of existing structures to accommodate new development. These hazardous materials would require cleanup prior to project development; thus, the transport of hazardous materials could occur during future remediation and construction activities.

As described in Section 4.7.1.1, Regulatory Framework, future development involving the routine transport or use of hazardous materials as part of the operational phase or temporary transport or use during the construction phase, are subject to a variety of local, State, and federal regulations. Hazardous materials would be required to be transported under DOT regulations. Future development under implementation of the proposed project would be subject to regulatory programs such as those overseen by the RWQCB and the DTSC. Non-residential development that uses hazardous materials that are regulated by federal, State, regional and local agencies are issued permits for the use of the hazardous materials, which are monitored and routinely updated by the responsible agency depending on the type of material. These agencies also require applicants for development of potentially contaminated properties to perform investigation and cleanup if the site is found to be contaminated with hazardous substances. Additionally, the SMCEHD has substantial regulations concerning hazardous materials under its CUPA jurisdiction and related Unified Programs. This is further enforced by MPFPD programs. For example, as described in Section 4.7.1.1, Regulatory Framework, under subheading "Applications Involving Hazardous Materials" prior to the approval of a project, businesses in Menlo Park must submit a Hazardous Materials Information Form (HMIF) for the safety storage and use of chemicals if the business handles and/or stores a hazardous material equal to or greater than the minimum reportable quantities.

Future development allowed by the proposed project that uses hazardous materials or generates hazardous waste would be regulated pursuant to federal, State, regional and local laws. Compliance with federal, State, regional and local regulations would minimize the potential for a significant adverse effect on the environment, due to upset and accident involving the use, transport, and disposal of hazardous materials.

In addition, to the mandatory regulations described above, the proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section IV, Safety (S), of the existing Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to the routine transport, or use or disposal of hazardous materials. The following General Plan goals, policies and a program would serve to minimize potential hazardous materials:

- GOAL LU-1: Promote the orderly development of Menlo Park and its surrounding area.
    - Program LU-1.C: Infill Development Streamlined Review. Establish Zoning Ordinance provisions to streamline review of infill development through "uniformly applicable development policies or standards" (per CEQA Guidelines Section 15183.3) that reduce potential adverse environmental effects, such as: regulations governing grading, construction activities, storm water runoff treatment and containment, hazardous materials, and greenhouse gas emissions; and impact fees for public improvements, including safety and law enforcement services, parks and open space, and transit, bicycle, and pedestrian infrastructure.

HAZARDS AND HAZARDOUS MATERIALS

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
    - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- GOAL LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
    - Policy LU-7.7: Hazards. Avoid development in areas with seismic, flood, fire and other hazards to life or property when potential impacts cannot be mitigated.
- Goal S-1: Assure a Safe Community. Minimize risk to life and damage to the environment and property from natural and human-caused hazards, and assure community emergency preparedness and a high level of public safety services and facilities.
    - Policy S-1.5: New Habitable Structures. Require that all new habitable structures to incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused hazards.
    - Policy S-1.16: Hazardous Materials Regulations. Review and strengthen, if necessary, regulations for the structural design and/or uses involving hazardous materials to minimize risk to local populations. Enforce compliance with current State and local requirements for the manufacturing, use, storage, transportation and disposal of hazardous materials, and the designation of appropriate truck routes in Menlo Park.
        - Program S1.J: Require Health and Safety Plan for Hazardous Materials. Require the preparation of health and safety plans to be used to protect the general public and all workers in construction areas from potentially hazardous materials. The plan shall describe the practices and procedures to protect worker health in the event of an accidental release of hazardous materials or if previously undiscovered hazardous materials are encountered during construction. The plan shall include items such as spill prevention, cleanup and evacuation procedures. The plan will help protect the public and workers by providing procedures and contingencies that will help reduce the exposure to hazardous materials.

Additionally, as part of the proposed Zoning update, the City will implement a streamlined review process for permitting sites with hazardous materials. The process will be updated from a use permit to and administrative permit. This process will require the review of HMIF by the MPFPD, the SMCEHD, the Menlo Park Building Division and the applicable sanitary district, and provide special requirement to eliminate impacts associated with hazardous materials.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies that have been prepared to minimize impacts related to hazardous materials. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the preparation of uniformly applicable development policies or standards that would reduce potential adverse environmental effects from hazardous materials. Additionally, the proposed administrative review process for hazardous material use would

ensure the appropriate use and storage of hazardous materials. For these reasons, the adoption of the proposed project would result in *less-than-significant* impacts with respect to the transport, use or disposal of hazardous materials.

Significance Without Mitigation: Less than significant.

HAZ-2 Implementation of the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Future development under implementation of the proposed project, including residential, commercial, and light-industrial development, could occur on properties that possibly are contaminated and inactive, undergoing evaluation, and/or undergoing corrective action, as indicated in Table 4.7-1. Future construction of new buildings and redevelopment activities under implementation of the proposed project could have the potential to release potentially hazardous soil-based materials into the environment during site grading and excavation operations. Likewise, demolition of existing structures could potentially result in release of hazardous materials (e.g., asbestos or lead paint) into the environment. Use of hazardous materials on newly developed properties after construction could potentially include cleaning solvents, fertilizers, pesticides, and other materials used in the regular maintenance and operation of future development. In addition, as discussed in HAZ-1 above, non-residential hazardous materials are regularly used and transported in Menlo Park and residential hazardous materials are regularly used and transported in Menlo Park, and disposed of through the City's at-your-door service and household hazardous waste drop-off options. The City implements a variety of federal, State, and local regulations designed to address the use, transportation, and disposal of these materials.

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section IV, Safety (S), of the existing Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to the release of hazardous materials. The following General Plan goals, policies and programs would serve to minimize potential hazardous materials:

- GOAL LU-1: Promote the orderly development of Menlo Park and its surrounding area.
    - Program LU-1.C: Infill Development Streamlined Review. Establish Zoning Ordinance provisions to streamline review of infill development through "uniformly applicable development policies or standards" (per CEQA Guidelines Section 15183.3) that reduce potential adverse environmental effects, such as: regulations governing grading, construction activities, storm water runoff treatment and containment, hazardous materials, and greenhouse gas emissions; and impact fees for public improvements, including safety and law enforcement services, parks and open space, and transit, bicycle, and pedestrian infrastructure.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.

HAZARDS AND HAZARDOUS MATERIALS

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

- GOAL LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
  - Policy LU-7.7: Hazards. Avoid development in areas with seismic, flood, fire and other hazards to life or property when potential impacts cannot be mitigated.

- Goal S-1: Assure a Safe Community. Minimize risk to life and damage to the environment and property from natural and human-caused hazards, and assure community emergency preparedness and a high level of public safety services and facilities.
  - Policy S-1.3: Hazard Data and Standards. Integrate hazard data (geotechnical, flood, fire, etc.) and risk evaluations into the development review process and maintain, develop and adopt up-to-date standards to reduce the level of risk from natural and human-caused hazards for all land use.
  - Policy S-1.5: New Habitable Structures. Require that all new habitable structures to incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused hazards.
  - Policy S-1.16: Hazardous Materials Regulations. Review and strengthen, if necessary, regulations for the structural design and/or uses involving hazardous materials to minimize risk to local populations. Enforce compliance with current State and local requirements for the manufacturing, use, storage, transportation and disposal of hazardous materials, and the designation of appropriate truck routes in Menlo Park.
  - Policy S-1.17: Potential Exposure of New Residential Development to Hazardous Materials. Minimize risk associated with hazardous materials by assessing exposure to hazardous materials of new residential development and sensitive populations near existing industrial and manufacturing areas. Minimize risk associated with hazardous materials.
  - Policy S-1.18: Potential Hazardous Materials Conditions Investigation. Require developers to conduct an investigation of soils, groundwater and buildings affected by hazardous-material potentially released from prior land uses in areas historically used for commercial or industrial uses, and to identify and implement mitigation measures to avoid adversely affecting the environment or the health and safety of residents or new uses.
  - Policy S-1.19: Disposal of Existing Hazardous Materials on Sites Planned for Housing. Require that sites planned for housing be cleared of hazardous materials (paint, solvents, chlorine, etc.) and the hazardous materials disposed in compliance with State and Federal laws.
    - Program S-1.A: Link the City's Housing and Safety Elements. Continue to review and revise the Safety Element, as necessary, concurrently with updates to the General Plan Housing Element whenever substantial new data or evidence related to prevention of natural and human hazards become available.

- Program S-1.J: Require Health and Safety Plan for Hazardous Materials. Require the preparation of health and safety plans to be used to protect the general public and all workers in construction areas from potentially hazardous materials. The plan shall describe the practices and procedures to protect worker health in the event of an accidental release of hazardous materials or if previously undiscovered hazardous materials are encountered during construction. The plan shall include items such as spill prevention, cleanup, and evacuation procedures. The plan will help protect the public and workers by providing procedures and contingencies that will help reduce the exposure to hazardous materials.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations as described in Section 4.7.1.1, Regulatory Framework, and reiterated in HAZ-1, including General Plan policies that have been prepared to minimize impacts related to accidents and spills of hazardous materials. Also, the City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the preparation of uniformly applicable development policies or standards that reduce potential adverse environmental effects, routinely maintain consistency between the Housing and Safety Elements, and require the health and safety plans to be used to protect the general public and all workers in construction areas from potentially hazardous materials. In addition, as discussed under HAZ-4 below, implementation of Mitigation Measures HAZ-4a and HAZ-4b would reduce impacts from sites with known hazardous material contamination.

For these reasons, the adoption of the proposed project would result in *less-than-significant* impacts with respect to accidents and spills of hazardous materials.

Significance Without Mitigation: Less than significant.

HAZ-3 Implementation of the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school.

The proposed project would substantially affect existing or proposed schools if it would allow future development that would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school. As discussed in Section 4.12.1, Schools, in Chapter 4.12, Public Services and Recreation, of this Draft EIR, there are four elementary school districts and one high school district serving Menlo Park: Menlo Park City School, Redwood City School, Las Lomitas School, Ravenswood City School, and Sequoia Union High School Districts; therefore, it is possible that such future development could occur within 0.25-mile of existing or proposed schools. Under the proposed project, the increased development potential would occur in the Bayfront Area. As shown on Figure 4.12-2 in Chapter 4.12, schools that could be within 0.25-mile of new development in the Bayfront Area include Beechwood School, Taft Elementary School, Bell Haven Elementary School, Mid-Peninsula High School, Costano School/San Francisco 49ers Academy, Cesar Chavez Academy, Green Oaks Academy. In addition, a new high school is being proposed by the Sequoia Union High School District on Jefferson Drive within the Bayfront Area.

As described under HAZ-1 and HAZ-2, above, while development allowed under the proposed project would allow land uses that could be reasonably expected to handle hazardous materials or generate

hazardous emissions, the storage, use, and handling of these materials would be subject to existing federal, State, and local regulations.

Buildout under the proposed project would result in increased population levels and could result in the need for additional school facilities. One of the major constraints to increasing school facilities is the limited supply of land available to build new schools facilities. However, in terms of new public schools that may result from implementation of the proposed project, DTSC's School Property Evaluation and Cleanup Division is responsible for assessing, investigating, and cleaning-up proposed school sites. The DTSC's goal is to ensure that proposed school properties are free of contamination or that they have been cleaned to a level that protects the students and staff who will occupy the new school. School sites that will receive State funding for acquisition or construction are required to go through an environmental review and cleanup process under DTSC's oversight.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations as described in Section 4.7.1.1, Regulatory Framework, and reiterated in HAZ-1 and HAZ-2, including General Plan policies listed under HAZ-1 and HAZ-2 above, that have been prepared to minimize impacts related to hazardous materials. Specifically, Policy LU-7.7 requires the City to avoid development in areas with seismic, flood, fire and "other hazards to life or property" when potential impacts cannot be mitigated. Policy S-1.16 requires the City to Review and strengthen, if necessary, regulations for the structural design and/or uses involving hazardous materials to minimize risk to local populations. Enforce compliance with current State and local requirements for the manufacturing, use, storage, transportation and disposal of hazardous materials, and the designation of appropriate truck routes in Menlo Park. These policies would help to avoiding developing projects that emit hazardous materials within 0.25 mile of a school.

Also, the City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the ongoing review and management of measures to reduce impacts from the exposure of hazardous materials. Furthermore, implementation of Mitigation Measures HAZ-4a and HAZ-4b would reduce impacts from sites with known hazardous material contamination. For these reasons, the adoption of the proposed project would result in *less-than-significant* impacts with respect to the release of hazardous materials.

Significance Without Mitigation: Less than significant.

HAZ-4	**Implementation of the proposed project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.**

The proposed project would substantially affect the public or the environment if future development allowed under the project would expose the public to existing hazardous materials contamination in soil and/or groundwater at these sites. As discussed in Section 4.7.1.2, Hazardous Materials Sites, a number of hazardous materials sites are listed on databases compiled pursuant to Government Code Section 65962.5. Most of the sites are listed as closed, indicating that they have been investigated and/or remediated to the satisfaction of the lead responsible agency (i.e., RWQCB, DTSC, SMCEHD) based on land

use at the time of closure. The proposed project would allow new development, including residential, commercial, and light-industrial uses within the study area. Some of the new development could occur on properties that are included in the database listed above. Construction of new buildings and improvements on these listed sites could have the potential to release potentially hazardous soil-based materials into the environment during site grading and excavation operations. Demolition of any existing structures, likewise, could potentially result in the release of hazardous building materials (e.g., asbestos, lead-based paint) into the environment. Use of hazardous materials on newly developed properties after construction could potentially include cleaning solvents, fertilizers, pesticides, and other materials used in the regular maintenance and operation of future development.

As described in HAZ-1 and HAZ-2 the proposed project includes policies that would reduce impacts related to future development on sites with known hazardous materials. Specifically, Policy S-1.5 requires that all new habitable structures to incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused hazards. Policy S-1.18 requires developers to conduct an investigation of soils, groundwater and buildings affected by hazardous-material potentially released from prior land uses in areas historically used for commercial or industrial uses, and to identify and implement mitigation measures to avoid adversely affecting the environment or the health and safety of residents or new uses. Policy S-1.19 requires that sites planned for housing be cleared of hazardous materials (paint, solvents, chlorine, etc.) and the hazardous materials disposed in compliance with State and Federal laws. Furthermore, Program S-1.K, requires the City to track the remediation needs for existing known hazardous soils and other hazardous materials by monitoring the remediation of existing known hazards, such as contaminated soils and clean-up of leaking or abandoned underground storage tanks.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations as described in Section 4.7.1.1, Regulatory Framework, and reiterated in HAZ-1 and HAZ-2, including General Plan policies listed under HAZ-1 and HAZ-2 above, that have been prepared to minimize impacts related to hazardous materials. Also, the City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the ongoing review and management of measures to reduce impacts from the exposure of hazardous materials and to track the remediation of sites with known contamination.

However, because hazardous materials are known to be present in areas in the study area due to past land uses at certain sites that may be redeveloped as part of the proposed project, the direct contact, inhalation, or ingestion of hazardous materials could potentially cause adverse health effects to construction workers and future site users. The severity of health effects would depend on the contaminant(s), concentration, use of personal protective equipment during construction, and duration of exposure. The disturbance and release of hazardous materials during earthwork activities, if present, could pose a hazard to construction workers, nearby receptors, and the environment and impacts could be potentially *significant*.

HAZARDS AND HAZARDOUS MATERIALS

Impact HAZ-4: Implementation of the proposed project could occur on sites with known hazardous materials and, as a result, create a significant hazard to the public or the environment.

Mitigation Measure HAZ-4a: Construction at the sites with known contamination shall be conducted under a project-specific Environmental Site Management Plan (ESMP) that is prepared in consultation with the Regional Water Quality Control Board (RWQCB) or the Department of Toxic Substances Control (DTSC), as appropriate. The purpose of the ESMP is to protect construction workers, the general public, the environment, and future site occupants from subsurface hazardous materials previously identified at the site and to address the possibility of encountering unknown contamination or hazards in the subsurface. The ESMP shall summarize soil and groundwater analytical data collected on the project site during past investigations; identify management options for excavated soil and groundwater, if contaminated media are encountered during deep excavations; and identify monitoring, irrigation, or other wells requiring proper abandonment in compliance with local, State, and federal laws, policies, and regulations.

The ESMP shall include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. The ESMP shall: 1) provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during project excavation and dewatering activities, respectively; 2) describe required worker health and safety provisions for all workers potentially exposed to hazardous materials in accordance with State and federal worker safety regulations; and 3) designate personnel responsible for implementation of the ESMP.

Mitigation Measure HAZ-4b: For those sites with potential residual contamination in soil, gas, or groundwater that are planned for redevelopment with an overlying occupied building, a vapor intrusion assessment shall be performed by a licensed environmental professional. If the results of the vapor intrusion assessment indicate the potential for significant vapor intrusion into an occupied building, project design shall include vapor controls or source removal, as appropriate, in accordance with regulatory agency requirements. Soil vapor mitigations or controls could include vapor barriers, passive venting, and/or active venting. The vapor intrusion assessment and associated vapor controls or source removal can be incorporated into the ESMP (Mitigation Measure HAZ-4a).

Significance With Mitigation: Less than significant. Implementation of Mitigation Measures HAZ-4a and HAZ-4b, together with compliance with applicable laws and regulations regarding cleanup and reuse of a listed hazardous material site, would ensure that the adoption of the proposed project would result in *less-than-significant* impacts with respect to development on sites with known hazardous materials.

HAZ-5 The proposed project would not be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport it results in a safety hazard for people residing or working in the study area.

The study area is located approximately 2 miles from Palo Alto Airport, but no portions of the city are within the airport safety zones established by the *Palo Alto Airport Comprehensive Land Use Plan*.[14] The study area is more than 2 miles from the San Francisco International and San Carlos Airports to the north and Moffett Federal Airlifted to the south. Given the distances from the nearest public use airports, the study area would not be subject to any airport safety hazards. The proposed project would also not have an adverse effect on aviation safety or flight patterns. Therefore, there would be *no impact* related to public airport hazards.

Significance Without Mitigation: No impact.

HAZ-6 The proposed project would not be within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the study area.

There are no private airstrips in the vicinity of the locations where future development could occur under the proposed project. Therefore, there would be *no impact* related to private airstrip hazards.

Significance Without Mitigation: No impact.

HAZ-7 The proposed project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

The proposed project does not include potential land use changes that would impair or physically interfere with the ability to implement the City's EOP or the City's Disaster Preparedness Manual.

The proposed Land Use (LU) and Circulation (CIRC) Elements, which would be adopted as part of the proposed project, and existing Section IV, Safety (S), of the existing Open Space/Conservation, Noise and Safety Elements, contain general goals, policies and programs that would require local planning and development decisions to consider impacts to the environment related to an adopted emergency response plan. The following General Plan goals, policies and programs would serve to minimize interferences with an adopted emergency response plan:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.

[14] Santa Clara County Airport Land Use Commission, 2008, Palo Alto Airport Comprehensive Land Use Plan, Figure 7, https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_20081119_PAO_CLUP.pdf, accessed on September 6, 2012.

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

- Goal S-1: Assure a Safe Community. Minimize risk to life and damage to the environment and property from natural and human-caused hazards, and assure community emergency preparedness and a high level of public safety services and facilities.
  - Policy S-1.5: New Habitable Structures. Require that all new habitable structures to incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused hazards.
  - Policy S-1.11: Visibility and Access to Address Safety Concerns. Require that residential development be designed to permit maximum visibility and access to law enforcement and fire control vehicles consistent with privacy and other design considerations.
  - Policy S-1.29: Fire Equipment and Personnel Access. Require adequate access and clearance, to the maximum extent practical, for fire equipment, fire suppression personnel, and evacuation for high occupancy structures in coordination with the Menlo Park Fire Protection District.
  - Policy S-1.30: Coordination with the Menlo Park Fire District. Encourage City-Fire District coordination in the planning process and require all development applications to be reviewed and approved by the Menlo Park Fire Protection District prior to project approval.
  - Policy S-1.38: Emergency Vehicle Access. Require that all private roads be designed to allow access for emergency vehicles as a prerequisite to the granting of permits and approvals for construction.

- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
  - Policy CIRC-1.3: Engineering. Use data-driven findings to focus engineering efforts on the most critical safety projects.
  - Policy CIRC-1.6: Emergency Response Routes. Identify and prioritize emergency response routes in the citywide circulation system.
    - Program CIRC-1.E: Emergency Response Routes Map. In collaboration with the Menlo Park Fire Protection District and Menlo Park Police Department, adopt a map of emergency response routes that considers alternative options, such as the Dumbarton Corridor, for emergency vehicle access. Modifications to emergency response routes should not prevent or impede emergency vehicle travel, ingress, and/or egress.
    - Program CIRC-1.F: Coordination with Emergency Services. Coordinate and consult with the Menlo Park Fire Protection District in establishing circulation standards to assure the provision of high quality fire protection and emergency medical services within the City.

- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system. New development should minimize cut-through and high-speed vehicle

traffic on residential streets; minimize the number of vehicle trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitate appropriate or adequate response times and access for emergency vehicles.

- Goal CIRC-3: Increase mobility options to reduce traffic congestion, greenhouse gas emissions, and commute travel time.
  - Policy CIRC-3.3: Emerging Transportation Technology. Support efforts to fund emerging technological transportation advancements, including connected and autonomous vehicles, emergency vehicle pre-emption, sharing technology, electric vehicle technology, electric bikes and scooters, and innovative transit options.
    - Program CIRC-3.B: Emergency Response Coordination. Equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Existing traffic signals without existing pre-emptive devices will be upgraded as major signal modifications are completed.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations as described in Section 4.7.1.1, Regulatory Framework, and reiterated in HAZ-1 and HAZ-2, including General Plan policies listed above, that have been prepared to minimize impacts to emergency access and evacuation. Specifically, provisions of the CFC and the CBC and General Plan Policies S-1.29 and S-1.38 would require adequate access for emergency vehicles and evacuation. Also, the City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the ongoing review and management of measures to reduce impacts from the exposure of hazardous materials. For these reasons, the adoption of the proposed project would result in *less-than-significant* impacts with respect to interference with an adopted emergency response plan or emergency evacuation plan.

Significance Without Mitigation: Less than significant.

HAZ-8	**The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.**

The study area is located in a highly urbanized area and is not surrounded by woodlands or vegetation that would provide fuel load for wildfires. As shown on Figure 4.7-2, Menlo Park does not contain areas of moderate, high, or very high Fire Hazard Severity for the Local Responsibility area, nor does it contain any areas of moderate, high, or very high Fire Hazard Severity for the State Responsibility area. However zones of high Fire Hazards Severity designated as State Responsibility areas are present along the southwestern reaches of the study area. Fire hazard related impacts are discussed further in Chapter 4.12, Public Services and Recreation, of this Draft EIR.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations as described in Section 4.7.1.1, Regulatory Framework. Specifically, all development in the study area would be constructed pursuant to the CBC, CFC, and the MPFPD Code. In addition, the MPFPD conducts a weed-abatement program throughout its jurisdiction to

minimize fire risk on empty or unmaintained parcels. Also, as discussed under HAZ-7, General Plan policies have been prepared to minimize impacts to emergency access and evacuation. Specifically, Policy LU-7.7, requires the City to avoid development in areas with seismic, flood, fire and other hazards to life or property when potential impacts cannot be mitigated. For these reasons, the adoption of the proposed project would result in *less-than-significant* impacts with respect to the risk of loss, injury, or death resulting from wildland fire.

Significance Without Mitigation: Less than significant.

HAZ-9 Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to hazards and hazardous materials.

This cumulative analysis considers the effects of the proposed project combined with effects of past, present, and reasonably foreseeable development on adjacent land in the cities of Palo Alto, East Palo Alto, Atherton, Redwood City and Portola Valley, and unincorporated San Mateo County. As discussed previously, development allowed by the proposed project would not result in significant impacts from the increased use of hazardous materials with implementation of Mitigation Measures HAZ-4a and HAZ-4b, and would not increase exposure to potential hazards associated with wildland fires. The proposed project would not interfere with implementation for emergency response plans. In addition, potential future project-level impacts associated with hazards and hazardous materials would be further reduced through compliance with local, regional, State, and federal regulations. Cumulative development in adjacent jurisdictions would be subject to the same federal, State, and regional regulations, as well as regional safety plans, such as the Palo Alto Airport CLUP; building codes, such as Chapter 7A in California Building Code, which requires ignition resistant exterior construction hazardous fire areas, and regional emergency response plans, such as the San Mateo County Hazard Mitigation Plan. Compliance with these requirements would reduce cumulative, development-related impacts that relate to airport hazards, wildfire hazards, and emergency response. Since impacts associated with hazardous materials and wildland fire, are, by their nature, focused on specific sites or areas, the less-than-significant-with-mitigation impacts within the study area from the proposed project would not contribute to a cumulative increase in hazards in the immediate vicinity of the study area or throughout the region. Therefore, cumulative impacts associated with hazards and hazardous materials would be *less than significant* with implementation of Mitigation Measure HAZ-4a and HAZ-4b.

Impact HAZ-9: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, could result in a significant cumulative impact with respect to hazard and hazardous materials.

Mitigation Measure HAZ-9: Implement Mitigation Measures HAZ-4a and HAZ-4b.

Significance With Mitigation: Less than significant.

4.8 HYDROLOGY AND WATER QUALITY

This chapter describes the existing hydrologic conditions of the study area and evaluates the potential environmental consequences of future development that could occur by adopting and implementing the proposed project as they relate to hydrology and water quality. A summary of the relevant regulatory setting and existing conditions is followed by a discussion of General Plan and cumulative impacts.

4.8.1 ENVIRONMENTAL SETTING

4.8.1.1 REGULATORY FRAMEWORK

This section summarizes key federal, State, regional and local policies and regulations related to hydrology and water quality that are applicable to the proposed project.

Federal Regulations and Agencies

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains.[1] FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA. FEMA's minimum level of flood protection for new development is the 100-year flood event, also described as a flood that has a 1-in-100 chance of occurring in any given year.

Additionally, FEMA has developed requirements and procedures for evaluating earthen levee systems and mapping the areas affected by those systems.[2] Levee systems are evaluated for their ability to provide protection from 100-year flood events and the results of this evaluation are documented in the FEMA Levee Inventory System (FLIS). Levee systems must meet minimum freeboard standards and must be maintained according to an officially adopted maintenance plan. Other FEMA levee system evaluation criteria include structural design and interior drainage.

Clean Water Act

The U.S. Environmental Protection Agency (US EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA, codified at 33 U.S.C. Sections 1251-1376) of 1972 is the primary federal law that governs and authorizes water quality control activities by the US EPA, as well as the states. Various elements of the CWA address water quality, and they are discussed below.

[1] Federal Emergency Management Agency's Library, *National Flood Insurance Program Description*, http://www.fema.gov/media-library-data/20130726-1447-20490-2156/nfipdescrip_1_.pdf, accessed on February 26, 2015.

[2] Federal Emergency Management Agency (FEMA), 2003. Guidelines and Standards for Flood Risk Analysis and Mapping, https://www.fema.gov/guidelines-and-standards-flood-risk-analysis-and-mapping, accessed on February 26, 2015.

HYDROLOGY AND WATER QUALITY

Permits to dredge or fill waters of the United States are administered by the United States Army Corps of Engineers (USACE) under Section 404 of the CWA. "Waters of the United States" are defined as all waters subject to the ebb and flow of the tide (which includes harbors), interstate waters, water impoundments, streams, rivers, and wetlands. The regulatory branch of the USACE is responsible for implementing and enforcing Section 404 of the CWA and issuing permits. Any activity that discharges fill material and/or requires excavation in waters of the United States must obtain a Section 404 permit. Before issuing the permit, the USACE requires that an analysis be conducted to demonstrate that the proposed project is the least environmentally damaging practicable alternative. Also, the USACE is required to comply with the National Environmental Protection Act (NEPA) before it may issue an individual Section 404 permit.

Under Section 401 of the CWA, every applicant for a Section 404 permit that may result in a discharge to a water body must first obtain State Water Quality Certification that the proposed activity will comply with State water quality standards. Certifications are issued in conjunction with USACE Section 404 permits for dredge and fill discharges. In addition, a Water Quality Certification must be sought for any activity that would result in the placement of structures in waters of the United States that are not jurisdictional to the USACE, such as isolated wetlands, to ensure that the proposed activity complies with State water quality standards. In California, the authority to either grant water quality certification or waive the requirement is delegated by the State Water Resources Control Board (SWRCB) to its nine Regional Water Quality Control Boards (RWQCBs).

Under federal law, the US EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations (40 CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question and (2) criteria that protect the designated uses. Section 304(a) requires the US EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. In California, the US EPA has designated the SWRCB and its RWQCBs with authority to identify beneficial uses and adopt applicable water quality objectives.

When water quality does not meet CWA standards and compromises designated beneficial uses of a receiving water body, Section 303(d) of the CWA requires that water body be identified and listed as "impaired." Once a water body has been designated as impaired, a Total Maximum Daily Load (TMDL) must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards, with a factor of safety included. Once established, the TMDL allocates the loads among current and future pollutant sources to the water body. In the vicinity of the Project site, San Francisquito Creek and Lower San Francisco Bay are listed as a Section 303(d) impaired water bodies.[3]

[3] State Water Resources Control Board (SWRCB), 2010. *Final Integrated Report (CWA Section 303(d) List/305(b) Report.* http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/category5_report.shtml, accessed on November 16, 2015.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States, including discharges from municipal separate storm sewer systems (MS4s). Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring and other activities.

Under the NPDES Program, all facilities which discharge pollutants into waters of the US are required to obtain an NPDES permit. Requirements for storm water discharges are also regulated under this program. In California, the NPDES permit program is administered by the SWRCB through the nine RWQCBs. The City of Menlo Park lies within the jurisdiction of San Francisco RWQCB (Region 2) and is subject to the waste discharge requirements of the Municipal Regional Stormwater Permit (MRP; Order No. R2-2015-0049) and NPDES Permit No. CAS612008, which was issued on November 19, 2015 and became effective as of January 1, 2016. The San Mateo County permittees include San Mateo County, the San Mateo County Flood District, 15 cities, and 5 towns, including the City of Menlo Park. The new MRP has more stringent requirements for mercury and PCB load reductions in stormwater, trash load reductions, and requires permittees to develop a Green Infrastructure Plan.

Under Provision C.3 of the MRP, the co-permittees use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of low impact development (LID) techniques.

Rivers and Harbors Act of 1899

Under the Rivers and Harbors Act of 1899, the USACE requires permits for activities involving the obstruction of the navigable capacity of any waters of the United States or the construction of any structures in or over navigable waters of the United States, including ports, canals, navigable rivers or other waters. “Navigable waters” under Section 10 of the Rivers and Harbors Act are defined as “those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce.” Pursuant to Section 10 of the Rivers and Harbors Act, the USACE administers this regulatory program separate from the Section 404 program. A Section 10 permit may be required for structures or work outside the limits of navigable waters if the structure or work affects the course, location, condition, or capacity of the water body.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) provides the basic authority for the U.S. Fish and Wildlife Service (FWS) to evaluate impacts to fish and wildlife from proposed water resource development projects. This Act requires that all federal agencies consult with the FWS, the National Marine Fisheries Service, and State wildlife agencies (i.e., the California Department of Fish and Wildlife) for activities that affect, control, or modify waters of any stream or bodies of water. Under the Act, the FWS has responsibility for reviewing and commenting on all water resources projects. For example, the FWS would provide consultation to the USACE with regard to issuance of a Section 404 permit.

If a project may result in the "incidental take" of a listed species, an incidental take permit is required. An incidental take permit allows a developer to proceed with an activity that is legal in all other respects but that results in the "incidental taking" of a listed species. A Habitat Conservation Plan (HCP) must also accompany an application for an incidental take permit. The purpose of the HCP is to ensure that the effects of the permitted action or listed species are adequately minimized and mitigated.

State Regulations

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act (Water Code sections 13000 et seq.) is the basic water quality control law for California. The act established the SWRCB and divided the State into nine regional basins, each under the jurisdiction of a RWQCB. The SWRCB is the primary state agency responsible for the protection of California's water quality and groundwater supplies and has ultimate control over state water rights and water quality policy. The RWQCBs carry out the regulation, protection, and administration of water quality policies in each region. Each regional board is required to adopt a water quality control plan or basin plan that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems. The Porter-Cologne Act also authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals. As described above, Menlo Park is within the jurisdiction of the San Francisco Bay RWQCB (Region 2).

State Water Resources Control Board

In California, the SWRCB has broad authority over water quality control issues for the State. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the State by the federal government under the CWA. Other State agencies with jurisdiction over water quality regulation in California include the California Department of Health Services (DHS) for drinking water regulations, the California Department of Pesticide Regulation (DPR), the California Department of Fish and Wildlife (CDFW), and the Office of Environmental Health and Hazard Assessment (OEHHA).

Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The regional boards are required to formulate and adopt water quality control plans for all areas in the region and establish water quality objectives in the plans. The project is within the jurisdiction of the San

Francisco Bay RWQCB (Region 2), which regulates surface water and groundwater quality in San Francisco Bay. The RWQCB's jurisdiction includes all of the San Francisco Bay's segments extending to the mouth of the Sacramento-San Joaquin Delta.

The San Francisco Bay RWQCB addresses region-wide water quality issues through the creation and triennial update of the San Francisco Bay Basin Water Quality Control Plan (Basin Plan). The Basin Plan was adopted in 1995 and most recently amended in 2015. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters designated in the Basin Plan.[4]

State Water Resources Control Board Construction General Permit

Construction activities that disturb one or more acres of land that could impact hydrologic resources must comply with the requirements of the SWRCB Construction General Permit (2012-0006-DWQ). Under the terms of the permit, applicants must file Permit Registration Documents (PRDs) with the SWRCB prior to the start of construction. The PRDs include a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and a signed certification statement. The PRDs are now submitted electronically to the SWRCB via the SMARTS website.

Applicants must also demonstrate conformance with applicable best management practices (BMPs) and prepare a SWPPP containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection, and discharge points, general topography both before and after construction, and drainage patterns across the project site. The SWPPP must list BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for non-visible pollutants if there is a failure of the BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Some sites also require implementation of a Rain Event Action Plan (REAP). The updated Construction General Permit (2012-0006-DWQ), effective on July 17, 2012, also requires project sites to comply with post-construction runoff reduction requirements.

California Fish and Game Code

The CDFW protects streams, water bodies, and riparian corridors through the streambed alteration agreement process under Section 1601 to 1606 of the California Fish and Game Code. The Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying the CDFW, incorporating necessary mitigation and obtaining a streambed alteration agreement. CDFW's jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

[4] San Francisco Bay RWQCB, 2007. *Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin*, http://www.swrcb.ca.gov/rwqcb2/basin_planning.shtml, accessed on November 16, 2015.

Water Conservation Act of 2009

Mandatory requirements, per state law (SB-X7 7), mandate the reduction of per capita water use and agricultural water use throughout the state by 20 percent by 2020.

State Updated Model Landscape Ordinance

The State of California's Model Water Efficient Landscape Ordinance (MWELO), which requires cities and counties to adopt landscape water conservation ordinances, was recently revised in July 2015 to address the current drought and build resiliency for future droughts. State law requires all land use agencies, which includes cities and counties, to adopt a WELO that is at least as efficient as the MWELO prepared by the Department of Water Resources (DWR). The revisions to the MWELO reduces the size threshold for landscapes subject to the ordinance from 2,500 square feet to 500 square feet for both commercial and residential properties. Land use agencies also will be required to report on ordinance adoption and enforcement each year.

The City adopted Ordinance No. 968, Water Efficient Landscaping Regulations, in 2010, which was presented in Municipal Code Chapter 12.44, *Water-Efficient Landscaping*. A new landscape ordinance was adopted on January 26, 2016 and incorporates the State's MWELO requirements into the revised City's Municipal Code Chapter 12.44. The new WELO applies to all new landscapes exceeding 500 square feet and rehabilitated landscapes exceeding 1,000 square feet associated with projects requiring City review and approval.

California Coastal Act of 1976

The California Coastal Act of 1976 extended the California Coastal Commission's (CCC's) authority indefinitely to protect coastal resources, including shoreline public access and recreation, terrestrial and marine habitat protection, and water quality, and control construction along the State's 1,100 miles of shoreline. The Act also transfers permitting authority to local governments through adoption and certification of Local Coastal Programs (LCPs) by the CCC. Under California's federally approved Coastal Management Program, the CCC manages development along the California coast except for San Francisco Bay, where the San Francisco Bay Conservation and Development Commission (BCDC) oversees development. The California Coastal Conservancy was also established in 1976 to purchase, protect, restore, and enhance coastal resources and provide shoreline access. Additional information on BCDC, which has jurisdiction for projects in and around Menlo Park, is discussed in the Local Regulations section below.

Local Regulations

San Francisco Bay Conservation and Development Commission

The San Francisco BCDC is a California State commission dedicated to the protection, enhancement, and responsible use of San Francisco Bay. BCDC's jurisdiction for San Francisco Bay includes all sloughs, marshlands between mean high tide and 5 feet above mean sea level, tidelands, submerged lands, and

land within 100 feet of the Bay shoreline. The precise boundary is determined by BCDC on request. For planning purposes, BCDC assumes that projects have a lifespan of at least 50 to 90 years.[5]

Since the issuance of the Governor's Executive Order S-13-08 on November 2008, BCDC has followed other Natural Resource Agencies in planning for two sea level rise scenarios: 16 inches by mid-century and 55 inches by the end of the century. In April 2009, BCDC published its report with maps indicating zones that could be flooded due to sea level rise and that were based on existing elevations.[6] In May 2011, BCDC published a revised draft of its proposed amendments to its master planning document, the *Bay Plan.* This received considerable public review and environmental review, and was adopted on October 6, 2011.[7,8] These amendments include revised findings and policies to adapt to the effects of sea level rise.

Several findings describe migration of the tidal marsh inland as a consequence of the sea level rise and the recommended adaptation. Finding o. in the new section on Climate Change states:

> *"Approaches for ensuring public safety in developed vulnerable shoreline areas through adaptive management strategies include but are not limited to: (1) protecting existing and planned appropriate infill development; (2) accommodating flooding by building or renovating structures or infrastructure systems that are resilient or adaptable over time; (3) discouraging permanent new development when adaptive management strategies cannot protect public safety; (4) allowing only new uses that can be removed or phased out if adaptive management strategies are not available as inundation threats increase; and (5) over time and where feasible and appropriate, removing existing development where public safety cannot otherwise be ensured…"*

San Mateo County Flood Control District

The San Mateo County Flood Control District is a Countywide Special District, created by State legislation, to provide a mechanism to finance flood control projects. The legislation requires that a flood control zone should be formed over an entire watershed and a proposed funding source should be determined before a flood control project is undertaken. Recent changes in the State Constitution require an election if a flood control zone is to be financed with property assessments or taxes. There are currently three active flood control zones; the one that impacts Menlo Park is the San Francisquito Creek Flood Control Zone. San Francisquito Creek overtopped its banks in 1998 and flooded portions of Palo Alto, East Palo Alto, and Menlo Park. The San Francisquito Creek Joint Powers Authority, as described below, was

[5] BCDC, 2011. *San Francisco Bay Plan.* Available online at: http://www.bcdc.ca.gov/plans/sfbay_plan.html, accessed on November 16, 2015.

[6] BCDC, 2009. *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline.*

[7] BCDC, 2011. *Staff Report, Revised Preliminary Recommendation and Environmental Assessment for Proposed Bay Plan Amendment No. 1-08 Concerning Climate Change*. (For Commission consideration on September 1, 2011.)

[8] BCDC, 2011. Resolution No. 11-08. Adoption of Bay Plan Amendment No. 1-08 Adding New Climate Change Findings and Policies to the Bay Plan; And Revising the Bay Plan Tidal Marsh and Tidal Flats; Safety of Fills; Protection of the Shoreline; and Public Access Findings and Policies. Adopted October 6, 2011. Online at: http://www.bcdc.ca.gov/proposed_bay_plan/10-01Resolution.pdf.

subsequently formed to develop solutions to the flooding problem and provide a coordinated approach to flood planning within the San Francisquito Watershed.

San Mateo Countywide Stormwater Pollution Prevention Program

The San Mateo Countywide Stormwater Pollution Prevention Program (SMCWPPP) is a partnership of the City/County Association of Governments, each incorporated city and town within San Mateo County, and the County of San Mateo, which share a common NPDES permit. This partnership also relies on each of the municipalities to implement local stormwater pollution prevention and control activities for its own local storm drain systems. The SMCWPPP's Stormwater Management Plan (SWMP) outlines priorities, key elements, strategies, and evaluation methods to implement the SMCWPPP. The comprehensive program includes pollution reduction activities for construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations. The SWMP also includes a public education effort, target pollutant reduction strategies, and watershed assessment and monitoring. The SWMP, in conjunction with NPDES permit adopted by the Water Board, is designed to enable SMCWPPP to meet the requirements of the Clean Water Act. In addition to obtaining coverage under the State NPDES General Permit for construction activities, the project would also be subject to coverage under the MRP, applicable to post-construction operations. The stormwater pollution prevention plan required for future development would have to be consistent with the SWMP.

San Francisquito Creek Joint Powers Authority

The San Francisquito Creek Joint Powers Authority (SFCJPA) is a governmental organization with a board of directors made up of the elected officials of the Cities of Menlo Park, Palo Alto, East Palo Alto, San Mateo County, and the Santa Clara Valley Water District (SCVWD). The agency was formed in 1999 with the objective of protecting properties along San Francisquito Creek from 100-year floods, stabilizing creek banks, as well as enhancing the natural habitat.[9] The SFCJPA and USACE are planning for large-scale, comprehensive flood risk reduction. The SFCJPA is responsible for planning, designing, and implementing projects, which include increasing channel capacity through dredging, reducing flood risk by building levees and floodwalls, as well as through reconnecting the creek to 14 acres of Baylands in Palo Alto city limits to serve as creek floodplain.[10] The SFCJPA's projects are typically funded by local, State, and federal partners. Another finance mechanism is the San Mateo County Flood Control District, which implements Countywide Special District flood control projects for projects on San Francisquito Creek.

City of Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and actions that apply broadly to hydrology and water quality issues potentially, which are identified later in this chapter under Section 4.8.3, Impact Discussion.

[9] San Francisquito Creek Joint Powers Authority 2015. *Agency Overview*, http://sfcjpa.org/web/about/agency-overview/, accessed on November 17, 2015.

[10] San Francisquito Creek Joint Powers Authority 2015. *SF Bay to Highway 101*, http://sfcjpa.org/web/projects/active/s.f.-bay-to-highway-101/, Accessed on November 17, 2013.

City of Menlo Park Municipal Code

Chapter 7.35, Water Conservation[11]

The purpose of this chapter is to promote water conservation and provide the City with the flexibility to respond to a drought emergency. Upon the adoption of emergency water conservation regulations by the SWRCB and within the timelines prescribed by the SWRCB, or drought-related actions imposed by the San Francisco Public Utilities Commission, the City Council of Menlo Park shall adopt by resolution a water conservation plan that mandates those water conservation measures. On May 5, 2015, the City adopted water regulations to adhere to the Governor's April 2015 Executive Order, which imposes restrictions to achieve an aggregate statewide 25 percent reduction in potable water use through February 2016. The SWRCB adopted an extended emergency regulation on February 2, 2016 that continues restrictions on urban water use through October 2016 while providing urban water suppliers more flexibility in meeting their conservation requirements. To respond to these restrictions, the City now limits watering days and times, requires hoses to be fitted with automatic shutoff nozzles for washing vehicles, sidewalks, and driveways, and requires restaurant to serve water only upon request. There are additional water conservation measures that can be found on the City's website under Drought Response Plan Guidelines.[12]

Chapter 7.42, Stormwater Management Program[13]

Chapter 7.42 of the Municipal Code is intended to protect and enhance water quality in Menlo Park by 1) eliminating non-stormwater discharges to the storm drain system, 2) controlling the discharge from spills, dumping, or disposal of materials other than storm water into the storm drain system, and 3) reducing pollutants in storm water discharges to the maximum extent practicable. This chapter includes regulations and restrictions related to pollutants in stormwater discharges and non-stormwater discharges, including spills and dumping or disposal of materials. To reduce pollutants in stormwater, the City requires that new development or redevelopment projects use BMPs to achieve these goals.

Chapter 12.42, Flood Damage Prevention[14]

This chapter contains standards for any construction projects in areas of special flood hazard and coastal high hazard areas. The City designates special flood hazard areas based on the Flood Insurance Study (FIS), FIRMs, and Flood Boundary and Floodway Maps (FBFMs). In these areas, the City requires using flood-resistant construction materials and utility equipment as well as construction methods that minimize flood damage.

[11] City of Menlo Park, Municipal Code Chapter 7.35, Water Conservation, http://www.codepublishing.com/ca/menlopark/, accessed on November 17, 2015.

[12] City of Menlo Park, Municipal Water District, 2015. *Drought Response Plan Application*, http://www.menlopark.org/DocumentCenter/View/7795 accessed on November 17, 2015.

[13] City of Menlo Park, Municipal Code Chapter 7.42, *Storm Water Management Program*, http://www.codepublishing.com/CA/menlopark/, accessed on November 17, 2015.

[14] City of Menlo Park, Municipal Code Chapter 12.42, *Flood Damage Prevention*, http://www.codepublishing.com/CA/menlopark/, accessed on November 17, 2015.

Any construction projects within the special flood hazard area must comply with the Engineering Division's Plan Review Checklist to Comply with FEMA Requirements.[15] The application package must include certification from a licensed engineer or architect that the plans comply with the City's Flood Damage Prevention Code, plans showing the location and elevation of the project, proposed elevation of the 1-percent chance storm Base Flood Elevation (BFE) in relationship to the lowest floor of all structures, on-site drainage plan that shows how flood waters will be directed around the structures, and a statement that a finished construction elevation certificate will be provided at project completion. Variances may be issued for the repair, rehabilitation, or restoration of historic structures, as listed in the National Register of Historic Places or the State Inventory of Historic Places.

Chapter 12.44, Water Efficient Landscaping[16]

Water-efficient landscaping standards to conserve water use on irrigation are included in this chapter. The provisions of this chapter apply to landscaping projects that include new landscape areas exceeding 500 square feet and rehabilitated landscapes exceeding 1,000 square feet associated with projects requiring City review and approval.

Prior to construction, the applicant must submit a landscape project application and processing fee and demonstrate landscape water efficiency by either prescriptive compliance (turf area limitation and no high water use plants) or water budget calculations.[17] The applicant must also submit a soil management and grading survey and a certificate of completion and installation upon completion of the landscape project. The landscape and irrigation designs must be prepared and signed by a certified or authorized professional. After construction and prior to final approval of the project, the applicant must submit a landscape audit report. The City also requires the applicant maintain landscape irrigation facilities and comply with the landscape and irrigation maintenance schedule requirements.

4.8.1.2 EXISTING CONDITIONS

Physical Environment

This section describes the physical environment that affects hydrological conditions in Menlo Park, including topography, watershed and creek system, climate, groundwater, and water quality.

Topography

Menlo Park stretches from 326 feet above sea level in the foothills of Jasper Ridge (part of the Santa Cruz Mountains) in the east, through the flatlands in the center of the valley, to sea level at the marshes and mudflats of San Francisco Bay in the north-northeast. The city's center is relatively flat, with slopes of

[15] City of Menlo Park, 2016. *Plan Review Checklist to Comply with FEMA Requirements.* Accessed at http://www.menlopark.org/DocumentCenter/View/794 on May 4, 2016.

[16] City of Menlo Park, Municipal Code Chapter 12.44, *Water Efficient Landscaping*, http://www.codepublishing.com/CA/menlopark/, accessed on November 17, 2015.

[17] City of Menlo Park, 2016. *Water Efficient Landscaping Ordinance.* Accessed at http://www.menlopark.org/361/Water-efficient-landscaping-ordinance on May 5, 2016.

approximately 0.5 to 0.8 percent. The higher, hilly portion of the city is southwest of the Alameda de las Pulgas. The lower, flatter portion of the city is northeast of Alameda de las Pulgas.

Watershed and Creek Systems

The city is located within the approximately 45-square mile San Francisquito Creek watershed, which includes portions of both Santa Clara County and San Mateo County. The uppermost elevations of the watershed are west of Highway 35 (locally known as Skyline Boulevard), and its lowest points are in East Palo Alto where San Francisquito Creek empties into the San Francisco Bay. San Francisquito Creek forms the eastern boundary of Menlo Park. The headwaters of the watershed are in the Santa Cruz Mountains above Menlo Park, and it flows into southwest San Francisco Bay. A map of the San Francisquito Watershed is provided as Figure 4.8-1.

Water typically flows from the southwest to the northeast through natural creeks and streams and channelized waterways. In the undeveloped marshes, water flows through Flood Slough and Ravenswood Slough. In the urbanized portion of the study area, the main creek system is San Francisquito Creek. In general, the creek flows in a northeasterly direction, and ultimately drains into the San Francisco Bay. San Francisquito Creek flows through Menlo Park largely in its natural alignment, and it forms the eastern boundary of the city limits. Riparian vegetation around the creek spans a 25- to 75-meter-wide space, depending on adjacent land use and topography, consisting primarily of willow, bay laurels, redwoods, alders, cottonwoods, dogwoods, valley oaks, and coast live oaks.[18]

Storm Drain System

The City's storm drain system is maintained by the Menlo Park Public Works Department and consists of 17 individual systems that serve 17 drainage areas, according to a study conducted in 2003 by BKF Engineers.[19] The area north of Middlefield Road drains to the Bay through either the Belle Haven Storm Drain system or through the City of East Palo Alto storm drain lines. The area south of Middlefield Road drains to either Atherton Channel on the northwest or San Francisquito Creek on the southeast. Significant portions of the system are not capable of providing conveyance of a 10-year storm event.[20]

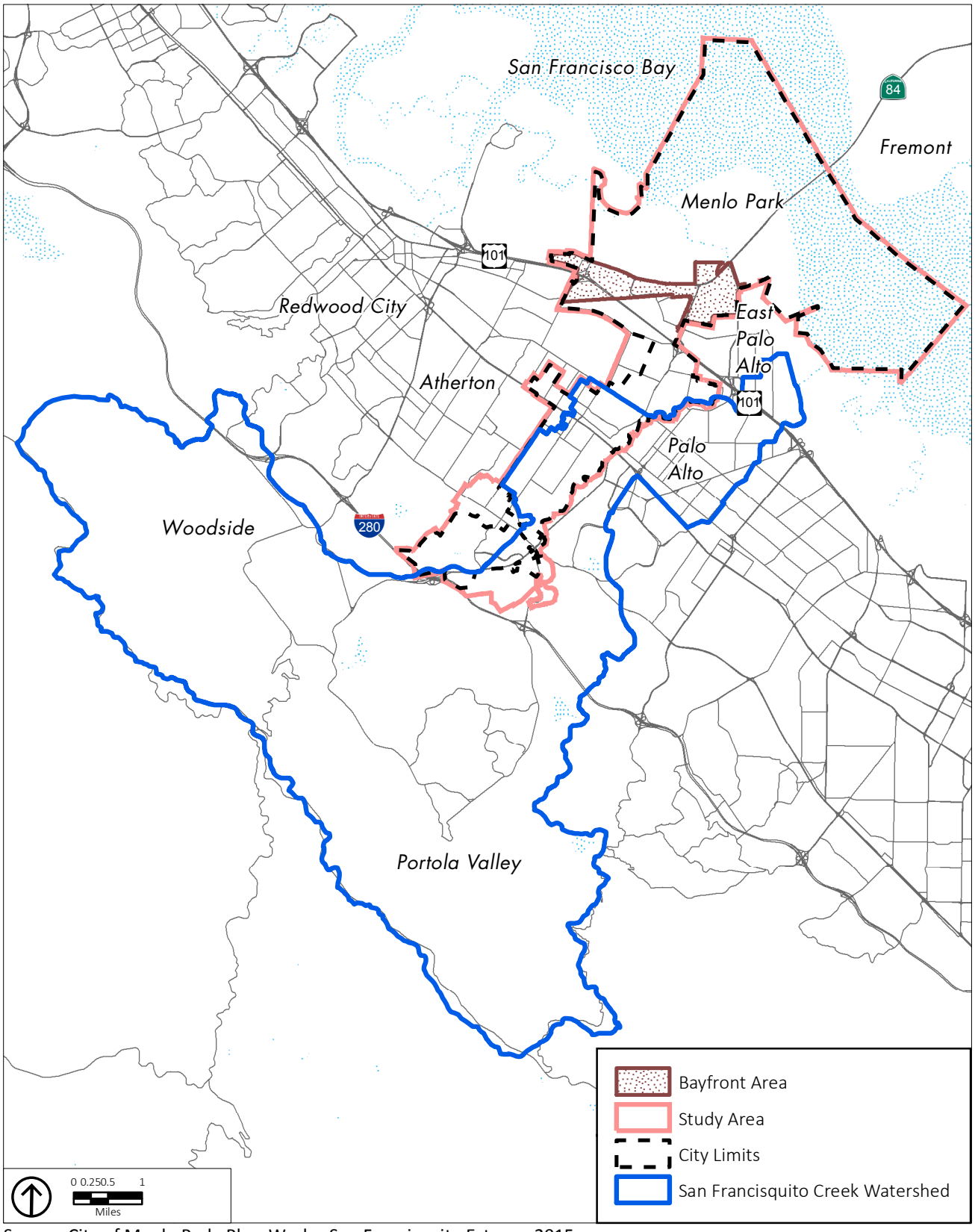
Common issues include undersized storm drain lines, bubble-up storm drain systems, and areas without storm drains. The City conducted a study in 2013 evaluating deficiencies in the storm system design and limited flow capacity along Middlefield Road and proposed alternatives to reduce flooding.[21] Improvements to address flooding along Middlefield Road as well as drainage channel improvements to Atherton Channel are planned in the future. The Atherton Channel flood control project is discussed in further detail in the *Flood Hazard Areas* section of this chapter.

[18] Stanford University Habitat Conservation Plan, *San Francisquito Creek Watershed*. Accessed on November 17, 2015 from: http://hcp.stanford.edu/sfcreek.html

[19] BKF Engineers, 2003. *City-Wide Storm Drainage Study*.

[20] BKF Engineers, 2003. *City-Wide Storm Drainage Study*.

[21] City of Menlo Park, Public Works Department. *Middlefield Road Storm Drain Study.* Accessed on November 17, 2015 at http://www.vwww.menloparklibrary.org/departments/pwk/cip/streets/resurfacing/middlefieldstromdrain.html.



Source: City of Menlo Park; PlaceWorks; San Francisquito Estuary, 2015

Figure 4.8-1
San Francisquito Creek Watershed

Groundwater

As shown on Figure 4.8-2, the city is situated above the Santa Clara Valley groundwater basin and San Mateo Plain subbasin, also known as the San Mateo subbasin. The San Mateo subbasin is bounded by the Santa Cruz Mountains to the west-southwest, the Bay to the north-northeast, San Francisquito Creek to the south-southwest, and the Westside basin to the north-northwest. A relatively shallow water table aquifer overlies confined and semi-confined aquifers near the margins of the Bay, with most wells constructed to draw from the deeper portions. Recharge of the groundwater occurs through infiltration into streambeds and through percolation of rain on the valley floor. Well data from the California Department of Water Resources indicate that groundwater recharge in the study area increases from the hilly areas to the southwest to the flatter northeastern portions of the city, and decreases with increasing depth.[22]

Climate

Menlo Park experiences a coastal Mediterranean climate, which consists of long dry, relatively cool summers and wet, mild winters. The city receives approximately 15.3 inches of rain annually, primarily experienced from the five-month stretch between November and April. The average low temperature of 48.1 degrees Fahrenheit (°F) occurs during December and January and the average high temperature of 66.6°F occurs in August.[23]

Water Quality

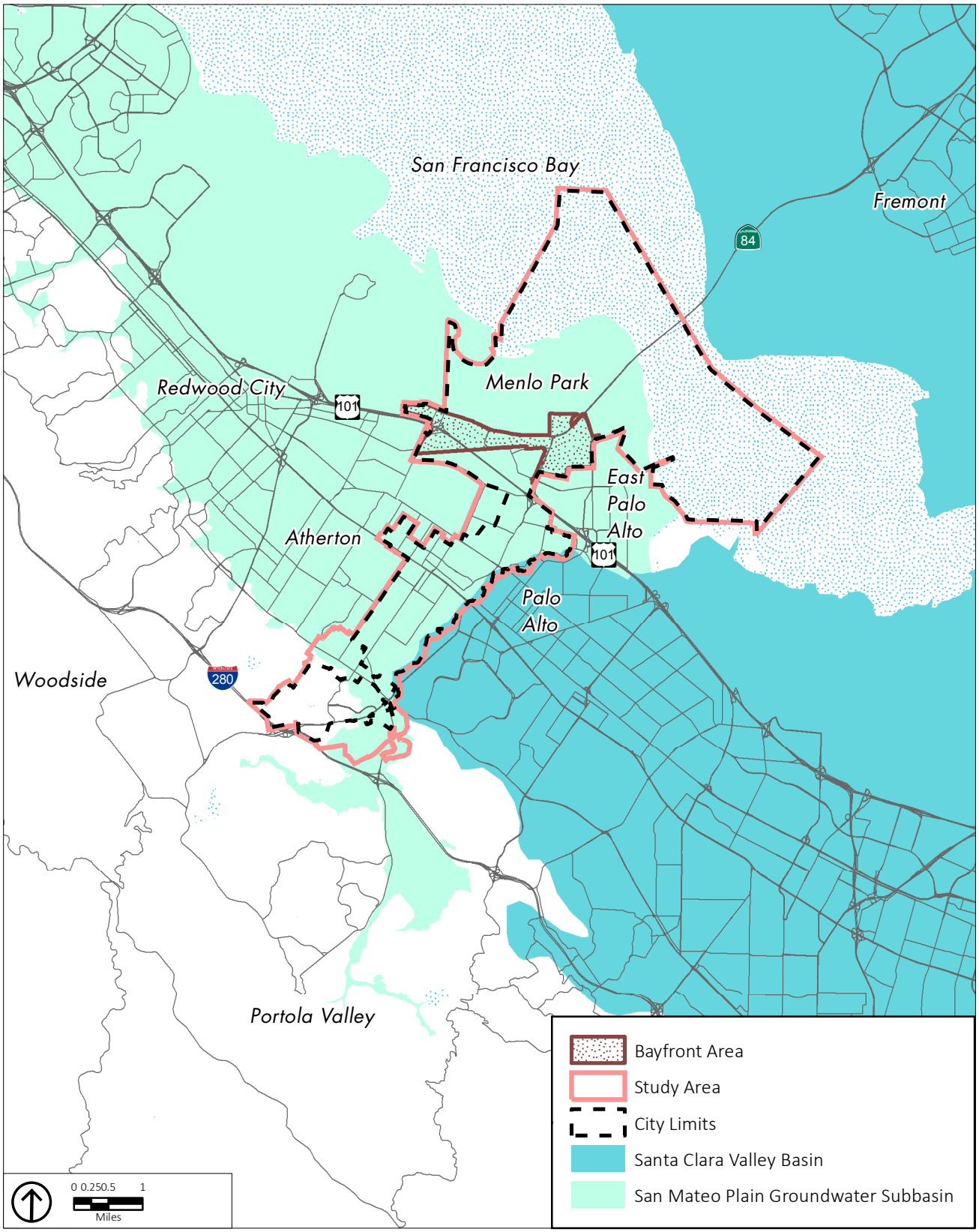
As previously discussed, the study area is within the San Francisquito Creek Watershed. More specifically, runoff from development within Menlo Park eventually discharges into San Francisquito Creek, which flows into South San Francisco Bay.

The beneficial uses of the surface water bodies in Menlo Park have been designated in the *Water Quality Control Plan for the San Francisco Bay Region* (Basin Plan).[24] These potential and beneficial uses are summarized in Table 4.8-1.

[22] California Department of Water Resources, *California's Groundwater, Update 2003*, Bulletin 118, San Mateo Subbasin, February 27, 2004, accessed on December 15, 2015.

[23] Winzler & Kelly, 2014. *City of Menlo Park Final 2010 Urban Water Management Plan and Update to the Water Shortage Contingency Plan.* June 2011, amended November 2014.

[24] San Francisco Bay Area Regional Water Quality Control Board (RWQCB). *Water Quality Control Plan for San Francisco Bay Area.* Accessed on November 17, 2013. http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml



Source: City of Menlo Park; PlaceWorks, 2015; California Department of Water Resources, 2013.

Figure 4.8-2
San Mateo Plain Groundwater Subbasin

TABLE 4.8-1 DESIGNATED BENEFICIAL USES OF WATER BODIES IN MENLO PARK

Water Body	Designated Beneficial Use
Surface Water	
San Francisquito Creek	COLD, MIGR, SPWN, WARM, WILD, REC-1, REC-2
South San Francisco Bay	COMM, EST, IND, MIGR, NAV, RARE, REC-1, REC-2, SHELL, SPWN, WILD
Groundwater	
Santa Clara Valley (San Mateo Subbasin)	MUN, PROC, IND, AGR (potential)

Source: San Francisco Bay Area Regional Water Quality Control Board (RWQCB). Water Quality Control Plan for San Francisco Bay Area.

The potential and existing beneficial uses are as follows:

- AGR – Agricultural Supply
- COLD – Cold freshwater habitat
- COMM – Commercial and sport fishing
- EST – Estuarine habitat
- IND – Industrial service supply
- MIGR – Fish migration
- MUN – Municipal and domestic supply
- NAV – Navigation
- PROC – Industrial process supply
- RARE – Preservation of rare and endangered species
- REC-1 – Water contact recreation
- REC-2 – Non-contact water recreation
- SHELL – Shellfish harvesting
- SPWN – Fish spawning
- WARM – Warm freshwater habitat
- WILD – Wildlife habitat

In accordance with Section 303(d) of the Clean Water Act, the State must present US EPA with a list of impaired water bodies that do not meet water quality standards. Listed impaired water bodies within Menlo Park are presented in Table 4.8-2.

Once a water body has been placed on the 303(d) list of impaired waters, states are required to develop a Total Maximum Daily Load (TMDL) to address each pollutant causing impairment. A TMDL defines how much of a pollutant a water body can tolerate and still meet water quality standards. TMDLs have been approved by US EPA for diazinon in San Francisquito Creek, and mercury and PCBs in South San Francisco Bay.

TABLE 4.8-2 SECTION 303(D) LIST OF IMPAIRED WATER BODIES IN MENLO PARK

Water Body	Pollutant	Potential Source	Status of TMDL
San Francisquito Creek	Diazinon	Urban runoff/storm sewer	Approved (2007)
	Sedimentation/siltation	Non-point source	Estimated (2013)
	Trash	Illegal dumping, urban runoff/storm sewers	Estimated (2021)
South San Francisco Bay	Chlordane	Non-point source	Estimated (2013)
	DDT	Non-point source	Estimated (2013)
	Dieldrin	Non-point source	Estimated (2013)
	Dioxin compounds	Atmospheric deposition	Estimated (2019)
	Furan compounds	Atmospheric deposition	Estimated (2019)
	Invasive species	Ballast water	Estimated (2019)
	Mercury	Industrial and municipal point sources, resource extraction, atmospheric deposition, natural sources, non-point sources	Approved (2008)
	PCBs	Unknown non-point sources	Approved (2010)
	Selenium	Domestic use of groundwater	Estimated (2019)

Source: San Francisco Bay Area Regional Water Quality Control Board (RWQCB). Water Quality Control Plan for San Francisco Bay Area.

The Basin Plan also contains water quality criteria for groundwater. Menlo Park is within the San Mateo Plain Subbasin of the Santa Clara Valley Groundwater Basin. Groundwater in this subbasin is generally characterized as calcium magnesium calcium carbonate water and the mineral content is very "hard," averaging 471 milligrams per litre (mg/l) of calcium carbonate.[25] Some wells have reported concentrations of nitrate-nitrogen that exceed US EPA maximum contaminant levels (MCLs).

Groundwater contamination can result from releases of hazardous materials from underground storage tanks or historical industrial activities. There are RWQCB or Department of Toxic Substance Control (DTSC) hazardous waste cleanup sites within Menlo Park.[26] The location and status of these hazardous waste sites are discussed in more detail in Chapter 4.7, Hazards and Hazardous Materials, of this Draft EIR. If groundwater dewatering activities are required as part of future construction efforts, a detailed assessment of the potential impact of contaminated groundwater would be warranted.

[25] California Department of Water Resources (DWR), 2003. *California's Groundwater Bulletin 118, Update 2003.*

[26] State Water Resources Control Board (SWRCB). *Geotracker Database.* Accessed on November 17, 2015 at http://geotracker.waterboards.ca.gov/.

Flood Hazard Areas

FEMA prepares maps of the 100-year flood hazard area of U.S. communities. Areas within the 100-year flood hazard area are subject to 100-year flood, which means that in any given year, the risk of flooding in the designated area is 1 percent. Maps are also available for 500-year floods, which means that in any given year, the risk of flooding in the designated area is 0.2 percent.

In some locations, FEMA also provides a measurement of base flood elevation for the 100-year flood, which is the minimum height of the flood waters during a 100-year event; base flood elevation is reported in feet above sea level. Depth of flooding is determined by subtracting the land's height above sea level from the base flood elevation. Areas within the 100-year flood hazard area that are financed by Federally-backed mortgages are subject to mandatory federal insurance requirements and building standards to reduce flood damage.

A map of the locations that are within the 100-year and 500-year floodplain is shown on Figure 4.8-3. As shown, most of the Bayfront Area, specifically much of the area between Constitution Drive and U.S. Highway 101 (US 101), is within the 100-year floodplain that is subject to tidal flooding from San Francisco Bay.[27] In addition, some portions of Menlo Park, including the Bayfront Area between Middlefield Road and US 101, are within the 100-year floodplain due to overflow from San Francisquito Creek.[28] Some of the proposed new residential locations are within the 100-year floodplain, as shown on Figure 4-8.3.

There also are three smaller areas of Menlo Park, including the Bayfront Area, that are subject to 500-year flood hazards. These areas are: 1) northwest of San Francisquito Creek between Middlefield Road and Elm Street to approximately 400 feet west of Santa Monica Avenue; 2) south of the US 101 and Marsh Road interchange to approximately 450 feet south of the rail line; and 3) the area bounded by Ivy Drive to the north, Willow Road to the east, US 101 to the south, and Sevier Avenues to the east.

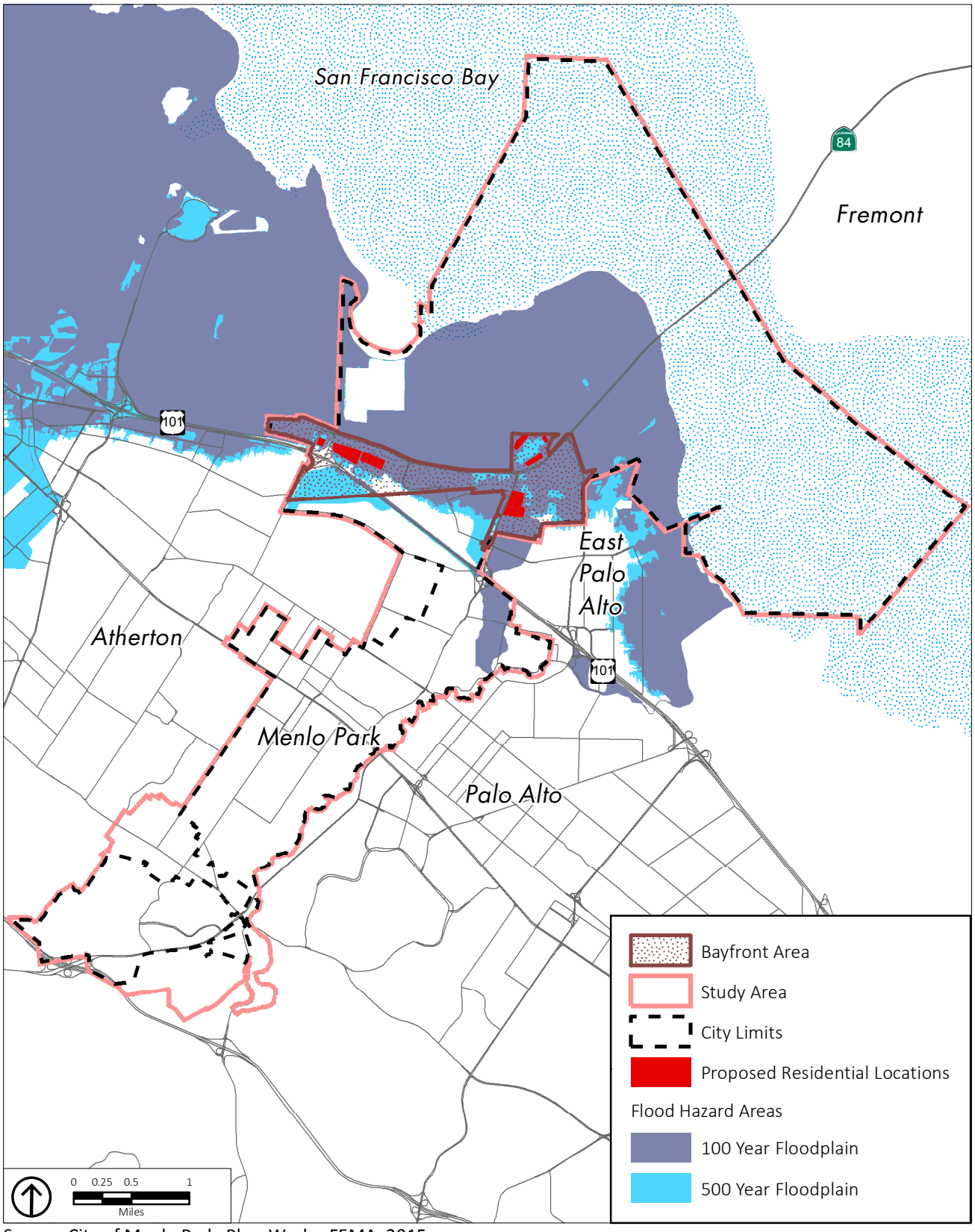
FEMA has performed detailed coastal engineering analyses and mapping of the San Francisco Bay shoreline within nine adjoining counties, including San Mateo County.[29] The analyses and mapping has resulted in updated preliminary FIRM panels and revised SFHAs for the areas within Menlo Park that are north of US 101. The preliminary FIRMs can be accessed at FEMA's San Francisco Bay Area Coastal Study website[30] and have been incorporated into Figure 4.8-3.

[27] Federal Emergency Management Agency (FEMA). Various *FIRM Maps Including 06081C0306E to 06081C309E.* Accessed on November 17, 2015, http://msc.fema.gov/portal.

[28] San Francisquito Creek Joint Powers Authority (SFCJPA). *San Francisquito Creek Floodplain Mapping – 100-year Fluvial Flood Inundation Map.* Accessed on November 17, 2015 at http://www.sfcjpa.org/documents/Corps_of_Engineers_100-year_floodplain_map.pdf.

[29] Federal Emergency Management Agency (FEMA), 2016. *Region IX National Flood Insurance Program, Risk Mapping, Assessment, and Planning, San Francisco Bay Area Coastal Study, San Mateo, California.* Website http://www.r9map.org/Pages/ProjectDetailsPage.aspx?choLoco=41&choProj=267, accessed on May 6, 2016.

[30] FEMA, 2016. Region IX National Flood Insurance Program, San Francisco Bay Area Coastal Study, San Mateo, California. Accessed at http://www.r9map.org/Pages/ProjectDetailsPage.aspx?choLoco=41&choProj=267 on May 5, 2016.



Source: City of Menlo Park; PlaceWorks; FEMA, 2015.

Figure 4.8-3
FEMA Special Flood Hazard Areas

The SFCJPA is developing a regional comprehensive plan to provide 100-year flood protection for flood-prone reaches of San Francisquito Creek both upstream and downstream from US 101.[31] The goal is to eliminate the need for more than 8,400 properties to contribute to the NFIP because of overflows from San Francisquito Creek and San Francisco Bay tides. The SFCJPA is designing and implementing local projects without waiting for federal support, although there is the possibility of coordinating efforts with the USACE in the future.

The SFCJPA in conjunction with the USACE and the SCVWD, are implementing improvements to provide 100-year flood protection for flood-prone reaches of San Francisquito Creek both upstream and downstream from US 101.[32] The goal is to eliminate the need for more than 5,400 properties to contribute to the NFIP because of overflows from San Francisquito Creek and San Francisco Bay tides.

Cities and unincorporated communities in San Mateo County, including Menlo Park, generate runoff that flows into the Bayfront Canal via the Atherton Channel and six other drainage basins. Historically, flooding has occurred in the neighborhoods near the Bayfront Canal (Redwood City) and Atherton Channel (Menlo Park and Atherton), particularly during storms that coincide with high tides.[33] The Bayfront Canal and Atherton Channel do not have enough detention capacity to prevent flooding in low lying areas. In addition, during storms that coincide with high tides, the Canal and Channel cannot discharge sufficient stormwater flows to the Bay because of tide gate limitations. The Bayfront Canal and Atherton Channel Improvement Project will include installing a culvert to direct water to the Ravenswood Ponds; making open channel improvements upstream and downstream of the culvert; and installing water control structures within and around the Ravenswood Ponds to allow the flow from the culvert to move between the ponds and ultimately to the Bay.[34] The project will be implemented by the Association of Bay Area Governments (ABAG) and is expected to be completed in January 2018. In addition, the City of Redwood City is partnering with the Coastal Conservancy to integrate the Salt Pond Restoration Project with the Bayfront Canal/Atherton Channel Flood Improvement Project.[35] When complete, this project would restore 15,100 acres of industrial salt ponds to tidal wetlands and other habitats and serve as stormwater detention for the Bayfront Canal and Atherton Channel drainage areas.

Sea Level Rise

A rise in average global temperatures due largely to an increase in greenhouse gas (GHG) emissions is expected to be accompanied by a rise in global sea levels. California Executive Order S-13-2008 states that

[31] San Francisquito Creek Joint Powers Authority. *Projects Overview.* Accessed on May 5, 2016 at http://sfcjpa.org/web/projects/projects-overview/.

[32] San Francisquito Creek Joint Powers Authority. *Projects Overview.* Accessed on November 17, 2015 at http://sfcjpa.org/web/projects/projects-overview/.

[33] Bay Area Integrated Regional Water Management Plan, 2013. Bayfront Canal Flood Management and Habitat Restoration Project. Accessed on November 17, 2015 at http://bairwmp.org/projects/bayfront-canal-flood-management-and-habitat-restoration-project.

[34] Moffat & Nichol, 2014. *Bayfront Canal Flood Improvements – Project Description.* Dated March 6, 2014.

[35] Bay Area Integrated Regional Water Management Plan, 2016. Bayfront Canal Flood Management and Habitat Restoration Project. Accessed on May 5, 2016 at http://bairwmp.org/projects/bayfront-canal-flood-management-and-habitat-restoration-project.

all state agencies planning construction projects in areas vulnerable to sea level rise must consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and to the extent feasible, reduce expected risks to sea level rise.[36] The State of California's current guidance incorporates the most recent scientific findings from the National Research Council (NRC).[37] The NRC predicts a range for San Francisco Bay sea level rise of 5 to 24 inches by 2050 and 17 to 66 inches by 2100. The BCDC predicts a sea level rise of 16 inches by 2050 and 55 inches by 2100.[38]

The previous BCDC policy language recommended that new development not be approved in low-lying areas that are in danger of flooding now or in the future unless the development was elevated above possible flood levels. The new amended policies allow protection from flooding, encourage innovative means of dealing with flood danger, and make it clear that local governments will determine how best to deal with development proposals inland of BCDC's jurisdiction. The BCDC has jurisdiction to regulate new development within 100 feet inland from the Bay shoreline. Local government retains its authority over development more than 100 feet inland from the Bay shoreline and the provisions of the Bay Plan do not apply outside BCDC's jurisdiction for purposes of implementing CEQA.[39]

The new BCDC policies require sea level rise risk assessments to be conducted when planning shoreline areas or designing large shoreline projects within BCDC's jurisdiction. Risk assessments are not required for repairs of existing facilities, interim projects, small projects that do not increase risks to public safety, and infill projects within existing urbanized areas. Risk assessments are only required within BCDC's jurisdiction and projects located only in the shoreline band, the area within 100 feet of the shoreline, need only address risks to public access. The risk assessment should be prepared by a qualified engineer and should be based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise and current and planned flood protection. A range of sea level projections for mid-century and end of century should be used in the risk assessment and inundation maps should be prepared. The risk assessment should identify all types of potential flooding, degrees of uncertainty, consequences of defense failures, and risks to existing habitat from proposed flood protection devices. All projects should be designed to be resilient to a mid-century sea level rise projection. If it is likely that the project will remain in place longer than mid-century, an adaptive management plan should be developed to address the long-term impacts that will arise, based on the risk assessment. Shoreline protection projects, such as levees and seawalls, must be designed to withstand the effects of projected sea level rise and to be integrated with adjacent shoreline protection. Whenever feasible, projects must integrate hard shoreline protection structures with natural features, such as marsh or upland vegetation, that enhance the Bay ecosystem.[40]

[36] State of California. *Executive Order S-13-08.* Accessed on November 17, 2015 at http://gov.ca.gov/news.php?id=11036.

[37] National Research Council, 2012. *Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future.*

[38] San Francisco Bay Conservation and Development Commission, 2011. *Resolution No. 11-08, Adoption of Bay Plan Amendment Adding New Climate Change Findings and Policies to the Bay Plan.*

[39] San Francisco Bay Conservation and Development Commission, *Resolution No. 11-08: Adoption of Bay Plan Amendment Adding New Climate Change Findings and Policies to the Bay Plan.*

[40] San Francisco Bay Conservation and Development Commission, 2014, *New Sea Level Rise Policies Fact Sheet*.

Different scenarios and models used to predict sea level rise result in different estimates in the magnitude of sea level rise. Most shoreline damage from flooding will occur as a result of storm activity in combination with higher sea levels. The key factors that contribute to coastal flooding include high tides, storm surge, high waves, and high runoff rates from rivers and creeks.[41]

San Mateo County is currently conducting a sea level rise vulnerability assessment with a broad coalition of civic leaders, elected officials, and concerned citizens to better understand and prepare for the potential impacts of sea level rise related to flooding and inundation, storm and tide surge, salt water intrusion, and shoreline erosion.[42] San Mateo County is considered to be the most vulnerable county in the Bay Area in terms of sea level rise. Results of the assessment will include detailed inundation maps and recommended adaptation measures. As a member of the SFCJPA, the City of Menlo Park is also participating in the SAFER Bay Project (Strategy to Advance Flood protection, Ecosystems, and Recreation), which is intended to protect nearly 5,000 properties from tidal flooding and restore more than 1,000 acres of historic marshlands as well as address the impact of sea level rise.

Figure 4.8-4 shows the projected sea level rise for Menlo Park. As shown on this figure, the area north of US 101 and the Bayfront Area are vulnerable to flooding with the projected sea level rise.

Dam Failure Inundation

Dam failure is the uncontrolled release of impounded water behind a dam. Flooding, earthquakes, blockages, landslides, lack of maintenance, improper operation, poor construction, vandalism, and terrorism can all cause a dam to fail.[43] Dam failure can occur with little warning. Intense storms may produce floods in a few hours or even minutes for upstream locations. Flash floods occur within six hours of the beginning of heavy rainfall, and dam failure may occur within hours of the first signs of breaching. Other failures and breaches can take much longer to occur, from days to weeks. However, dam failure is a very rare occurrence. There is no historic record of dam failure in San Mateo County or Menlo Park.[44]

The California Governor's Office of Emergency Services (Cal OES) is required by State law to work with State and federal agencies, dam owners and operators, municipalities, floodplain managers, planners, and the public to make available dam inundation maps.[45] Dam inundation maps are used in the preparation of Local Hazard Mitigation Plans (LHMPs) and General Plan Safety Element updates. In addition, Cal OES requires all dam owners to develop Emergency Action Plans (EAPs) for warning, evacuation, and post-flood actions in the event of a dam failure.

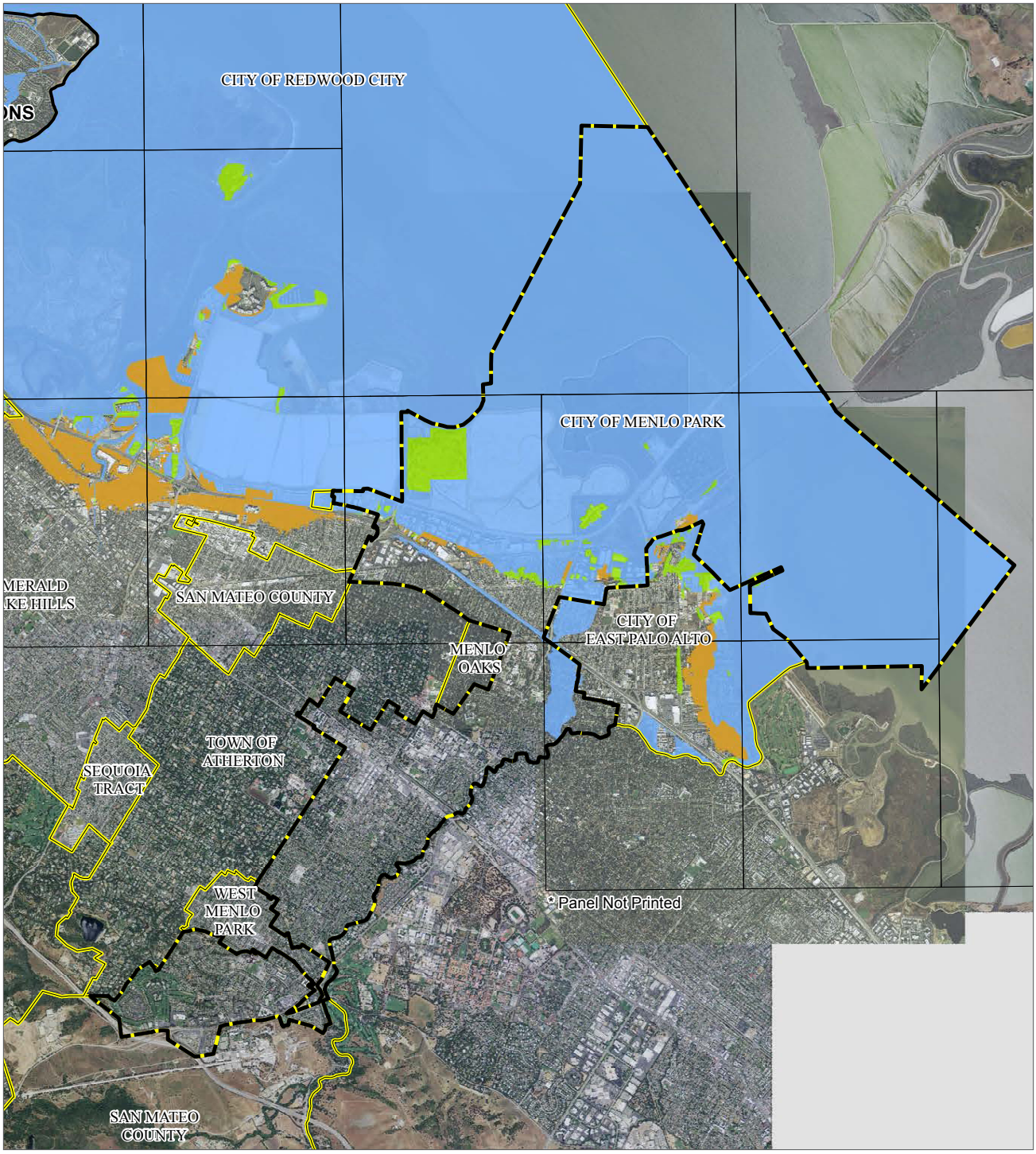
[41] San Francisco BCDC, 2011. *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline.*

[42] San Mateo County, 2015. *San Mateo County Sea Level Rise Vulnerability Assessment, Summary of Kickoff Meeting, June 5, 2015.* Available at http://seachangesmc.com/wp-content/uploads/2015/09/LWC_SMC_SVA_KO_Meeting_Summary_FINAL_082515.pdf, accessed on November 17, 2015.

[43] California Office of Emergency Services, 2013, *California Multi-Hazard Mitigation Plan.*

[44] Association of Bay Area Governments (ABAG), 2011. *Taming Natural Disasters. Multi-Jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area.*

[45] California Office of Emergency Services, 2013. California Multi-Hazard Mitigation Plan.



Source: FEMA Risk Map, 2015.

Figure 4.8-4
Sea Level Rise

Several reservoirs in the area present the remote risk of downstream inundation in the event of a dam failure as the result of an earthquake or other catastrophic event. As shown on Figure 4.8-5, the Cal OES dam inundation maps show portions of Menlo Park are within the Searsville Reservoir, Felt Lake dam and Bear Gulch dam inundation zones.[46] The area within the dam inundation zones is south of El Camino Real and east of Middle Avenue.

The dam inundation zone of Searsville Reservoir would actually be much smaller than the area shown on Figure 4.8-5, because the reservoir has filled with sediment, reducing its capacity to less than 10 percent of the original storage capacity. The dam inundation zone map was prepared assuming full storage capacity. In addition, Stanford University, the owner and operator of Searsville Reservoir, is considering two options for future use: 1) creating an opening at the base of the dam to allow creek flow and provide fish passage, and 2) allowing the reservoir to fill completely, creating new wetlands. Both of these options would result in much smaller inundation zones or possibly no inundation zone at all.

Tsunami, Seiche, and Mudflow

Tsunami

A tsunami is a series of traveling ocean waves generated by a rare, catastrophic event, including earthquakes, submarine landslides, and volcanic eruptions. Tsunamis can travel over the ocean surface at speeds of 400 to 500 miles per hour (mph) or more, and wave heights at the shore can range from inches to an excess of 50 feet. Factors influencing the size and speed of a tsunami include the source and magnitude of the triggering event, as well as off-shore and on-shore topography.

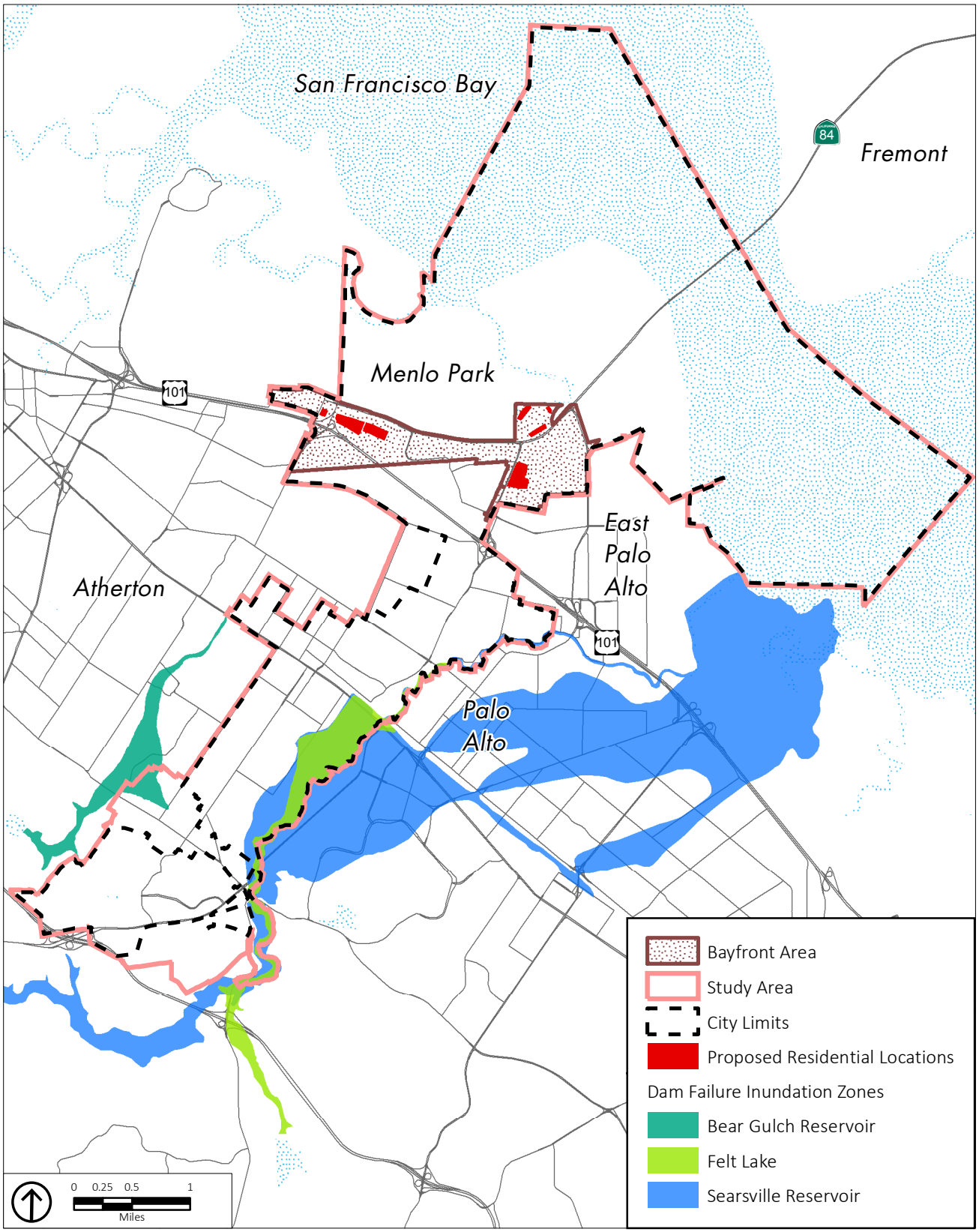
According to the Cal OES tsunami inundation map for emergency planning, Redwood Point Quadrangle, only the most northern portion of Menlo Park that consists mainly of sloughs and undeveloped land is within the tsunami inundation zone.[47] As shown on Figure 4.8-6, all proposed areas of future development are outside of the tsunami inundation zone. In addition, San Mateo County and the City of Menlo Park are part of the tsunami warning system that would be implemented to evacuate and protect citizens in the unlikely event that a tsunami occurs.

Seiche

A seiche is an oscillation wave generated in a closed or partially closed body of water, which can be compared to the back-and-forth sloshing in a bath tub. Seiches can be caused by winds, changes in atmospheric pressure, underwater earthquakes, tsunamis, or landslides into the water body. Bodies of water such as bays, harbors, reservoirs, ponds, and swimming ponds can experience seiche waves up to several feet in height during a strong earthquake.

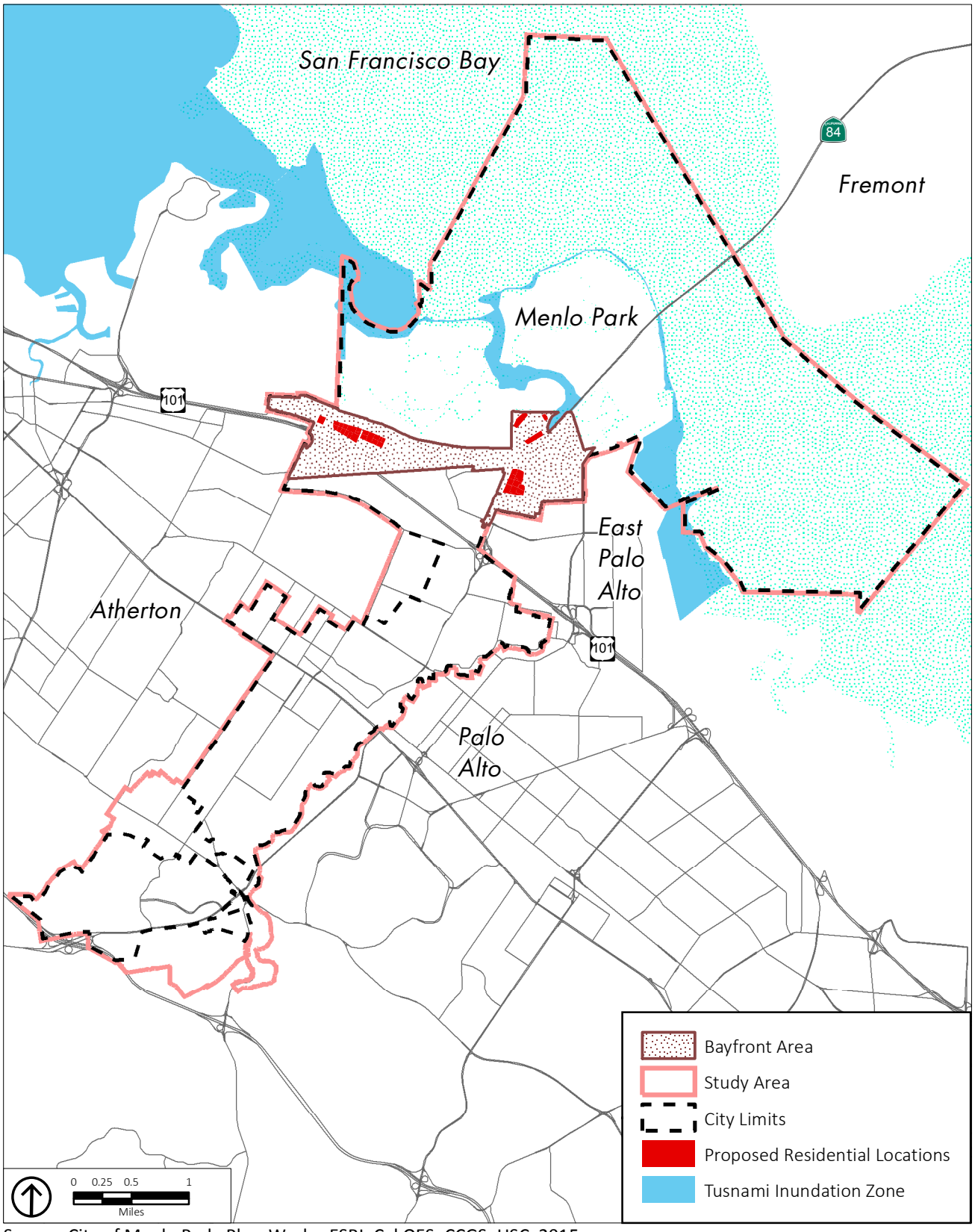
[46] California Office of Emergency Services, 2009. *Dam Inundation Registered Images and Boundary Files in Shape Format, Version DVD 3.*

[47] California Office of Emergency Services, 2009. *Tsunami Inundation Map for Emergency Planning, State of California – County of San Mateo, Redwood Point Quadrangle, Palo Alto Quadrangle.*



Source: City of Menlo Park; PlaceWorks; ESRI; State of California Emergency Management Agency, 2007.

Figure 4.8-5
Dam Failure Inundation Zones



Source: City of Menlo Park; PlaceWorks; ESRI; Cal OES; CCGS; USC, 2015

Figure 4.8-6
Tsunami Inundation Zone

Menlo Park is located next to San Francisco Bay and a small portion of the city is within the tsunami inundation zone. A seiche could theoretically occur in the Bay as the result of an earthquake or other disturbance, but the flooding impact would be no greater than that of a tsunami inundation zone.

There are no large bodies of water within the city of Menlo Park that could trigger a seiche. Seiches associated with either Searsville Reservoir or Felt Lake would have an inundation zone much less than that of the dam inundation zone and given their distance from the city, the impact if a seiche would occur is negligible.

Mudflow

Mud and debris flows are mass movements of dirt and debris that occur after intense rainfall, earthquakes, and severe wildfires. The speed of a slide depends on the amount of precipitation, steepness of the slope, and alternate freezing and thawing of the ground. The majority of Menlo Park is relatively flat and the city is outside of the impacted zones for rainfall-induced landslides and debris flow source areas.[48] Therefore, there is no likelihood of mudflows or debris slides to occur within Menlo Park.

4.8.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would result in a significant impact if it would:

1. Violate any water quality standards or discharge requirements.
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the amount of surface runoff in a manner which would result in substantial erosion or siltation on- or off-site.
4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
5. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
6. Otherwise substantially degrade water quality.
7. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
8. Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

[48] Association of Bay Area Governments (ABAG). *Landslide Maps and Information: Earthquake Induced Landslides and Rainfall Induced Landslides.* Available at http://resilience.abag.ca.gov/landslides/, accessed on November 17, 2015.

9. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a levee or dam, or flooding due to sea level rise.

10. Expose people or structures to a significant risk of inundation by seiche, tsunami, or mudflow.

4.8.3 IMPACT DISCUSSION

HYDRO-1 Implementation of the proposed project would not violate any water quality standards or discharge requirements.

The proposed project would substantially affect water quality standards or waste discharge requirements if an increase in the total area of impervious surfaces would result in a greater potential to introduce pollutants to receiving waters. Urban runoff can carry a variety of pollutants, such as oil and grease, metals, sediments, and pesticide residues from roadways, parking lots, rooftops, and landscaped areas, and deposit them into an adjacent waterway via the storm drain system. New construction allowed by the proposed project could also result in the degradation of water quality with the clearing and grading of sites, releasing sediment, oil, greases, and other chemicals to nearby water bodies.

Construction Impacts

Clearing, grading, excavation, and construction activities with new development and/or redevelopment would have the potential to impact water quality through soil erosion and increasing the amount of silt and debris carried in runoff. Additionally, the use of construction materials such as fuels, solvents, and paints may present a risk to surface water quality. Finally, the refueling and parking of construction vehicles and other equipment on site during construction may result in oil, grease, or related pollutant leaks and spills that may discharge into the storm drain system.

To minimize these potential impacts, new development that disturbs one or more acres of land within the study area would be required to comply with the NPDES Construction General Permit (CGP) as well as prepare a SWPPP that requires the incorporation of BMPs to control sedimentation, erosion, and hazardous materials contamination of runoff during construction. In addition, a project applicant must file Permit Registration Documents (PRDs) with the SWRCB, which includes a Notice of Intent (NOI), risk assessment, site map, annual fee, signed certification statement, SWPPP, and post-construction water balance calculations. Projects must also comply with Menlo Park's requirement to submit a construction erosion and sediment control plan as well as a grading and drainage plan as part of the permit package. Project applicants for future development must also implement BMPs during construction to control stormwater runoff and minimize potential impacts to water quality. If substantial groundwater dewatering is required during or after construction, an individual NPDES Permit/WDR may be required, which involves sampling and monitoring to ensure water discharged from the site is not impacting water quality.

Operational Impacts

Runoff from residential and commercial properties and parking lots typically contain oils, grease, fuel, antifreeze, and byproducts of combustion (such as lead, cadmium, nickel, and other metals), as well as

fertilizers, herbicides, pesticides, and other pollutants. Precipitation at the beginning of the rainy season may result in an initial stormwater runoff (first flush) with high pollutant concentrations.

Water quality in stormwater runoff is regulated locally by the SMCWPPP, which include the C.3 provisions set by the San Francisco Bay RWQCB. Adherence to these regulations requires new development or redevelopment projects to incorporate treatment measures, an agreement to maintain them, and other appropriate source control and site design features that reduce pollutants in runoff to the maximum extent practicable. Many of the requirements consider Low Impact Development (LID) practices such as the use of on-site infiltration through landscaping and vegetated swales that reduce pollutant loading. Incorporation of these measures can even improve on existing conditions. Also, all development or redevelopment projects that create or replace one acre or more of impervious surface and are located in a hydromodification area must implement hydromodification management measures (i.e., post-project runoff rates shall not exceed estimated pre-project rates and durations). The portion of Menlo Park south of State Route 82 (El Camino Real) is within a hydromodification area and would be subject to these requirements.

In addition, all projects must comply with the requirements of the City's Municipal Code Chapter 7.42, *Stormwater Management Program*. The City of Menlo Park Public Works Department also requires development or redevelopment projects that replace or introduce more than 10,000 square feet of impervious surfaces to prepare a Hydrology Report that requires site design measures to maximize pervious areas, source control measures to keep pollutants out of stormwater, use of construction BMPs, and post construction treatment measures.

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and the existing Section II, Open Space/Conservation (OSC) and Section IV,Safety (S), of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to water quality issues. The following General Plan goals, policies, and programs would serve to minimize potential impacts associated with water quality issues:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
    - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities
    - Policy LU-6.11: Baylands Preservation. Allow development near the Bay only in already developed areas.
        - Program LU-6.A: San Francisquito Creek Setbacks. Establish Zoning Ordinance requirements for minimum setbacks for new structures or impervious surfaces within a specified distance of the top the San Francisquito Creek bank.
- Goal OSC-5: Ensure healthy air and water quality.

- Policy OSC-5.1: Air and Water Quality Standards. Continue to apply standards and policies established by the Bay Area Air Quality Management District (BAAQMD), San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), and City of Menlo Park Climate Action Plan through the California Environmental Quality Act (CEQA) process and other means as applicable.

- Goal S-1: Assure a safe community.
  - Policy S-1.25: Creeks and Drainage-ways. Seek to retain San Francisquito and Atherton creeks/channels in their natural state in order to prevent undue erosion of creek banks. Protect creek-side habitat and provide maintenance access along creeks where appropriate.
  - Policy S-1.26: Erosion and Sediment Control. Continue to require the use of best management practices for erosion and sediment control measures with proposed development in compliance with applicable regional regulations.
  - Policy S-1.27: Regional Water Quality Control Board (RWQCB) Requirements. Enforce stormwater pollution prevention practices and appropriate watershed management plans in the RWQCB general National Pollutant Discharge Elimination System requirements, the San Mateo County Water Pollution Prevention Program and the City's Stormwater Management Program. Revise, as necessary, City plans so they integrate water quality and watershed protection with water supply, flood control, habitat protection, groundwater recharge, and other sustainable development principles and policies.

Additionally, as part of the Zoning Code update, the project includes design standards for development in the Bayfront Area. These design standards require future development to provide on-site infiltration of stormwater runoff and implement sustainable stormwater features in open space areas.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing federal, State and local regulations discussed above, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to water quality. The City, throughout the 2040 buildout horizon, would implement the General Plan program that requires the preparation of setback standards to the San Francisquito Creek bank. These regulations combined with implementation of site design, source control, and treatment control measures for new development or redevelopment projects would ensure the protection of water quality. Accordingly, the adoption of the proposed project would result in *less-than-significant* impacts with respect to water quality.

Significance Without Mitigation: Less than significant.

HYDROLOGY AND WATER QUALITY

HYDRO-2 Implementation of the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

The proposed project would substantially degrade or deplete groundwater resources or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level, if development used significant amounts of groundwater for water supply or caused significant increases in impervious surfaces or construction dewatering, thus reducing groundwater recharge.

Although the city is primarily built out, future development potential under the current General Plan includes 1.8 million square feet of non-residential land use and 1,000 residential units. In addition, the proposed project would allow new development potential in the Bayfront Area that would result in 2.3 million square feet of non-residential land use, 400 hotel rooms, and 4,500 residential housing units; therefore, the potential to increase impervious surfaces could occur. There may also be the potential diversion of groundwater to surface water if short-term construction dewatering is required due to the shallow groundwater table. These activities could result in a decrease in groundwater recharge to the San Mateo Subbasin of the Santa Clara Valley Groundwater Basin for which beneficial uses have been established by the San Francisco Bay Basin Plan.

Groundwater dewatering may be required during construction, specifically in the Bayfront Area, due to shallow groundwater depths. However, this is not anticipated to adversely impact groundwater resources because required excavations would intersect only the shallow groundwater table, which is not used for potable water supply, and would be a temporary impact. Also, if extensive dewatering is required, projects would be required to obtain a WDR permit from San Francisco Bay RWQCB. The WDR permit requirements would require testing to prevent discharged water from posing a risk to water quality of the receiving water body. In addition, new development and redevelopment projects that disturb one or more acres would be subject to SWPPP requirements, which include measures for spill prevention, control, and containment that would prevent potential construction pollutants from leaching into the shallow groundwater. These existing regulatory requirements would ensure that construction dewatering would not significantly impact groundwater quality.

The city receives its water from four water utility companies: the Menlo Park Municipal Water District (MPMWD), California Water Service, the O'Connor Tract Cooperative Water District, and the Palo Alto Park Mutual Water Company, as described in further detail in Chapter 4.14, Utilities and Service Systems, of this Draft EIR. As discussed in Chapter 4.14, there is sufficient water for future demands at 2040 buildout, including the proposed project, in normal years. However, in single-dry years and multiple-dry years, there would be a water supply shortfall, with or without the proposed project. Water shortage contingency plans would be implemented, as discussed in further detail in Chapter 4.14. But because the MPMWD relies solely on surface water supplied by the San Francisco Public Utilities Commission (SFPUC) for its water source, the new development potential in the Bayfront Area would not have an impact on

groundwater supplies. Furthermore, for new development and redevelopment projects, the implementation of LID measures and on-site infiltration, as specified under the C.3 provisions of the SMCWPPP and the City, will increase the potential for groundwater recharge, which would cause a net benefit for those areas that may require the use of groundwater. Also, the use of site design features as per the C.3 provisions and implementation of water use efficiency measures mandated by the Water Conservation Act of 2009 will reduce the impact of increased impervious surfaces on groundwater recharge.

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, contains general goals, policies and a program that would require local planning and development decisions to consider impacts to the environment related to future development on groundwater resources and recharge. The following General Plan goals, policies and a program would serve to minimize potential impacts associated with groundwater resources:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
    - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
    - Policy LU-7.4: Water Protection. Work with regional and local jurisdictions and agencies responsible for ground water extraction to develop a comprehensive underground water protection program in accordance with the San Francisquito Creek Watershed Policy, which includes preservation of existing sources and monitoring of all wells in the basin to evaluate the long term effects of water extraction.
        - Program LU-7.8: Groundwater Wells. Monitor pumping from existing and new wells to identify and prevent potential ground subsidence, salinity intrusion into shallow aquifers (particularly in the Bayfront Areas), and contamination of deeper aquifers.

In addition, as part of the Zoning update, the project includes green and sustainable building standards in the Bayfront Area. These standards require all new buildings within the Bayfront Area to be maintained without the use of well water and include dual plumbing systems for the use of recycled water. Under the Zoning update, no potable water shall not be used for decorative features, unless the water is recycled, and single pass cooling systems are prohibited. Also, future development with a gross floor area of 100,000 square feet or more must submit a proposed water budget for review by the City's Public Works Director prior to certification of occupancy. New buildings with 250,000 square feet of gross floor area or more are required to use an alternate water source for all City-approved non-potable applications. These measures would help to reduce any demands put on groundwater that may be required outside of the Bayfront Area.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing federal, State and local regulations discussed above, such as compliance

with the C.3 provisions of the MRP which promote infiltration BMPs, and the minimal use of groundwater for water supply within the city. Future development would also be required to adhere to the General Plan goals and policies that have been prepared to minimize impacts related to water supply. Furthermore, the City, throughout the 2040 buildout horizon, would implement the General Plan program that requires monitoring pumping groundwater to reduce impacts to groundwater. Accordingly, the adoption of the proposed project would result in *less-than-significant* impacts with respect to groundwater supply and/or groundwater recharge.

Significance Without Mitigation: Less than significant.

HYDRO-3 Implementation of the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the amount of surface runoff in a manner which would result in substantial erosion or siltation on- or off-site.

Future development under the proposed project could substantially increase the amount of stormwater runoff or alter the existing drainage pattern of a project site or area in a manner that would result in substantial erosion or siltation if significant increases in impervious surfaces result in high storm water runoff and higher peak discharges to drainage channels, thus causing erosion or siltation in swales and streams. However, because the city is primarily built out, future development in Menlo Park would occur on sites that are currently developed; therefore, future development is not anticipated to alter the course of an existing stream or river. In addition, adherence to local regulations would ensure that in the course of development and redevelopment activities, watercourse and drainage patterns would not be altered in a manner that would significantly increase the rate or amount of erosion or siltation. The proposed project does not include the conversion of open space areas or creeks to impervious surfaces and therefore would not alter the course of a stream or river.

Within the City of Menlo Park, all new development and redevelopment projects would be required to implement construction phase BMPs as well as post-construction site design measures, source control measures, and stormwater treatment measures. Typical construction BMPs to minimize erosion and siltation include silt fences, fiber rolls, catch basin inlet protection, water trucks, street sweeping, and stabilization of truck entrance/exits. Also, each new development or redevelopment project that disturbs one or more acre of land would be required to prepare and submit a SWPPP to the SWRCB that describes the measures to control discharges from construction sites. In addition, the City's Municipal Code (Chapter 7.42, Storm Water Management Program) requires preparation of a Grading and Drainage Plan and incorporation of erosion and sediment controls during construction and will further reduce the potential for substantial erosion or siltation.

There also are required post-construction control measures to minimize the potential for erosion and siltation. A Storm Water Management Plan must be submitted to the City with site design measures to limit impervious surfaces, planting new interceptor trees, minimizing surface parking areas, and directing roof runoff into cisterns or rain barrels or onto vegetated areas. Regulated projects subject to water treatment measures would require LID features, such as harvesting and reuse, infiltration, evapotranspiration, bioretention, flow-through planters, tree well filters, and media filters. Systems must

be designed to treat stormwater runoff volume equal to 80 percent of the annual runoff from the site or a flow design basis of 0.2 inches per hour (in/hr) intensity. In addition, these regulated projects must include an operations and maintenance (O&M) plan and maintenance agreement for review and approval by the City. All projects would also be required to meet the requirements of the City's Municipal Code Chapter 7.42, *Stormwater Management Program.*

Changes in the timing, peak discharge, and volume of runoff from a site due to land development is known as "hydromodification." When a site is developed, some of the rainwater can no longer infiltrate into the soil so it flows off site at faster rates and greater volumes in a shorter period of time. As a result, erosive levels of flow can occur in creeks and channels downstream of the project. Projects in susceptible areas, as defined by the *HMP Applicability Map* for selected areas of San Mateo County, are subject to hydromodification management (HM) requirements.[49] Some areas of Menlo Park south of State Route 82 (El Camino Real) are within the area subject to HM requirements. The HM requirement states that all projects that create and/or replace one acre or more of impervious surface within the mapped susceptible areas must implement flow control measures so that post-project runoff rates and durations do not exceed estimated pre-project rates and durations.

The regulatory requirements for implementation of construction and post-construction BMPs, submittal of erosion control plans, SWPPPs, and compliance with the City of Menlo Park's Municipal Code (Chapter 7.42 – *Stormwater Management Plan*), adherence to the City's General Plan policies, and the City's ongoing implementation of the General Plan program described in HYDRO-1. Accordingly, the adoption of the proposed project would result in *less-than-significant* impacts with respect to potential impacts of erosion and siltation.

Significance Without Mitigation: Less than significant.

HYDRO-4 Implementation of the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

Changes in existing drainage patterns could increase the rate and/or amount of stormwater runoff, contributing to on-site or off-site flooding. As discussed previously, all new and redevelopment projects that create or replace 10,000 square feet or more of impervious space (or 5,000 square feet of impervious space for uncovered parking areas, restaurants, auto service facilities, and retail gasoline outlets) would be required to comply with the C.3 provisions of the MRP requirements and implement various post-construction BMPs and LID features that include site design, stormwater treatment, runoff retention, and peak flow management. In addition, the City of Menlo Park has adopted more stringent requirements that the C.3 provisions and specifies that post-development stormwater volumes must not exceed pre-development volumes for all projects adding net new impervious surface, regardless of whether it is a regulated project or not.

[49] San Mateo Countywide Water Pollution Prevention Program, 2015, *Appendix H, Areas Subject to Hydromodification Management Requirements*, http://www.flowstobay.org/newdevelopment#C3TechGuidance, accessed on November 18, 2015.

HYDROLOGY AND WATER QUALITY

Any increase in peak flow rates shall be handled on-site by retention to treat excess flow for the 10-year storm event. Any retained on-site stormwater would eventually be routed to existing storm drains. The Grading and Drainage Plans for each future project would be reviewed by the City to ensure that on-site drainage, LID features, and retention basins are adequate to prevent on-site or off-site flooding. As a result of implementation of the City's stringent stormwater measures, compliance with the C.3 provisions of the MRP, adherence to the General Plan policies, and the City's ongoing implementation of General Plan programs listed in HYDRO-1 and HYDRO-2, adoption of the proposed project would have a *less-than-significant* impact with respect to on-site or off-site flooding.

Significance Without Mitigation: Less than significant.

HYDRO-5 Implementation of the proposed project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

As discussed previously, an increase in impervious surfaces with new development and redevelopment could result in an increase in stormwater runoff which could exceed the capacity of existing or planned stormwater drainage systems. Under existing conditions, portions of the City's storm drainage systems are not capable of containing the runoff from 10-year storm events.[50]

However, the existing development potential in the city and the new development potential as part of ConnectMenlo involves parcels in the Bayfront Area that have already been developed and are covered with impervious surfaces. The City of Menlo Park has very stringent stormwater requirements that exceed the C.3 provisions of the MRP, i.e., post-development stormwater volumes must not exceed pre-development volumes for all projects adding net new impervious surface, regardless of whether the project is regulated. Thus, the capacity of the existing or planned storm drain system would not be exceeded. In addition, implementation of LID design guidelines and engineering review of drainage calculations and development plans by the Menlo Park Public Works Department would further ensure that there are no significant increases in peak flow rates or runoff volumes.

Development consistent with the Menlo Park General Plan would not require significant expansions of the existing stormwater drainage infrastructure, because the majority of sites would be either infill projects or would be located within existing storm drainage systems and because the City requires no net increase in stormwater flow rates. Additionally, the proposed project, as part of the Zoning update, would require future development in the Bayfront Area to implement landscaping features that provide on-site infiltration of stormwater runoff. For these reasons, the adoption of the proposed project would result in *less-than-significant* impacts associated with exceeding stormwater drainage system capacity from stormwater runoff from future development.

Significance Without Mitigation: Less than significant.

[50] BKF Engineers, 2003. *City-Wide Storm Drainage Study, City of Menlo Park.*

HYDRO-6 Implementation of the proposed project would not otherwise substantially degrade water quality.

Future development under the General Plan would substantially degrade water quality if construction and/or operational activities would introduce significant amounts of pollutants into stormwater. Construction activities could result in oil and grease contamination from spills or leaks of equipment and machinery; staging areas could contribute contaminants with the use of paints, solvents, or cleaning agents; and trash, debris, or pesticides are potential pollutants during construction. The principal sources of water pollutants from operation of future development projects within the City are oil and grease, metals, sediment, fertilizers, and chemicals from roadways, parking lots, rooftops, and landscaped areas.

Future development projects would be required to comply with existing regulations to minimize construction pollutants, including preparation of a SWPPP with source control BMPs and preparation of an erosion and sediment control plan. Developers are required to inspect the construction sites before and after storms and sample for potential pollutants in the stormwater runoff, as necessary. For new projects, the Menlo Park Public Works Department imposes conditions of approval related to grading and drainage during construction and also for permanent stormwater controls. As a result, the potential for pollutants to be introduced into stormwater and transported to receiving waters during construction would be minimized.

During the operation of future projects, the types of stormwater pollutants can vary depending on the type of land use, topography, amount of impervious cover, and intensity and duration of storm events. Most pollutants accumulate on rooftops or impervious surfaces and are then washed into the local on-site storm drain system or the City's regional storm drain system, where they are ultimately carried to the receiving water body. However, each new development or redevelopment project would be required to include source control, site design, LID, and stormwater treatment measures, such as retention and/or detention ponds, flow-through planters, permeable pavement, green roofs, roof runoff to landscaped areas, tree well filters, and media filters in compliance with C.3 provisions of the MRP. Implementation of these stormwater control measures would provide natural filtration of pollutants from stormwater runoff prior to entry into the storm drain system. As such, new development and redevelopment projects should improve water quality by the treatment of stormwater on-site and thus reduce stormwater pollution. Long-term operation and maintenance of BMPs is also required by the City. A stormwater treatment construction, operation, and maintenance agreement must be executed and recorded before the building permit can be issued and the agreement must run in perpetuity with the property.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing federal, State and local regulations discussed above, such stormwater BMPs to prevent the introduction of pollutants to stormwater and the implementation of stormwater treatment BMPs for all new development and redevelopment projects. Future development would also be required to adhere to the General Plan goals and policies that have been prepared to minimize impacts related to water supply. Accordingly, the adoption of the proposed project would result in *less-than-significant* impacts with respect to water quality.

Significance Without Mitigation: Less than significant.

HYDROLOGY AND WATER QUALITY

HYDRO-7 Implementation of the proposed project would place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

Future development under the General Plan would place new housing in the Bayfront Area, which is within a 100-year flood hazard area as shown on Figure 4.8-3. The City has adopted standards for construction in floodplain areas that comply with the National Flood Insurance Program (NFIP).[51] The purpose of these regulations is to promote public health and safety and minimize public and private losses due to flood conditions.

Development within the 100-year flood zone would require the placement of fill to elevate structures above the 100-year floodplain elevation. In order for the future development to be considered outside of the floodplain and no longer subject to special flood hazard requirements, the applicant would have to submit an application to FEMA for a Letter of Map Revision – Fill (LOMR-F) after the fill has been placed. After FEMA has revised the FIRM to show that the future development is now outside of the Special Flood Hazard Areas (SFHA), the City would no longer be required to apply the minimum NFIP floodplain management standards to structures built on the land and the mandatory flood insurance requirements would no longer apply. However, as part of its floodplain management strategy, to reduce possible loss of life and property in the event of a flood, the City would encourage compliance with as many of the standards as financially feasible.

Construction within SFHAs is governed by FEMA regulations and the City's Municipal Code Chapter 12, Section 12.42.51, Standards of Construction, which sets forth standards for development that would minimize flood hazard risks, including anchoring and flood-proofing; limitations on use for structures below the base flood elevation; use of materials and utility equipment resistant to flood damage; the requirement that electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities be designed and/or located to prevent water from entering or accumulating within the components during flood conditions; and the requirement that all new and replacement water supply and sanitary sewage systems be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from systems into floodwaters.

The existing Section IV, Safety (S) of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to flooding hazards. The following General Plan goals, policies, and programs would serve to minimize potential impacts associated with flooding hazards:

- Goal S-1: Assure a safe community.
  - Policy S-1.1: Location of Future Development. Permit development only in those areas where potential danger to the health, safety and welfare of the residents of the community can be adequately mitigated.

[51] City of Menlo Park, Municipal Code Chapter 12.42, *Flood Damage Prevention*.

- Policy S-1.5: New Habitable Structures. Require that all new habitable structures incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused hazards.
- Policy S-1.8: Safety Element Updates. Review and comprehensively revise the Safety Element whenever substantial new scientific data or evidence related to prevention of natural and human hazards becomes available, and coordinate with other General Plan elements and City emergency plans.
- Policy S-1.9: Community Safety Services and Facilities. In coordination with other agencies, maintain adequate and cost-effective levels of safety services, facilities and programs to address safety concerns in Menlo Park.
- Policy S-1.10: Safety Review of Development Projects. Continue to require hazard mitigation, crime prevention, fire prevention and adequate access for emergency vehicles in new development.
    - Program S-1.10: Safety Review of Development Projects. Continue to require hazard mitigation, crime prevention, fire prevention and adequate access for emergency vehicles in new development.
    - Program S-1.B: Maintain Up-to-Date Hazard Maps and Databases. Maintain up-to-date databases and maps of geologic and other hazards to identify areas prone to hazards for planning purposes on an on-going basis concurrently with the Housing Element Updates.
    - Program S-1.C Review Building Code Updates. Continue to review State Building Code updates and incorporate local amendments as appropriate to require that new construction be designed under the most current safety standards. The review of updates should also consider requirements for facilities housing sensitive populations, such as seniors and persons living with disabilities.
    - Program S-1.D: Require Early Investigation of Potential Hazard Conditions. Require that potential geologic, seismic, soils, and/or hydrologic problems confronting public or private development be thoroughly investigated at the earliest stages of the design process, and that these topics be comprehensively evaluated in the environmental review process by persons of competent technical expertise.
    - Program S-1.E: Modify the Zoning and Subdivision Ordinances as Needed to Address Hazard Mitigation. Modify the Zoning Ordinance as needed when new information on natural hazards becomes available and to provide for hazard reduction measures as a part of the design criteria for development review. Review the Subdivision Ordinance and modify as needed to include hazard reduction in the process of dividing land for development.

Compliance with these FEMA regulations and City Municipal Code requirements, and adherence to the General Plan policies would ensure that placement of housing within the 100-year floodplain would not impede or redirect flood flows. Furthermore, the City's ongoing implementation of the General Plan programs listed above would ensure impacts from flooding hazards would be minimized. Accordingly, the adoption of the proposed project would result in *less-than-significant* impacts with respect to flooding hazards.

Significance Without Mitigation: Less than significant.

HYDROLOGY AND WATER QUALITY

HYDRO-8 Implementation of the proposed project would not place within a 100-year flood hazard area structures which would impede or redirect flood flows.

Future development under the General Plan would substantially impede or redirect flood flows if it would allow placement of structures within the 100-year flood hazard area without compliance with federal and City building requirements. The existing General Plan includes the development potential for 1.8 million square feet of non-residential development in the city, and under the proposed project new development potential in the Bayfront Area proposes an additional 2.3 million square feet of non-residential development; some of the parcels for this future development will be within the 100-year floodplain, as shown on Figure 4.8-3.

As discussed in Impact HYDRO-7, there are stringent federal and City regulations regarding construction within SFHAs that requires the placement of fill to elevate structures or floodproofing of structures. In addition, projects deemed by the City to be a "substantial improvement" (i.e., increase in value of 50 percent or more as compared to the existing structure) must comply with current FEMA standards and the City's Flood Damage Prevention Ordinance. For additions to existing buildings, an elevation certificate must be submitted with the Planning or Building application to certify that residential structures are elevated to or above the base flood elevation (BFE) or that non-residential structures are floodproofed up to or above the BFE. New structures do not require an elevation certificate but site elevations must be clearly shown on the topographic survey. In addition, FEMA and the City require submittal of an on-site drainage plan with the submittal application to show how flood waters will be directed around the structure. This will ensure that the 100-year flood would have no adverse impact on neighboring properties. Also, compliance with the C.3 provisions of the MRP and the City requirement that stormwater runoff rates and volumes do not exceed pre-existing conditions would further reduce the potential for the impedance or redirection of flood flows onto adjacent properties.

Compliance with these federal and City Municipal Code requirements, and adherence to the General Plan policies listed under HYDRO-7 would ensure that placement of structures within the 100-year floodplain would not impede or redirect flood flows. Furthermore, the City's ongoing implementation of the General Plan programs listed under HYDRO-7 would ensure impacts from flooding hazards would be minimized. Accordingly, the adoption of the proposed project would result in *less-than-significant* impacts with respect to flooding hazards. .

Significance Without Mitigation: Less than significant.

HYDRO-9 Implementation of the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a levee or dam break or flooding as a result of sea level rise.

Dam Inundation

Future development under the General Plan could result in a significant risk of loss, injury, or death if any dams were to catastrophically fail without warning, releasing the water held behind the dams and

resulting in flooding in parts of the Menlo Park. As shown on Figure 4.8-5, dams that pose an inundation threat to the City include Searsville Reservoir and Felt Lake. A major seismic event, if sufficiently intense, would be the most likely cause of dam failure. Dam inundation zones are based on the highly unlikely event of a total catastrophic dam failure occurring in a very short period of time.

The dam inundation zone for the Searsville Reservoir overestimates the potential flooding impact. The Searsville Reservoir has filled with sediment, reducing its capacity to less than 10 percent of the original water capacity.[52] The dam inundation area for Searsville Reservoir shown in Figure 4.8-5 is based on an earlier and greater reservoir capacity, thus overestimating the potential inundation zone. In addition, Stanford University, the owner and operator of Searsville Reservoir, is considering two options for future use: 1) creating an opening at the base of the dam to allow creek flow and provide fish passage to upstream creeks and 2) allowing the reservoir to fill completely with sediment, creating new wetlands and a stream channel through the accumulated sediment.[53] Both options would result in either a much smaller or possibly an eliminated dam inundation zone.

The probability of dam failure that would affect the City is extremely low and there is no historic record of dam failure in San Mateo County or the City of Menlo Park.[54] Also, all of the proposed future development in the Bayfront Area is not in either dam inundation zones. Dams in California are continually monitored by various governmental agencies, including the Division of Safety of Dams (DSOD), which conducts inspections twice a year and reviews all aspects of dam safety. The City of Menlo Park also maintains an Emergency Operation Plan, which includes the potential for dam failure, and has an emergency notification system (Blackboard Connect) that notifies residents for emergencies such as natural disasters, flooding, safety alerts, water main breaks, and road closures.

There are levees present along the north side of Bayshore Expressway and also surrounding the three sides of the Bayfront Area located north of the Bayshore Expressway. Although most of the levees in the South Bay do not meet FEMA or USACE flood protection standards, the absence of a history of significant tidal flooding indicates that these levees do provide flood protection.[55] As part of the South Bay Salt Pond Restoration Project – Ravenswood Ponds, proposed alternative is to improve levees along the All-American Canal, although the levees will not be FEMA-certified for protection from the 100-year storm.[56]

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section IV, Safety (S), of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies and programs that would require local planning and development decisions to

[52] Stanford University, 2015, *Searsville Dam FAQ,* https://news.stanford.edu/searsville/faqs.html, accessed on November 17, 2015.

[53] Stanford University, 2015, Stanford Report, May 1, 2015, *Stanford Identifies its Preferred Approach for the Future of Searsville Dam and Reservoir,* http://news.stanford.edu/news/2015/may/searsville-preferred-plan-050115.html, accessed on November 17, 2015.

[54] Association of Bay Area Governments (ABAG), 2011. *Taming Natural Disasters. Multi-Jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area.*

[55] US Fish and Wildlife Service (FWS), 2012. *Don Edwards San Francisco Bay National Wildlife Refuge Comprehensive Conservation Plan of 2012.*

[56] US Fish and Wildlife Service and California Coastal Conservancy, 2016. *South Bay Salt Pond Restoration Project, Final Environmental Impact Statement/Report, Phase 2.* Dated April 2016.

consider impacts to the environment related to dam inundation. The following General Plan goals, policies and programs would serve to minimize potential impacts associated with dam inundation:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal S-1: Assure a safe community.
  - Policy S-1.23: Potential Dam Inundation. Consider potential risks from dam inundation in the development approval process.
  - Policy S-1.24: Dam Safety. Support programs by the California Division of Safety of Dams to retrofit or replace dams or to increase earthquake resistance of dams and mitigate impacts of dam failures. State efforts to inspect dams and evaluate dam safety requirements shall also be supported.
    - Program S-1.B: Maintain Up-to-Date Hazard Maps and Databases. Maintain up-to-date databases and maps of geologic and other hazards to identify areas prone to hazards for planning purposes on an on-going basis concurrently with the Housing Element Updates
    - Program S-1.L: Evaluate New Community Facilities Proposed in Dam Inundation Zones. Require that new community facilities located within dam inundation zones evaluate the potential for flooding and the impact on evacuation during the development approval process.

The proposed project would include 1.8 million square feet of non-residential development and a limited number of residential units (see Figure 4.8-5) within the City that could potentially occur within the dam inundation zones; however, no new development potential in the Bayfront Area would be within either of the dam inundation zones. Given the very low probability of dam failure, regulatory oversight of DSOD, reduction in the capacity of Searsville Reservoir, and General Plan policies to address the impact of flooding from dam inundation during the development process, implementation of future development under the General Plan would not expose people or structures to a significant risk of loss, injury, or death in the case of dam failure and impacts are *less than significant.* There are a minimal number of levees within the City of Menlo Park and the existing levees protect the areas south and north of Bayshore Expressway from flooding; therefore, a *less than significan*t impact would result.

Significance Without Mitigation: Less than significant.

Sea Level Rise

Sea level rise is a future concern that could occur well beyond the buildout horizon of the Menlo Park General Plan; therefore, this analysis is provided as a conservative approach and to assess potential impacts. The concern is the impact of sea level rise, especially in conjunction with future storm events and coastal flooding, on future development in Menlo Park, including the new development potential in the Bayfront Area.

Menlo Park is partnering with San Mateo County in conducting a sea level rise vulnerability assessment with a broad coalition of civic leaders, elected officials, and concerned citizens to better understand and prepare for the potential impacts of sea level rise related to flooding and inundation, storm and tide surge, salt water intrusion, and shoreline erosion.[57] As shown on Figure 4.8-4, the Bayfront Area is susceptible to sea level rise when coupled with a 100-year storm event. The individual and collective responses of Bay Area counties and municipalities to this flooding potential are in the early stages of development. However, the City of Menlo Park and San Mateo County are in the process of implementing policies and programs to adapt to the changing climate and to utilize estimates of sea level rise and incorporate data into mapping of areas subject to future inundation.

The goal of the sea level rise assessment is to identify vulnerable assets on the Bay and coast side of the San Mateo County peninsula, determine types of impacts, issue initial recommendations on adaptation measures, and improve flooding and sea level rise mapping. Results of the assessment will include detailed inundation maps and recommended adaptation measures. As a member of the SFCJPA, the City of Menlo Park is also participating in the SAFER Bay Project (Strategy to Advance Flood protection, Ecosystems, and Recreation), which is intended to protect nearly 5,000 properties from tidal flooding, restore more than 1,000 acres of historic marshlands, and address the impact of sea level rise.

Proposed development within the Bayfront Area is susceptible to impacts from sea level rise, as shown on Figure 4.8-4. Much of this area is also within the 100-year flood hazard zone. All future development in this area that is within 100 feet of the Bay shoreline would be subject to the BCDC's jurisdiction and would be required to prepare a sea level rise risk assessment. The risk assessment must identify all types of potential flooding, degrees of uncertainty, consequences of defense failures, and risks to existing habitat from proposed flood protection devices. All projects must be designed to be resilient to a mid-century sea level rise projection. Potential adaptation strategies could include the following:

- Managed retreat, with dense development located at greater distances from the shoreline to avoid greater risks.
- Placement of fill to raise the existing grade of proposed development to accommodate the base flood elevation of the 100-year floodplain and also account for sea level rise.
- Construct levees and seawalls according the FEMA accreditation standards that account for sea level rise.
- Floodproofing non-residential buildings to minimize flood impacts and account for sea level rise.

Adaptation strategies are in the process of being developed by the City and San Mateo County, as discussed above. Therefore, specific design measures for sea level rise adaptation within the Bayfront Area have not yet been developed, although compliance with FEMA and City floodplain regulations will elevate structures to or above the base flood elevation (BFE).

The proposed Land Use (LU) Element, and the existing Section IV, Safety (S), of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies and programs that would

[57] San Mateo County, 2015. *Sea Level Rise Vulnerability Assessment.* Accessed at http://seachangesmc.com/current-efforts/vulnerability-assessment/ on May 6, 2016.

be adopted as part of the proposed project. These would require local planning and development decisions to consider impacts to the environment related to sea level rise. The following General Plan goals, policies and programs would serve to continue to minimize potential impacts associated with sea level rise:

- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
  - Policy LU-7.7: Hazards. Avoid development in areas with seismic, flood, fire, and other hazards to life or property when potential impacts cannot be mitigated.
    - Program LU-7.F: Adaptation Plan. Work with emergency service providers to develop an adaptation plan, including funding mechanisms, to help prepare the community for potential adverse impacts related to climate change, such as sea level rise, extreme weather events, wildfire, and threats to ecosystem and species health.
    - Program LU-7.G: SAFER Bay Process. Coordinate with the SAFER Bay process to ensure that the Menlo Park community's objectives for sea level rise/flood protection, ecosystem enhancement, and recreational trails are adequately taken into consideration. Prior to the conclusion of the SAFER process, consider how new development in areas projected to be vulnerable to tidal flooding could enhance tidal flood protection.
    - Program LU-7.H: Sea Level Rise. Establish requirements based on State Sea Level Rise Policy Guidance for development projects of a certain minimum scale potentially affected by sea level rise to ensure protection of occupants and property from flooding and other potential effects. Prior to establishment of a suite of program measures, require that new development construct buildings with a base flood elevation that takes into account sea level rise.
- Goal S-1: Assure a safe community.
  - Policy S-1.28: Sea Level Rise. Consider sea level rise in siting new facilities or residences within potentially affected areas.

Additionally, as part of the Zoning Code update, the project includes hazard mitigation and sea level rise resiliency for development in the Bayfront Area. The first floor elevation of all new buildings shall be twenty four (24) inches above the Federal Emergency Management Agency base flood elevation (BFE) to account for sea level rise. Where no BFE exists, the first floor (bottom of floor beams) elevation shall be 24 inches above the existing grade. The building design and protective measures shall not create adverse impacts on adjacent sites as determined by the City. Additionally, prior to building permit issuance, all new buildings shall pay any required fee or proportionate fair share for the funding of sea level rise projects, if applicable. Thus, because future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to sea level rise, and because the City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the preparation of sea level rise policies or standards that reduce potential adverse environmental effects, the adoption of the proposed project would result in *less-than-significant* impacts with respect to the placement of housing or structures within areas susceptible to sea level rise.

Significance Without Mitigation: Less than significant.

HYDRO-10 Implementation of the proposed project would not expose people or structures to a significant risk of inundation by seiche, tsunami, or mudflow.

Implementation of the proposed project would result in flooding impacts by seiche, tsunami, or mudflow if it would allow development in areas susceptible to these events without proper precautions. According to the Cal OES tsunami inundation map shown on Figure 4.8-6, only the most northern portion of Menlo Park is located within a tsunami inundation zone.[58] This is an area of undisturbed marshlands and sloughs and would not be subject to future development under the existing General Plan or the ConnectMenlo project. In addition, San Mateo County and the City of Menlo Park maintain Emergency Alerting Systems (EAS) and have prepared Hazards Mitigation Plans to address potential natural hazards, including tsunamis. These measures and plans will aid in evacuation efforts and emergency response in the event that a tsunami occurs, although there would be no residents or structures within the tsunami inundation zone.

Seiches occur as oscillation waves in closed or partially closed bodies of water, similar to the back-and-forth sloshing of a bathtub. Bodies of water such as bays, harbors, reservoirs, ponds, and pools can experience seiches in the event of a strong earthquake. A seiche could theoretically occur in the Bay but the flooding impact would be no greater than that of a tsunami inundation zone, which would impact only the northern area of Menlo Park consisting of sloughs and marshlands. In addition, the largest seiche wave ever measured in San Francisco Bay, following the 1906 earthquake, was four inches high.[59] Therefore, it is unlikely that a seiche in San Francisco Bay would adversely impact residents in the City of Menlo Park. Although a seiche could occur in Searsville Reservoir or Felt Lake, the flooding impact would be much less than that of the dam inundation zones and as discussed in Impact HYDRO-9, these impacts would be less than significant.

According to the ABAG debris flow source maps, there are no areas within the City or SOI that would result in mud or debris flows.[60] The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section IV, Safety (S), of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies and programs that would require local planning and development decisions to consider impacts to the environment related to seiche, tsunami, or mudflow. The following General Plan goals, policies and a program would serve to minimize potential impacts associated with seiche, tsunami, or mudflow:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.

[58] California Office of Emergency Services, 2009. *Tsunami Inundation Map for Emergency Planning, State of California – County of San Mateo, Redwood Point Quadrangle/ Palo Alto Quadrangle*

[59] Alameda County Community Development Agency, 2014,*Safety Element, Alameda County*.

[60] Association of Bay Area Governments, 2015, *Rainfall-Induced Landslides: Debris Flow Source Areas*, http://gis.abag.ca.gov/website/Hazards/?hlyr=debrisFlowSource, accessed on November 18, 2015.

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

- Goal S-1: Assure a safe community.
  - Policy S-1.21: Flood and Tsunami Hazard Planning and Mapping. Consider the threat of flooding and tsunamis in planning and management practices to minimize risk to life, environment and property and maintain up-to-date tsunami hazard zones maps and flood maps as new information is provided by FEMA and other regional agencies. Modify land use plans in areas where tsunamis and flooding are hazards, and permit only uses that will sustain acceptable levels of damage and not endanger human lives in the event of inundation.
    - Program S-1.B: Maintain Up-to-Date Hazard Maps and Databases. Maintain up-to-date databases and maps of geologic and other hazards to identify areas prone to hazards for planning purposes on an on-going basis concurrently with the Housing Element Updates

Thus, because future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies that have been prepared to minimize impacts related to seiche, tsunami, or mudflow, and because the City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the ongoing maintenance or hazards maps and databases, the adoption of the proposed project would result in *less-than-significant* impacts with respect to the natural hazards, the potential for flooding from tsunamis, seiches, and mud flows on future development in Menlo Park.

Significance Without Mitigation: Less than significant.

4.8.4 CUMULATIVE IMPACTS

HYDRO-11	**Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to hydrology and water quality.**

The geographic context used for the cumulative assessment of water quality and hydrology impacts is the San Francisquito Creek Watershed, which encompasses the entire study area. Cumulative impacts can occur when impacts that are significant or less than significant from a proposed project combine with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area.

As discussed previously, new development and redevelopment under the proposed project would require conformance with State and local policies that would reduce hydrology and water quality impacts to *less-than-significant* levels. When applicable, any additional new development within the City would be subject, on a project-by-project basis, to independent CEQA review as well as policies in the Menlo Park General Plan, design guidelines, zoning codes, and other applicable City requirements that reduce impacts related to hydrology and water quality. More specifically, potential changes related to stormwater quality, stormwater flows, drainage, impervious surfaces, and flooding would be minimized via the

implementation of stormwater control measures, retention, infiltration, LID measures, and review by the City's Public Works Department to integrate measures to reduce potential flooding impacts.

All cumulative projects would be subject to similar permit requirements and would be required to comply with City ordinances and General Plan policies, as well as numerous water quality regulations that control construction related and operational discharge of pollutants in stormwater. The water quality regulations implemented by the San Francisco Bay RWQCB take a basin-wide approach and consider water quality impairment in a regional context. For example, the NPDES Construction Permit ties receiving water limitations and basin plan objectives to terms and conditions of the permit, and the MS4 Permit works with all municipalities to manage stormwater systems to be collectively protective of water quality. For these reasons, impacts from future development under the General Plan on hydrology and water quality are not cumulatively considerable and the cumulative impact would be *less than significant.*

Significance Without Mitigation: Less than significant.

HYDROLOGY AND WATER QUALITY

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4.9 LAND USE AND PLANNING

This chapter describes the existing land use character in the City of Menlo Park and evaluates the potential environmental impacts from future development that could occur by adopting and implementing the proposed project described in Chapter 3, Project Description, of this Draft EIR.

4.9.1 ENVIRONMENTAL SETTING

4.9.1.1 REGULATORY FRAMEWORK

This section describes existing regional and local regulations and plans that pertain to land use in Menlo Park. There are no federal regulations applicable to the proposed project in this chapter.

State Regulations

Cortese-Knox Act

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000[1] establishes a Local Agency Formation Commission (LAFCo) in each county in California, and authorizes these commissions to review, approve, or deny proposals for boundary changes and incorporations for cities, counties, and special districts. The LAFCo establishes a "sphere of influence" (SOI) for cities within their jurisdiction that describes the city's probable future physical boundaries and service area. The Menlo Park SOI is regulated by the San Mateo County LAFCo. The Menlo Park SOI is shown on Figure 3-4 in Chapter 3, Project Description, of this Draft EIR.

Senate Bill 375

In order to aid in reaching the goals set by Assembly Bill (AB) 32, Senate Bill (SB) 375 directs the California Air Resources Board (CARB) to set regional targets for reducing greenhouse gas (GHG) emissions from cars and light trucks. Using the template provided by the State's Regional Blueprint Planning Program, to accomplish this goal, the bill works to align transportation and land use planning in order to reduce vehicle miles traveled (VMT) through modified land use patterns. There are five basic parts to the bill which contribute to this goal: 1) creation of regional targets for GHG emissions reduction tied to land use; 2) a requirement that regional planning agencies create a Sustainable Communities Strategy (SCS) to meet those targets, or an Alternative Planning Strategy (APS) if the strategies in the SCS would not reach the target set by CARB, even if that plan is in conflict with local plans; 3) a requirement that regional transportation funding decisions be consistent with the SCS; 4) a requirement that the Regional Housing Needs Allocation numbers conform to the SCS; and 5) new California Environmental Quality Act (CEQA) exemptions and streamlining for projects that conform to the SCS.

[1] California Government Code, Section 56000-56001.

Regional Regulations

Association of Bay Area Governments Projections 2013

The Association of Bay Area Governments (ABAG) is the official comprehensive planning agency for the San Francisco Bay region, which is composed of the nine counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma, and contains 101 jurisdictions. ABAG is responsible for taking the overall regional housing needs allocation provided by the State and preparing a formula for allocating that housing need by income level across its jurisdiction.[2] Project population as it relates to ABAG's projections are discussed in Chapter 4.11, Population and Housing, of this Draft EIR. ABAG produces growth forecasts on four-year cycles so that other regional agencies, including the Metropolitan Transportation Commission (MTC) and the Bay Area Air Quality Management District (BAAQMD), can use the forecast to make project funding and regulatory decisions.

The ABAG projections are the basis for the regional Ozone Attainment Plan and Regional Transportation Plan (RTP), each of which are discussed in Chapters 4.2, Air Quality and 4.13, Transportation and Circulation, of this Draft EIR. In this way, ABAG projections have practical consequences that shape growth and environmental quality. The general plans, zoning regulations and growth management programs of local jurisdictions inform the ABAG projections. The ABAG projections are also developed to reflect the impact of "smart growth" policies and incentives that could be used to shift development patterns from historical trends toward a better jobs-housing balance, increased preservation of open space, and greater development and redevelopment in urban core and transit-accessible areas throughout the ABAG region.

Plan Bay Area, Strategy for a Sustainable Region

The MTC and ABAG's *Plan Bay Area* is the Bay Area's RTP/ Sustainable Community Strategy (SCS). The Final Plan Bay Area was adopted on July 18, 2013.[3] *Plan Bay Area* was prepared by MTC in partnership with the Association of Bay Area Governments (ABAG), the Bay Area Air Quality Management District (BAAQMD), and the Bay Conservation and Development Commission (BCDC). Each of the agencies involved in the SCS has a different role in regional governance. ABAG primarily deals with regional land use, housing, environmental quality, and economic development, while MTC is tasked with regional transportation planning, coordinating, and financing. BAAQMD is responsible for regional air pollution regulation. BCDC's focus is to preserve, enhance, and ensure responsible use of San Francisco Bay. The update to *Plan Bay Area*, *Plan Bay Area 2040*, is currently underway. The SCS sets a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by California Air Resources Board (CARB). Implementation of *Plan Bay Area* would achieve a 16 percent per capita reduction of GHG emissions by 2035 and a 10 percent per capita reduction by 2020 from 2005 conditions.[4]

[2] ABAG Finance Authority, Affordable Housing Financing. http://www.abag.ca.gov/services/finance/fan/housing.htm, accessed on December 29, 2015.

[3] It should be noted that the Bay Area Citizens filed a lawsuit on MTC's and ABAG's adoption of Plan Bay Area.

[4] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2013, Final Plan Bay Area, Strategy for a Sustainable Region, page 96.

In 2008, the MTC and ABAG initiated a regional effort (FOCUS) to link local planned development with regional land use and transportation planning objectives. Through this initiative, local governments identified Priority Development Areas (PDAs). The PDAs form the implementing framework for *Plan Bay Area.* The PDAs are areas along transportation corridors which are served by public transit that allow opportunities for development of transit-oriented, infill development within existing communities that are expected to host the majority of future development. Overall, well over two-thirds of all regional growth by 2040 is allocated within PDAs. The PDAs throughout the Bay area are expected to accommodate 80 percent (or over 525,570 units) of new housing and 66 percent (or 744,230) of new jobs.[5] The El Camino Real and Downtown PDA in Menlo Park is located along both sides of El Camino Real Corridor from the City's border with Atherton to the San Mateo-Santa Clara County line.

While *Plan Bay Area* distributes future growth across the Bay Area region in order to meet its GHG emissions reduction, housing, and other performance targets, it is not intended to override local land use control. Cities and counties, not MTC or ABAG, are ultimately responsible for the manner in which their local communities continue to be built out in the future. For this reason, cities and counties are not required to revise their land use policies and regulations, including [their] general plan, to be consistent with the regional transportation plan or an alternative planning strategy. Rather than increase regional land use control, *Plan Bay Area* facilitates implementation by expanding incentives and opportunities available to local jurisdictions to support growth in PDAs. In addition to funding transportation and planning projects in PDAs, *Plan Bay Area* sets the stage for cities and counties to increase the efficiency of the development process, if they choose, for projects consistent with *Plan Bay Area* and other state legislation.[6] To read more about *Plan Bay Area*: Jobs-Housing Connection Scenario, go to www.OneBayArea.Org.

San Francisco Bay Conservation and Development Commission

In 1969, the McAteer-Petris Act designated the San Francisco Bay Conservation and Development Commission (BCDC) as the agency responsible for the protection of the San Francisco Bay and its natural resources. BCDC fulfills this mission through the implementation of the *San Francisco Bay Plan* (Bay Plan), an enforceable plan that guides the future protection and use of San Francisco Bay and its shoreline. The Bay Plan includes a range of policies on public access, water quality, fill, and project design. The Bay Plan also designates shoreline areas that should be reserved for water-related purposes like sports, industry, and public recreation, airports, and wildlife areas. Impacts related to biological resources and water quality are discussed in Chapter 4.3, Biological Resources, and Chapter 4.8, Hydrology and Water Quality, of this Draft EIR, respectively.

San Francisco Bay Basin Water Quality Control Plan

Watershed management is a strategy for protecting water quality in all water bodies by looking at all components that make up a watershed area, including land uses and their effects on drainage. The San

[5] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2013, Final Plan Bay Area, Strategy for a Sustainable Region.

[6] *Plan Bay Area* website, Frequently Asked Questions page: Does *Plan Bay Area* override local land use control?, http://planbayarea.org/about/faq.html, accessed on January 4, 2016.

Francisco Bay Regional Water Quality Control Board (RWQCB) adopted a *Water Quality Control Plan* for the San Francisco Bay Basin (the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan, which includes wetlands in and near the study area.[7] The most recent amendments were incorporated into the Basin Plan as of June 2013. The Basin Plan is discussed in more detail in Chapter 4.8, Hydrology and Water Quality, of this Draft EIR.

Stanford University Habitat Conservation Plan

Stanford University in partnership with U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA Fisheries) developed a Habitat Conservation Plan (HCP) in order to maintain populations of species covered under the Environmental Species Act (ESA) inhabiting land owned by Stanford University. The HCP sets forth goals and objectives that aim to enhance and protect listed species' habitat, including riparian vegetation, creeks, grasslands, and seasonal wetlands. The HCP and Final Environmental Impact Statement was published in November 2012 and the HCP was updated in March 2013.[8] The conservation goals and objectives set forth by the HCP apply to all land owned by Stanford University which totals 8,180 acres in four cities: Palo Alto, Menlo Park, Woodside, and Portola Valley. Portions of Menlo Park and unincorporated San Mateo County are located within the Stanford University HCP area.[9]

Airport Land Use Comprehensive Plans

There are no heliports within the study area; however, Stanford University Hospital does operate one heliport, which is located approximately 0.4-mile to the southeast of the nearest border with Menlo Park.

The City of Menlo Park does not host any public or private airports or airstrips. Menlo Park is located approximately 6 miles to the northwest of Moffet Federal Airfield, 14 miles to the northwest of the San Jose International Airport, 15 miles to the southeast of San Francisco International Airport, and 18 miles to the south of Oakland International Airport. The study area is also located in close proximity to two smaller airports; with portions of Menlo Park as near as 2 miles from the Palo Alto Airport and other areas of the study area as near as approximately 4 miles from the San Carlos Airport. Additional small airports in the vicinity include the Hayward Executive Airport, at 11 miles away, and the Half Moon Bay airport, at 16 miles away.

The Comprehensive Land Use Plan (CLUP) for the Palo Alto Airport was adopted by the Santa Clara County Airport Land Use Commission in 2008. The CLUP is intended to safeguard the general welfare of the inhabitants within the vicinity of Palo Alto Airport and ensure that new surrounding uses do not affect continued safe airport operation. Specifically, the CLUP seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to

[7] California Regional Water Quality Control Board San Francisco Bay Region (Region 2), 2007, San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan).

[8] Stanford University Habitat Conservation Plan, http://hcp.stanford.edu/about.html, accessed on December 22, 2015.

[9] Stanford University Habitat Conservation Plan, http://hcp.stanford.edu/documents.html, accessed on December 29, 2015.

aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace.[10] Menlo Park does not fall within the Airport Influence Area of this facility, and none of the noise or safety zones for the Palo Alto airport fall within the boundaries of Menlo Park; however, extreme eastern portions of Menlo Park in the vicinity of O'Connor Street and Byers Avenue fall within the 354-foot FAR Part 77 Surfaces for the Palo Alto Airport.[11]

Local Regulations

This section describes existing land use plans, policies, and regulations that pertain to land use in Menlo Park. However this is not an exhaustive list and land use plans, policies, and regulations that concentrate on specific environmental topics, other than land use and planning, are described in the relevant topical chapters of this Draft EIR.

Menlo Park General Plan

The City of Menlo Park's General Plan is a legal document, required by state law, which serves as the City of Menlo Park's "constitution" for development and the use of its land. It is a comprehensive, long-range document, detailing proposals for the physical development of the city, and of any land outside its boundaries but within its designated SOI. Under state law, a city's general plan is the primary planning document and all other city plans and policies must be consistent with the adopted general plan.

The general plan is required to address the specified provisions of each of the seven mandated elements, including land use, circulation, housing, conservation, open space, noise and safety, to the extent that the provisions are locally relevant. The current Menlo Park General Plan is a dynamic document consisting of elements that establish long-term goals and policies to guide daily decision-making for the development and conservation in Menlo Park through year 2023. The elements of the current General Plan include the following:

- Land Use and Circulation (adopted December 1, 1994 with amendments though May 21, 2013)
- Housing (2015 - 2023) (adopted April 1, 2014)
- Open Space and Conservation, and Noise and Safety (adopted May 21, 2013)

All development in the city must conform to the land use designations outlined in the Menlo Park General Plan. Goals, policies and programs contained in the Land Use Element of the General Plan provide guidance on how land use designations should be developed to contribute to the overall character of Menlo Park.

Menlo Park Municipal Code

Besides the General Plan, the City of Menlo Park Municipal Code is the primary tool that regulates physical development in Menlo Park. The Municipal Code contains all ordinances for the city, and

[10] Santa Clara County Airport Land Use Commission, 2008. *Comprehensive Land Use Plan Santa Clara County,* page 1-1, November 19.

[11] Santa Clara County Airport Land Use Commission, 2008. *Comprehensive Land Use Plan Santa Clara County,* Figures 4, 5, 6, 7, and 8, November 19.

identifies land use categories, site development regulations, and other general provisions that ensure consistency between the General Plan and proposed development projects.

The Municipal Code is organized by title, chapter, and section. Title 2, Administration and Personnel, Title 15, Subdivisions, and Title 16, Zoning, include regulations that are most relevant to land use planning in Menlo Park and are summarized below. While other parts of the Municipal Code address specific technical issues that also affect land use and development, these are summarized where relevant in other chapters of this Draft EIR. For example, Chapter 16.54, which deals with historic preservation, is described in Chapter 4.4, Cultural Resources, and Chapter 8.06, contains the noise standards that are discussed in Chapter 4.10, Noise.

Title 2, Administration and Personnel

Chapter 2.12, Planning Commission, establishes and creates the City planning commission under the authority in Section 65300 et seq. of the State Government Code. Under Section 2.12.040, the planning commission and all the members thereof are granted powers and duties provided by the Conservation and Planning Act. The Planning Commission acts as the primary advisory body to the City Council on land use matters, including consideration of rezoning proposals, conditional development permits, general and specific plans, and issues recommendations regarding such plans and certain types of development proposals and land use activities.

Title15, Subdivisions

Chapters 15.04 through 15.40 include subdivision regulations to ensure the orderly development of subdivisions and condominiums. The planning commission is designated as the advisory agency and is granted all the powers and duties provided by the Subdivision Map Act (Section 15.04.030). Chapter 15.16 specifically establishes the design and improvement standards, which outline provisions for the required amount of parkland dedication for new subdivisions. The formula used to calculate the required acreage of land to be dedicated or the fee due in lieu of the required land dedication is based on 5 acres per 1,000 persons (Section 15.16.020).

Title 16, Zoning

The Menlo Park Zoning Ordinance implements the land use designations in the General Plan by establishing comprehensive zoning rules for the city. Chapter 16.02, General Provisions, states that the purpose of the Zoning Ordinance is to preserve and extend the charm and beauty inherent to the residential character of the city; to regulate and limit the density of population; encourage the most appropriate use of land; to conserve land and stabilize the value of property; to provide adequate open space for light, air and fire protection; to lessen traffic congestion; to facilitate the provision of community facilities; to encourage tree and shrub planting; to encourage building construction of pleasing design; to provide the economic and social advantages of a planned community.

Zoning Districts and Map

Chapter 16.08, Districts Established – General Regulations, includes the specific zoning regulations and development standards for each zoning district. Chapter 16.90, Map – Boundaries, includes the zoning map, which establishes and delineates various districts in Menlo Park.

A targeted update to the Zoning designations within the Bayfront Area is an integral component of the proposed ConnectMenlo project. Zoning districts in the Bayfront Area are currently viewed as out of date, since they do not adequately respond to the types of uses that are in demand and being considered for the Bayfront Area.

El Camino Real/Downtown Specific Plan

Specific plans are adopted for the systematic implementation of the general plan for a defined smaller portion of a community's planning area. A specific plan must specify in detail the development standards and requirements relating to density, lot size and shape, siting of buildings, setbacks, circulation, drainage, landscaping, architecture, water, sewer, public facilities, grading, open space, financing and any other element needed for proper development of the property.

Chapter 16.58, SP-ECR/D El Camino Real/Downtown Specific Plan, states the purpose and intent of the ECR/D Specific Plan district is to preserve and enhance community life, character and vitality though public space improvements, mixed use infill projects sensitive to the small-town character of Menlo Park and improved connectivity. The areas subject to the land use designations of the ECR/D Specific Plan comprise approximately 3.5 percent of Menlo Park's developable area. The ECR/D Specific Plan was adopted in 2012 and applies to Downtown Menlo Park and areas along El Camino Real. The ECR/D Specific Plan encourages improvements to the Downtown's streetscape and parking facilities and allows new mixed-use development along El Camino Real. The ECR/D Specific Plan contains a number of tailored land use designations, which allow a mix of commercial, including retail, office, hotel, as well as residential, depending on the location within the ECR/D Specific Plan area. No new development potential is proposed within the ECR/D Specific Plan area under the ConnectMenlo project.

Architectural Control

Chapter 16.68, Buildings, includes Section 16.68.020, Architectural Control, which sets forth the standards requiring architectural control review for development in Menlo Park. Under Section 16.68.020, the planning commission, architectural committee, or community development director will review architectural drawings, including elevations of the proposed building or structure, proposed landscaping or other treatment of the grounds around such building or structure, and proposed design of, and access to, required parking facilities for all building permit applications, with the exception of single-family dwellings, duplexes, and accessory buildings. Applications are only approved where specified findings are made.

Comprehensive Bicycle Development Plan

The 2005 Comprehensive Bicycle Development Plan (Bike Plan) provides a broad vision, strategies, and actions for the improvement of bicycling in the City. The Bike Plan recommends the enhancement of the

existing network and several long-term projects. The Bike Plan also outlines new educational and promotional programs aimed at bicyclists and motorists. These programs include bicycle parking improvements, multi-modal (transit) support facilities, bicycle safety and education programs for cyclists and motorists, safe routes to schools programs, community and employer outreach programs, continued development of bikeway network maps, and bike-to-work and school day events, among others.

Sidewalk Master Plan

The 2009 *City of Menlo Park Sidewalk Master Plan* (Sidewalk Plan)[12] identifies segments with no standard walkway or discontinuous walkway facilities; identifies opportunities and constraints for future walkway facilities; recommends changes and additions to existing programs, policies, and municipal codes; and develops prioritization criteria and procedures for installing standard sidewalks.[13] The Sidewalk Plan identified priority streets as those roadways that provide network connectivity and access to important pedestrian destinations, such as schools, parks, and downtown. The priority streets make up over a third of the roadways under Menlo Park's jurisdiction. As with bicycle improvements, the prioritization and budgeting of individual sidewalk improvements takes place through City Council approval of the five-year CIP, which incorporates public comment.

Menlo Park Climate Action Plan

The City's Climate Action Plan (CAP) was first adopted in May 2009[14] and identifies local emissions reduction strategies designed to help meet AB 32 targets. The CAP recommends various community and municipal strategies for near-term and mid-term considerations. The emissions reduction strategies are generally focused on community actions, since more than 99 percent of the emissions are from community sources. In June 2014, the City Council approved an updated 5-year CAP Strategy, which accounted for the current staffing levels and budget resources available post-Great Recession. The most recent status update to the City's CAP Strategy was conducted in October 2015. The 2015 Update includes updated emissions inventories through year 2013. The 2015 CAP Update and Status Report reiterates that based on the latest inventory and trend, the City is not likely to meet State AB 32 goals to reduce emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050, unless significant local policies and programs are implemented to achieve this statewide goal. Consequently, the 2015 Update recommends additional near-term strategies to achieve the City's goals. New policies and programs would require City Council approval prior to implementation.[15] The CAP is discussed more in Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR.

San Mateo County General Plan

The San Mateo County General Plan provides background information and guides growth in the unincorporated areas of San Mateo County. There are three unincorporated areas within the Menlo Park SOI: 1) the area near Ringwood Avenue between Bay Road and Middlefield Avenue referred to as Menlo

[12] City of Menlo Park, 2009. *Sidewalk Master Plan.*
[13] City of Menlo Park, 2009. *Sidewalk Master Plan.*
[14] City of Menlo Park, 2009. *Climate Action Plan*.
[15] City of Menlo Park, 2015. Climate Action Plan Update and Status Report. October.

Oaks, 2) the Alameda de Las Pulgas District, which extends along Alpine Road, referred to as West Menlo Park and 3) the Stanford Linear Accelerator. Land use activities in these unincorporated areas, especially Alameda de Las Pulgas, influence conditions in Menlo Park. The San Mateo County General Plan includes primarily medium-to-high density residential and neighborhood commercial land uses along Alameda de Las Pulgas. Additionally, the City is considering annexation of two areas in the SOI; the University Heights area on Crocus Court near Alameda de las Pulgas and the vacant Stanford-owned land on Sand Hill Road, including the Hewlett Foundation at 2121 Sand Hill Road.

4.9.1.2 EXISTING CONDITIONS

This section describes the existing land use, and land use designations and zoning districts in Menlo Park. A general plan land use designation refers to broad categories of different types of land uses, such as Single-Family Residential or Retail/Commercial, that are included and mapped within the General Plan. Each category establishes the general types of uses that are allowed by policy on a parcel with that designation. Each designation allows a range of possible intensities and the zoning district implements the land use designations. Existing land use refers to the use currently in place on a property, regardless of the general plan land use designation or zoning district.

As previously stated, the new development potential under the proposed project would only occur in limited areas within the Bayfront Area. Therefore, the following describes the existing conditions for the Bayfront Area only.

Existing Land Use Designations and Zoning Districts

Currently, the Bayfront Area includes Residential/Residential Mixed-Use, Industrial/Business Park, Open Space/Conservation Area and Commercial General Plan land use designations. The existing Zoning districts, which implement the General Plan land use designations, include the following:

- R-4-S (AHO) (High-Density Residential District, Special, Affordable Housing Overlay)
- R4-S (Residential)
- C-2-B (Neighborhood Commercial, Restrictive)
- C-2-S (Neighborhood Commercial, Special)
- C-4 (General Commercial)
- C-4(X) (General Commercial, Conditional)
- F-P (Flood Plain)
- M-2 (General Industrial)
- M-3(Commercial Business Park)

Existing Land Uses

As shown on Figure 3-3 in Chapter 3, Project Description, of this Draft EIR, the Bayfront Area comprises the northern-most portion of Menlo Park. The Bayfront Area is generally bounded by San Francisco Bay to the north; Redwood City to the west; East Palo Alto to the southeast; and the Menlo Park neighborhoods of Belle Haven, Flood Triangle, Suburban Park, and Lorelei Manor to the south.

The Bayfront Area contains major regional transportation links, including US Highway 101, Bayfront Expressway (State Route 84), Willow Road (State Route 114), and University Avenue (State Route 109) all of which are utilized heavily to provide access to the Dumbarton Bridge.

Current uses in the Bayfront Area include a mix of generally low-intensity offices, research and development, warehousing, and light manufacturing. The Bayfront Area is currently undergoing a major expansion of office uses, with Facebook currently occupying over 1 million square feet, including the recently completed west campus expansion. In addition, Facebook is currently proposing to redevelop the former Raychem/TE Connectivity site with another approximately 1 million square feet of office campus and hotel. This project is referred to as the Facebook Campus Expansion Project and is currently undergoing independent environmental review and is addressed in the Draft EIR as a cumulative project (see Chapter 4, Environmental Evaluation).

4.9.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would result in a significant impact related to land use and planning if it would:

1. Physically divide an established community.
2. Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the proposed project (including, but not limited to, the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
3. Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.9.3 IMPACT DISCUSSION

This section analyzes potential project-specific and cumulative impacts to land use and planning.

While many of the goals and policies in the City's current General Plan are germane to current conditions, the updates to the Land Use and Circulation Elements both integrate the extensive community input on preserving existing residential neighborhoods, creating new land uses, sustainability, innovation, and enact strategies that would be effective in creating the most functional circulation system possible. Accordingly, under the proposed project, the General Plan land use designations, street classification system, and goals, policies and programs of the Land Use and Circulation Elements would be amended.

Under the proposed project, the Zoning Ordinance would also be amended for consistency with the proposed land use changes. Three new zoning districts are proposed in the Bayfront Area to create a live/work/play environment. Additional amendments to allow mixed use in the C-2-B district and to streamline the existing hazardous material permitting process as discussed in Chapter 4.8, Hazards and Hazardous Materials, of this Draft EIR are also proposed.

Relevant General Plan goals, policies, and programs and Zoning regulations to ensure the proposed project would not divide and existing community, conflict with an applicable regulatory document or

conflict with any applicable habitat conservation plan or natural community conservation plan are discussed below.

LU-1 Implementation of the proposed project would not physically divide an established community.

Implementation of the proposed project would have a significant environmental impact if it were sufficiently large enough or otherwise configured in such a way as to create a physical barrier or other physical division within an established community. The physical division of an established community typically refers to the construction of a physical feature (such as a wall, interstate highway, or railroad tracks) or the removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. An example of a physical feature that would divide an existing community is an airport, roadway, or railroad track through an existing community that could constrain travel from one side of the community to another or impair travel to areas outside of the community.

As discussed in Chapter 3, Project Description, of this Draft EIR, the proposed project includes updates to the Land Use and Circulation Elements of the Menlo Park General Plan and Bayfront Area Zoning Update, which increases the development potential in the Bayfront Area only. Updates to land uses designations under the proposed project are centralized within the Bayfront Area only and are generally consistent with existing uses. As discussed under Section 4.9.1.2, Existing Conditions, above, the Bayfront Area is primarily composed of light industry warehouses, research and development (R&D), and business parks. The development proposed as part of the project would be located on sites either developed and/or underutilized, and/or in close proximity to existing development. Under the proposed project additional land use designations such as office, life sciences, and mixed use residential would be permitted within the Bayfront Area, and include design standards to create paseos and improvements for connecting and improved mobility, and would not physically dividing any existing communities.

Future development under the proposed project would generally retain the existing roadway patterns and could include circulation improvements such as new streets, paseos, access points, sidewalks and bike paths, and are intended to improve circulation. These improvements do not propose any new major roadways or other physical features through parcels designated for residential use or other communities that would create new barriers in the study area. Therefore, while several parcels designated for residential uses are proposed within the Bayfront Area, the proposed project would not divide existing established community. Impacts related to the division of an existing community would be *less than significant*.

Furthermore, future development under the proposed project would be required to be consistent with the General Plan polices and Zoning Ordinance that promote cohesive and compatible neighborhoods and prevent new development from dividing existing uses where different land uses abut one another.

Compliance with the regulations established under Title 15 of the Municipal Code would ensure the orderly development of subdivisions and condominiums in Menlo Park. In addition, Chapter 16.02 of the Zoning Ordinance directs decision makers to consider public health, safety, general welfare, traffic

conditions, and "orderly development" when making land use and zoning decisions. Additionally, the proposed Land Use (LU) Element and Circulation (CIRC) Element, which would be adopted as part of the proposed project, and existing Housing (H) Element, contain general goals and policies that would require local planning and development decisions to consider land use impacts, including the division of an established community. The following General Plan goals and policies would serve to promote cohesive and compatible neighborhoods under the proposed project:

- Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.
  - Policy LU-1.1: Land Use Patterns. Cooperate with the appropriate agencies to help assure a coordinated land use pattern in Menlo Park and the surrounding area.
  - Policy LU-1.2: Transportation Network Expansion. Integrate regional land use planning efforts with development of an expanded transportation network focusing on mass transit rather than freeways, and support multimodal transit development that coordinates with Menlo Park land uses.
  - Policy LU-1.3: Land Annexation. Work with interested neighborhood groups to establish steps and conditions under which unincorporated lands within the City's sphere of influence may be annexed.
  - Policy LU-1.4: Unincorporated Land Development. Request that San Mateo County consider Menlo Park's General Plan policies and land use regulations in reviewing and approving new developments in unincorporated areas in Menlo Park's sphere of influence.
- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
  - Policy LU-2.3: Mixed Use Design. Allow mixed-use projects with residential units if project design addresses potential compatibility issues such as traffic, parking, light spillover, dust, odors, and transport and use of potentially hazardous materials.
  - Policy LU-2.9: Compatible Uses. Promote residential uses in mixed-use arrangements and the clustering of compatible uses such as employment center, shopping areas, open space and parks, within easy walking and bicycling distance of each other and transit stops.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal H-2: Maintain, protect, and enhance existing housing and neighborhoods.
  - Policy H-2.1: Maintenance, Improvement and Rehabilitation of Existing Housing. Encourage the maintenance, improvement, and rehabilitation of the City's existing housing stock, the preservation of the City's affordable housing stock, and the enhancement of community stability to maintain and improve the character and stability of Menlo Park's existing residential

neighborhoods while providing for the development of a variety of housing types. The provision of open space and/or quality gathering and outdoor spaces shall be encouraged.

- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system. New development should minimize cut-through and high-speed vehicle traffic on residential streets; minimize the number of vehicle trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitate appropriate or adequate response times and access for emergency vehicles.
- Goal H-4: Use land efficiently to meet community housing needs at a variety of income levels, implement sustainable development practices, and blend well-designed new housing into the community.
  - Policy H-4.3: Housing Design. The City will review proposed new housing in order to achieve excellence in development design through an efficient process and will encourage infill development on vacant and underutilized sites that is harmonious with the character of Menlo Park residential neighborhoods. New construction in existing neighborhoods shall be designed to emphasize the preservation and improvement of the stability and character of the individual neighborhood.

    The City will also encourage innovative design that creates housing opportunities that are complementary to the location of the development. It is the City's intent to enhance neighborhood identity and sense of community by ensuring that all new housing will (1) have a sensitive transition with the surrounding area, (2) avoid unreasonably affecting the privacy of neighboring properties, or (3) avoid impairing access to light and air of structures on neighboring properties.

As mentioned above, implementation of the proposed project does not propose any new major roadways or other physical features through existing residential neighborhoods or other communities that would create new barriers in the study area, but rather implements measures to increase connectivity. In addition, future development would be required to ensure the orderly development of subdivisions and condominiums per regulations established under Title 15 and Chapter 16.02 of Menlo Park's Municipal Code. Furthermore, future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies that have been prepared to minimize impacts related to the physical division within an established community. Therefore, the adoption of the proposed project would result in *less-than-significant impacts* with respect to the physical division of an established community.

Significance Without Mitigation: Less than significant.

LU-2	**Implementation of the proposed project would not conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.**

This section discusses future development consistency with the General Plan and how the proposed project is consistent with other applicable land use plans, policies, and regulations that concentrate on land use and planning. Consistency with applicable land use plans, policies, and regulations that concentrate on specific environmental topics (e.g., air quality, greenhouse gas emissions, etc.) are discussed in the relevant topical chapter(s) of this Draft EIR.

Menlo Park General Plan and Zoning Ordinance

The General Plan and Zoning Ordinance are the primary planning documents for the City of Menlo Park. The proposed updates are intended to ensure consistency between the General Plan and Zoning Ordinance. Because the General Plan is the overriding planning document for the City, and because the proposed project involves amending the General Plan and Zoning Ordinance to increase consistency; therefore, consistency impacts in this regard would be *less than significant* and no mitigation measures are required.

As described in Chapter 3, Project Description, the goals, policies and programs of the General Plan are established to guide daily decision-making for the development and conservation in Menlo Park. Policies and programs are at the same level of importance, and are both intended to support the goals. In most cases, goals have both policies and programs. However, it is also possible for a goal to be supported exclusively by policies or programs. The General Plan's policies set out the guidelines that will be used by City staff and the Planning Commission in their review of land development projects and in decision-making about City actions. A policy indicates a commitment of the local legislative body to a particular course of action. The policies of the Menlo Park General Plan have been carefully prepared to reduce and/or avoid impacts to the environment as a result of future development in the city to the extent feasible. Zoning is one of the primary means of implementing the General Plan. For properties in Menlo Park, a parcel's Zoning designation stems directly from its General Plan land use designation, with the Zoning designation acting as a means to implement the General Plan by refining the specific uses and development standards for that parcel.

Future projects that are inconsistent with the applicable goals, policies and programs in the General Plan and supporting Zoning standards would be considered a *significant* impact.

Impact LU-2. Future development proposals in Menlo Park could be inconsistent with the applicable goals, policies and programs in the General Plan that have been prepared to reduce and/or avoid impacts to the environment and the supporting Zoning standards.

> Mitigation Measure LU-2: Prior to project approval, as part of the project application process, future development in Menlo Park is required to demonstrate consistency with the applicable goals, policies,

and programs in the General Plan and the supporting Zoning standards to the satisfaction of the City of Menlo Park's Community Development Department. A future project is consistent with the General Plan and Zoning standards if, considering all its aspects, it will further the goals, policies and programs of the General Plan and supporting Zoning standards and not obstruct their attainment.

Significance With Mitigation: Less than significant.

Other Land Use Plans

The proposed and existing General Plan goals, policies and programs would be adopted as part of the proposed project and would require local planning and development decisions to consider land use impacts. This section describes the General Plan goals, policies and programs that future development in Menlo Park would be required to be consistent with, thereby ensuring the proposed project would be consistent with the applicable land use regulations adopted for the purpose of avoiding or mitigating an environmental effect.

Association of Bay Area Governments Projections 2013

For a discussion of the proposed project's consistency with regional housing projections, see Chapter 4.11, Population and Housing, of this Draft EIR.

Plan Bay Area

As described in Section 4.9.1.1, Regulatory Framework, local jurisdictions are not required to change land use designations to be consistent with *Plan Bay Area*. However, this section evaluates the proposed project's consistency with this important regional planning document. For a discussion of the proposed project's consistency with the regional housing projections in *Plan Bay Area*, see Chapter 4.11, Population and Housing, of this Draft EIR. For a discussion of the proposed project's consistency with *Plan Bay Area* as it relates to greenhouse gas emissions, see Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR.

There is one PDA in Menlo Park located along both sides of El Camino Real Corridor from the City's northern border with Atherton to the San Mateo-Santa Clara County line. The proposed project continues the same land use designations as established in the ECR/D Specific Plan, which proposes various commercial, office, mixed-use and residential uses for the PDA. The mix, range, and intensity of uses are consistent with the *Plan Bay Area*.

The following goals and policies in the proposed Land Use (LU) and Circulation (CIRC) Elements would encourage the reduction of vehicle usage and encourage a mix of land uses and densities to promote non-vehicular travel and decrease GHG emissions, thereby ensuring consistency with *Plan Bay Area*:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

- Goal LU-5: Strengthen Downtown and the El Camino Real Corridor as a vital, competitive shopping area and center for community gathering, while encouraging preservation and enhancement of Downtown's atmosphere and character as well as creativity in development along El Camino Real.
  - Policy LU-5.1: El Camino Real/Downtown Specific Plan. Implement the El Camino Real/Downtown Specific Plan to ensure a complementary mix of uses with appropriate siting, design, parking, and circulation access for al travel modes.
  - Policy LU-5.2: El Camino Real/Downtown Housing. Encourage development of a range of housing types in the El Camino Real/Downtown Specific Plan area, consistent with the Specific Plan's standards and guidelines, and the areas near/around the Specific Plan area.
- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.1: Accommodating All Modes. Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.
  - Policy CIRC-2.4: Equity. Identify low-income and transit-dependent districts that require pedestrian and bicycle access to, from, and within their neighborhoods.
  - Policy CIRC-2.5: Neighborhood Streets. Support a street classification system with target design speeds that promotes safe, multimodal streets, and minimizes cut-through and high-speed traffic that diminishes the quality of life in Menlo Park's residential neighborhoods.
  - Policy CIRC-2.7: Walking and Biking. Provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate roadway design and maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan and the El Camino Real/Downtown Specific Plan.
  - Policy CIRC-2.8: Pedestrian Access at Intersections. Support full pedestrian access across all legs of signalized intersections.
  - Policy CIRC-2.9: Bikeway System Expansion. Expand the citywide bikeway system through appropriate roadway design, maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan, and the El Camino Real/Downtown Specific Plan.
  - Policy CIRC-2.10: Green Infrastructure. Maximize the potential to implement green infrastructure by: a) Reducing or removing administrative, physical, and funding barriers; b) Setting implementation priorities based on storm water management needs, as well as the effectiveness of improvements and the ability to identify funding; and c) Taking advantage of opportunities such as grant funding, routine repaving or similar maintenance projects, funding associated with Priority Development Areas, public private partnerships, and other funding opportunities.

- Policy CIRC-2.11: Design of New Development. Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.

As discussed above, the proposed project continues the same land use designations as established in the ECR/D Specific Plan. Furthermore, because the proposed project includes goals and policies that would promote non-vehicular travel, decrease GHG emissions, and encourage development of housing options in proximity to transit, jobs, shopping, and services within the PDA and citywide thereby ensuring consistency with *Plan Bay Area*, implementation of the proposed project would not conflict with the *Plan Bay Area*. Therefore, the impact would be *less than significant*.

San Francisco Bay Plan

The *San Francisco Bay Plan* (Bay Plan) guides the future protection and use of San Francisco Bay and its shoreline. The Bay Plan includes a range of policies on public access, water quality, fill, and project design. The Bay Plan also designates shoreline areas that should be reserved for water-related purposes like sports, industry, and public recreation, airports, and wildlife areas.

While no future development under the proposed project is anticipated on the shoreline or in the Bay, the proposed project includes the following General Plan goals, policies and programs in the proposed Land Use (LU) Element and existing Section II, Open Space/Conservation (OSC), and Section IV, and Safety (S), of the Open Space/Conservation, Noise and Safety Elements, that would continue to protect these natural resources, thereby ensuring consistency with *Bay Plan*:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities
  - Policy LU-6.7: Habitat Preservation. Collaborate with neighboring jurisdictions to preserve and enhance the Bay, shoreline, San Francisquito Creek, and other wildlife habitat and ecologically fragile areas to the maximum extent possible.
  - Policy LU-6.11: Baylands Preservation. Allow development near the Bay only in already developed areas.
    - Program LU-6.A: San Francisquito Creek Setbacks. Establish Zoning Ordinance requirements for minimum setbacks for new structures or impervious surfaces within a specified distance of the top the San Francisquito Creek bank.
- Goal OSC-5: Ensure healthy air and water quality.

- Policy OSC-5.1: Air and Water Quality Standards. Continue to apply standards and policies established by the Bay Area Air Quality Management District (BAAQMD), San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), and City of Menlo Park Climate Action Plan through the California Environmental Quality Act (CEQA) process and other means as applicable.

- Goal S-1: Assure a safe community.
  - Policy S-1.25: Creeks and Drainage-ways. Seek to retain San Francisquito and Atherton creeks/channels in their natural state in order to prevent undue erosion of creek banks. Protect creek-side habitat and provide maintenance access along creeks where appropriate.
  - Policy S-1.26: Erosion and Sediment Control. Continue to require the use of best management practices for erosion and sediment control measures with proposed development in compliance with applicable regional regulations.
  - Policy S-1.27: Regional Water Quality Control Board (RWQCB) Requirements. Enforce stormwater pollution prevention practices and appropriate watershed management plans in the RWQCB general National Pollutant Discharge Elimination System requirements, the San Mateo County Water Pollution Prevention Program and the City's Stormwater Management Program. Revise, as necessary, City plans so they integrate water quality and watershed protection with water supply, flood control, habitat protection, groundwater recharge, and other sustainable development principles and policies.

Because the proposed project includes goals and policies that ensure future development would protect water quality, implementation of the proposed project would not conflict with the Bay Plan. Therefore, the impact would be *less than significant*.

San Francisco Bay Basin Water Quality Control Plan

The *Water Quality Control Plan* for the San Francisco Bay Basin (the Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan, which includes wetlands in and near the study area. As discussed under the San Francisco Bay Plan subheading above, the proposed project includes General Plan goals and policies listed above under the subheading "San Francisco Bay Plan" that would serve to protect water quality. Implementation of the proposed project would not conflict with the Basin Plan and impacts would be *less than significant*. No mitigation measures are required. The Basin Plan is discussed in more detail in Chapter 4.8, Hydrology and Water Quality, of this Draft EIR.

Airport Land Use Compatibility Plans

As discussed above in Section 4.9.1.1, Regulatory Framework, Comprehensive Land Use Plan (CLUP) for the Palo Alto Airport was adopted by the Santa Clara County Airport Land Use Commission in 2008 and is intended to safeguard the general welfare of the inhabitants within the vicinity of Palo Alto Airport and ensure that new surrounding uses do not affect continued safe airport operation. Menlo Park does not fall within the Airport Influence Area of this facility, and none of the noise or safety zones for the Palo Alto airport fall within the boundaries of Menlo Park; however, extreme eastern portions of Menlo Park in the vicinity of O'Connor Street and Byers Avenue fall within the 354-foot FAR Part 77 Surfaces for the Palo Alto

Airport. Thus, buildings approaching or near a height of 354 feet in the area would conflict with use of the airport. Buildings in this area are generally less than 30 feet tall and are anticipated to remain at or below this height. In addition, there are no current plans for development at those heights within these areas of Menlo Park under the proposed project. Thus, impacts related to potential conflicts with the CLUP would be *less than significant*.

El Camino Real/Downtown Specific Plan

The ECR/D Specific Plan encourages improvements to the Downtown's streetscape and parking facilities and allows new mixed-use development along El Camino Real. Under the proposed project, no new development potential would occur in the ECR/D Specific Plan area that was not already accounted for in the ECR/D Specific Plan.

The following General Plan goals and policies in the proposed Land Use (LU) Element would continue to ensure that future development under the proposed project is consistent with the ECR/D Specific Plan:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-5: Strengthen Downtown and the El Camino Real Corridor as a vital, competitive shopping area and center for community gathering, while encouraging preservation and enhancement of Downtown's atmosphere and character as well as creativity in development along El Camino Real.
  - Policy LU-5.1: El Camino Real/Downtown Specific Plan. Implement the El Camino Real/Downtown Specific Plan to ensure a complementary mix of uses with appropriate siting, design, parking, and circulation access for all travel modes.
  - Policy LU-5.2: El Camino Real/Downtown Housing. Encourage development of a range of housing types in the El Camino Real/Downtown Specific Plan area, consistent with the Specific Plan's standards and guidelines, and the areas near/around the Specific Plan area.

Because the proposed project includes goals and policies that ensure future development would be consistent with the ECR/D Specific Plan, implementation of the proposed project would not conflict with the ECR/D Specific Plan. Therefore, the impact would be *less than significant*.

Menlo Park Climate Action Plan

For a discussion of the proposed project's consistency with CAP, see Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR. Specifically, see Table 4.6-7, Menlo Park Community Near-Term Climate Change Action Plan Strategies.

Comprehensive Bicycle Development Plan

The Comprehensive Bicycle Development Plan (Bike Plan) provides a broad vision, strategies, and actions for the improvement of bicycling in the city. The Bike Plan outlines new educational and promotional programs aimed at bicyclists and motorists as well as recommendations for continued development of bikeway network maps, and bike-to-work and school day events, among others.

The following goals, policies, and programs in the proposed Circulation (CIRC) Element would continue to encourage bicycle access throughout the city and promote educational programs aimed at bicyclists to ensure consistency with the Bike Plan:

- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.1: Accommodating All Modes. Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.
  - Policy CIRC-2.7: Walking and Biking. Provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate roadway design and maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan and the El Camino Real/Downtown Specific Plan.
  - Policy CIRC-2.9: Bikeway System Expansion. Expand the citywide bikeway system through appropriate roadway design, maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan, and the El Camino Real/Downtown Specific Plan.
  - Policy CIRC-2.11: Design of New Development. Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.
    - Program CIRC-2.D: Pedestrian and Bicycle Facility Maintenance. Remove debris on roadways and pedestrian/bike facilities, monitor intersection sight clearance, and repair pavement along all roadways and sidewalks; prioritize improvements along bicycle routes.
    - Program CIRC-2.E: Bikeway System Planning. Review the citywide bikeway system pursuant to the Comprehensive Bicycle Development Plan and El Camino Real/Downtown Specific Plan, and other recent planning efforts every five years and update as necessary.
    - Program CIRC-2.F: Bicycle Improvement Funding. Pursue funding for improvements identified in the Comprehensive Bicycle Development Plan and El Camino Real/Downtown Specific Plan.
    - Program CIRC-2.G: Zoning Requirements for Bicycle Storage. Establish Zoning Ordinance requirements for new development to provide secure bicycle and convenient storage and/or bike-sharing facilities.
    - Program CIRC-2.H: Zoning Requirements for Shared-Use Pathways. Establish Zoning Ordinance requirements for new development to include public easements for shared-use pathways.
    - Program CIRC-2.I: Bike Sharing Program. Work with local and regional organizations to develop and implement a citywide bike sharing program.

Because the proposed project includes goals and policies that ensure future development would be consistent with the Bike Plan, implementation of the proposed project would not conflict with the Bike Plan. Additionally, the proposed Zoning includes bicycle parking requirements, and design standards to help ensure bicycle parking is functional. These measures help support bicycle ridership. Therefore, the impact would be *less than significant*.

See Chapter 4.13, Transportation and Traffic, of this Draft EIR, for an additional discussion of the proposed project's consistency with the Bike Plan.

Sidewalk Master Plan

The Sidewalk Plan identifies segments with no standard walkway or discontinuous walkway facilities; identifies opportunities and constraints for future walkway facilities; recommends changes and additions to existing programs, policies, and municipal codes; and develops prioritization criteria and procedures for installing standard sidewalks. The Sidewalk Plan identified priority streets as those roadways that provide network connectivity and access to important pedestrian destinations, such as schools, parks, and downtown. As described above, goals and policies in the proposed Circulation (CIRC) Element would continue to facilitate the connectivity of pedestrian facilities throughout the city and improve pedestrian access to ensure consistency with the Sidewalk Plan:

- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
  - Policy CIRC-1.4: Education and Encouragement. Introduce and promote effective safety programs for adults and youths to educate all road users as to their responsibilities.
  - Policy CIRC-1.8: Pedestrian Safety. Maintain and create a connected network of safe sidewalks and walkways within the public right of way ensure that appropriate facilities, traffic control, and street lighting are provided for pedestrian safety and convenience, including for sensitive populations.
  - Policy CIRC-1.9: Safe Routes to Schools. Support Safe Routes to School programs to enhance the safety of school children who walk and bike to school.
- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.1: Accommodating All Modes. Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.
  - Policy CIRC-2.3: Street Classification. Utilize measurements of safety and efficiency for all travel modes to guide the classification and design of the circulation system, with an emphasis on providing "complete streets" sensitive to neighborhood context.
  - Policy CIRC-2.4: Equity. Identify low-income and transit-dependent districts that require pedestrian and bicycle access to, from, and within their neighborhoods.
  - Policy CIRC-2.5: Neighborhood Streets. Support a street classification system with target design speeds that promotes safe, multimodal streets, and minimizes cut-through and high-speed traffic that diminishes the quality of life in Menlo Park's residential neighborhoods.

- Policy CIRC-2.6: Local Streets as Alternate Routes. Work with appropriate agencies to discourage use of city streets as alternatives to, or connectors of, State and federal highways; to encourage improvement of the operation of US 101; and to explore improvements to Bayfront Expressway (State Route 84) and Marsh Road (and its connection to US 101), with environmental protection for adjacent marsh and wetland areas, to reduce traffic on Willow Road (State Route 114).
- Policy CIRC-2.7: Walking and Biking. Provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate roadway design and maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan and the El Camino Real/Downtown Specific Plan.
- Policy CIRC-2.8: Pedestrian Access at Intersections. Support full pedestrian access across all legs of signalized intersections.
- Policy CIRC-2.11: Design of New Development. Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.

Because the proposed project includes goals and policies that ensure future development would be consistent with the Sidewalk Plan, thus, implementation of the proposed project would not conflict with the Sidewalk Plan. Additionally, the proposed Zoning includes street frontage improvements, which may include sidewalks, to provide connectivity and pedestrian access to destinations. These measures help support pedestrian mobility. Therefore, the impact would be *less than significant*.

See Chapter 4.13, Transportation and Traffic, of this Draft EIR, for an additional discussion of the proposed project's consistency with the Sidewalk Plan.

San Mateo County General Plan

The San Mateo County General Plan is a long-range guide for land use in the unincorporated areas in the county, including land outside of Menlo Park's city limits but within the SOI (the study area). Although the proposed project applies to land use designations within the study area, all land beyond the Menlo Park city limit, but within the SOI, are within the County's jurisdiction until annexation to the City of Menlo Park. The City of Menlo Park is considering annexation of two areas in the SOI; the University Heights area on Crocus Court near Alameda de las Pulgas, and the Stanford-owned land on Sand Hill Road including the Hewlett Foundation at 2121 Sand Hill Road. In addition, the following three areas are within the study area and fall under the jurisdiction of the San Mateo County General Plan:

- The area near Ringwood Avenue between Bay Road and Middlefield Avenue referred to as Menlo Oaks.
- The Alameda de Las Pulgas District, which extends along Alpine Road, referred to as West Menlo Park. The Stanford Linear Accelerator.

The unincorporated areas listed above are located outside the city limits and are currently subject to County land use regulations. Thus, the above mentioned areas would only be subject to City land use

jurisdiction upon annexation, only one set of land use policies apply at a given time, and there cannot be a conflict between the City and County General Plan policies. As a result, adoption and implementation of the proposed project would not conflict with the San Mateo County General Plan.

The following goals and policies in the proposed Land Use (LU) Element would continue to ensure consistency with the San Mateo County General Plan:

- Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.
  - Policy LU-1.3: Land Annexation. Work with interested neighborhood groups to establish steps and conditions under which unincorporated lands within the City's sphere of influence may be annexed.
  - Policy LU-1.4: Unincorporated Land Development. Request that San Mateo County consider Menlo Park's General Plan policies and land use regulations in reviewing and approving new developments in unincorporated areas in Menlo Park's sphere of influence.
  - Policy LU-1.5: Adjacent Jurisdictions. Work with adjacent jurisdictions to ensure that decisions regarding potential land use activities near Menlo Park include consideration of City and Menlo Park community objectives.

Because the unincorporated areas located within the proposed project study area would only be subject to City land use jurisdiction upon annexation and only one set of land use policies apply at a given time, there cannot be a conflict between the City and County General Plan policies. Furthermore, the San Mateo County General Plan contains goals and objectives that encourage cities to annex urban unincorporated areas within the SOI, thereby discouraging conflict between city and county jurisdiction.[16] For these reasons, and because the proposed project includes General Plan policies that ensure future development would not conflict with the San Mateo County General Plan, the impact related to potential conflicts with the San Mateo County General Plan would be *less than significant*.

Summary

As discussed above, the General Plan goals, policies and programs of the proposed project would not conflict with the applicable land use plans adopted for the purpose of avoiding or mitigating an environmental impact in the study area. However, future development in Menlo Park that is not consistent with the General Plan would be considered a significant impact and implementation of Mitigation Measure LU-2 would be required to reduce the impact to a less-than-significant level.

Significance With Mitigation: Less than significant.

[16] County of San Mateo General Plan, 1986, General Land Use Chapter, page 7.7P.

LU-3 Implementation of the proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan.

As described above under Section 4.9.1.1, Regulatory Framework, the Stanford Habitat Conservation Plan (Stanford HCP) was published in November 2012 and implementation of the HCP began in 2013. Portions of Menlo Park and unincorporated San Mateo County are located within the Stanford University HCP area; thus, development within the Stanford HCP area could still occur under the proposed project.

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies and programs that would require local planning and development decisions to consider impacts to biological resources, including those in the Stanford HCP area. Several policies in the General Plan, listed under BIO-1 in Chapter 4.3, Biological Resources, would serve to protect and enhance the sensitive natural communities in the study area, including those in the Stanford HCP area. Specifically, Policy LU-6.7 requires the City to collaborate with neighboring jurisdictions to preserve and enhance the Bay, shoreline, San Francisquito Creek, and other wildlife habitat and ecologically fragile areas to the maximum extent possible, and Policy LU-6.10, requires the City to encourage the maintenance of open space on Stanford lands within Menlo Park's unincorporated sphere of influence. Furthermore, as discussed under BIO-1, site-specific assessments for areas on or near sensitive habitats called for in Policy OSC-1.3, Sensitive Habitats, and required under Mitigation Measure BIO-1, would determine the extent of any sensitive natural communities on undeveloped lands where development is proposed. The General Plan policies would help protect biological resources identified in the Stanford HCP and minimize impacts; however, implementation of Mitigation Measure BIO-1 listed in Chapter 4.3 is required to ensure no conflicts with Stanford HCP would occur.

Significance With Mitigation: Less than significant.

4.9.4 CUMULATIVE IMPACTS

LU-4 Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to land use and planning.

As discussed in Chapter 4, Environmental Evaluation, of this Draft EIR, this EIR takes into account growth projected by the proposed project within the study area, Menlo Park City Limits and SOI, in combination with impacts from projected growth in the rest of San Mateo County and the surrounding region, as forecast by the ABAG. The geographic context for the cumulative land use and planning effects, which occur from potential future development under the proposed project combined with effects of development on lands adjacent to the city within East Palo Alto, Palo Alto, Stanford, Atherton, North Fair Oaks, and Redwood City, and the unincorporated areas of San Mateo County within the SOI.

The land use analyses find that the proposed project would not divide an established community or conflict with established plans, policies and regulations, or with habitat and conservation plans or policies. Implementation of Mitigation Measure LU-2 would ensure future projects in Menlo Park are consistent with the City's General Plan policies. The proposed project would also not create or exacerbate land use conflicts in or outside the City of Menlo Park. The proposed project would be consistent with existing and proposed changes in other local and regional plans. Development that would be allowed under the proposed project would not create substantial conflicts associated with land use regulations. Development is likely to occur in surrounding cities and in the San Mateo region as well. However, such development is taking place in already urbanized areas and would not require significant land use changes that would create land use conflicts, nor would they divide communities. Therefore, cumulative impacts related to land use changes and impacts would be *less than significant with mitigation.*

Impact LU-4: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, could result in a significant cumulative impact with respect to land use and planning.

Mitigation Measure LU-4: Implement Mitigation Measure LU-2.

Significance With Mitigation: Less than significant.

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4.10 NOISE

This chapter describes the regulatory framework and existing conditions related to noise sources and the overall noise environment in Menlo Park, and evaluates the potential noise impacts that could occur by adopting and implementing the proposed project on the noise environment, as well as the potential impacts of the noise environment on future development under the proposed project. The technical data and modeling used to for the analysis in this chapter are located in Appendix G, Noise Data, of this Draft EIR.

4.10.1 ENVIRONMENTAL SETTING

4.10.1.1 BACKGROUND

Noise Descriptors

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness."

The following are brief definitions of terminology used in this section:

- Sound. A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- Noise. Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- Intrusive. Noise that intrudes over and above the existing ambient noise at a given location. Relative intrusiveness depends on amplitude, duration, frequency, time of occurrence, and tonal or informational content, as well as the prevailing ambient noise level.
- Decibel (dB). A unitless measure of sound, expressed on a logarithmic scale and with respect to a defined reference sound pressure. The standard reference pressure is 20 micropascals (20 µPa).
- Vibration Decibel (VdB). A unitless measure of vibration, expressed on a logarithmic scale and with respect to a defined reference vibration velocity. In the U.S., the standard reference velocity is 1 micro-inch per second ($1x10^{-6}$ in/sec).
- A-Weighted Decibel (dBA). An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- Ambient Noise Level. The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
- Equivalent Continuous Noise Level (L_{eq}); also called the Energy-Equivalent Noise Level. The value of an equivalent, steady sound level which, in a stated time period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the L_{eq} metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.

- **Statistical Sound Level (Ln).** The sound level that is exceeded "n" percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."
- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m. As a matter of practice, L_{dn} and CNEL values are interchangeable and are treated as equivalent in this assessment.
- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

Characteristics of Sounds

When an object vibrates, it radiates part of its energy as acoustical pressure in the form of a sound wave. Sound can be described in terms of amplitude (loudness), frequency (pitch), and duration (time). The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate the human, frequency-dependent response, the A-weighted filter system is used to adjust measured sound levels. The normal range of human hearing extends from approximately 0 dBA (the threshold of detection) to 140 dBA (the threshold of pain).

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale to better account for the large variations in pressure amplitude (the above range of human hearing, 0 to 140 dBA, represents a ratio in pressures of one hundred trillion to one). All noise levels in this study are relative to the industry-standard pressure reference value of 20 micropascals. Because of the physical characteristics of noise transmission and perception, the relative loudness of sound does not closely match the actual amounts of sound energy. Table 4.10-1 presents the subjective effect of changes in sound pressure levels.

TABLE 4.10-1 CHANGE IN APPARENT LOUDNESS

± 3 dB	Threshold of human perceptibility
± 5 dB	Clearly noticeable change in noise level
± 10 dB	Half or twice as loud
± 20 dB	Much quieter or louder

Source: Bies and Hansen, 2009.

Sound is generated from a source; the decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as spreading loss or distance attenuation.

When sound is measured for distinct time intervals, the statistical distribution of the overall sound level during that period can be obtained. For example, L_{50} is the noise level that is exceeded 50 percent of the time. Similarly, the L_{02}, L_{08}, and L_{25} values are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. The energy-equivalent sound level (L_{eq}) is the most common parameter associated with community noise measurements. The L_{eq} metric is a single-number noise descriptor of the energy-average sound level over a given period of time. An hour is the most common period of time over which average sound is measured, but it can be measured over any duration. Other values typically noted during a noise survey are the L_{min} and L_{max}. These values are the minimum and maximum root-mean-square (RMS) noise levels obtained over the stated measurement period.

Since sensitivity to noise increases during the evening and at night, when excessive noise can interfere with relaxation and/or the ability to sleep, 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. Because of this increased sensitivity to unwanted noise intrusion during the evening and nighttime hours, State law requires, for planning purposes, that this increased noise sensitivity be accounted for. The Day/Night Average Sound Level, L_{dn}, is a measure of the cumulative noise exposure in a community, with a 10 dB addition to nocturnal (10:00 p.m. to 7:00 a.m.) noise levels. The Community Noise Equivalent Level (CNEL) is a similar 24-hour cumulative measure of noise; however it differs slightly from L_{dn} in that 5 dB is added to the levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system; prolonged noise exposure in excess of 75 dBA increases body tensions, thereby affecting blood pressure and functions of the heart and nervous system. Extended periods of noise exposure above 90 dBA results in permanent cell damage. This is the main driver for employee hearing protection regulations in the workplace. For community environments, the ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less-developed areas. Since most people do not routinely work with decibels or A-weighted sound levels, it is often difficult to appreciate what a given sound pressure level (SPL) number means. To help relate noise level values to common experience, Table 4.10-2 shows typical noise levels from noise sources. Causes for annoyance include interference with speech, radio, television, and sleep and rest, as well as induced structural vibrations. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. The threshold for annoyance from vehicle noise is about 55 dBA L_{dn}. At an L_{dn} of about 60 dBA, approximately 8 percent of the population is highly annoyed. When the L_{dn} increases to 70 dBA, the highly annoyed proportion of the population increases to about 20 to 25 percent. There is, therefore, an increase of about 2 percent per decibel of increased noise between an L_{dn} of 60 to 70 dBA. The thresholds for speech interference indoors are approximately 45 dBA for continuous noise and approximately 55 dBA for fluctuating noise. Outdoors the thresholds are roughly 15 dBA higher. Steady noise above 35 dBA and fluctuating noise levels above roughly 45 dBA have been shown to affect sleep.

NOISE

TABLE 4.10-2 TYPICAL NOISE LEVELS

Common Outdoor Activities	Approximate Noise Level (Dba)	Common Indoor Activities
	110	Rock Band
Jet Flyover at 1,000 feet		
	100	
Gas Lawn Mower at 3 feet		
	90	
Diesel Truck at 50 feet, at 50 miles per hour		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime		
	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Bies, David A. and Colin H. Hansen. 2009. Engineering Noise Control: Theory and Practice. 4th ed. New York: Spon Press.

Vibration Fundamentals

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is normally associated with activities stemming from operations of railroads or vibration-intensive stationary sources, but can also be associated with construction equipment such as jackhammers, pile drivers, and hydraulic hammers.

Vibration displacement is the distance that a point on a surface moves away from its original static position. The instantaneous speed that a point on a surface moves is the velocity, and the rate of change of the speed is the acceleration. Each of these descriptors can be used to correlate vibration to human response, building damage, and acceptable equipment vibration levels. During construction, the operation of construction equipment can cause groundborne vibration. During the operational phase of a project, receptors may be subject to levels of vibration that can cause annoyance due to noise generated from vibration of a structure or items within a structure. These types of vibration are best measured and described in terms of velocity and acceleration.

The three main types of waves associated with groundborne vibrations are surface or Rayleigh waves, compression or P-waves, and shear or S-waves.

Surface or Rayleigh waves travel along the ground surface. They carry most of their energy along an expanding cylindrical wave front, similar to the ripples produced by throwing a rock into a lake. The particle motion is more or less perpendicular to the direction of propagation. Compression or P-waves are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal, in a push-pull motion. P-waves are analogous to airborne sound waves.

Shear or S-waves are also body waves, carrying their energy along an expanding spherical wave front. Unlike P-waves, however, the particle motion is transverse, or perpendicular to the direction of propagation.

Vibration amplitudes are usually described in terms of either the peak particle velocity (PPV) or the RMS velocity. PPV is the maximum instantaneous peak of the vibration signal and RMS is the square root of the average of the squared amplitude of the signal. PPV is more appropriate for evaluating potential building damage, whereas RMS is typically more suitable for evaluating human response.

The units for PPV and RMS velocity are normally inches per second (in/sec). Often, vibration is presented and discussed in dB units in order to compress the range of numbers required to describe the vibration. In this study, all PPV and RMS velocity levels are in in/sec and all vibration levels are in dB relative to 1 micro-inch per second (abbreviated as VdB). Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. Even the more persistent Rayleigh waves decrease relatively quickly as they move away from the source of the vibration. Man-made vibration problems are, therefore, usually confined to relatively short distances (500 to 600 feet or less) from the source.

Effects of Vibration

Table 4.10-3 displays human annoyance and the effects on buildings resulting from continuous vibration. As discussed previously, annoyance is a subjective measure and vibrations may be found to be annoying at much lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Persons exposed to elevated ambient vibration levels such as people in an urban environment may tolerate a higher vibration level.

TABLE 4.10-3 REACTION OF PEOPLE AND DAMAGE TO BUILDINGS FOR CONTINUOUS/FREQUENT INTERMITTENT VIBRATION LEVELS

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.02	Barely perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Virtually no risk of damage to normal buildings
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential dwellings such as plastered walls or ceilings
0.5	Severe – Vibrations considered unpleasant	Threshold at which there is a risk of damage to newer residential structures

Source: Transportation- and Construction-Induced Vibration Guidance Manual, California Department of Transportation, June 2004.

Human response to ground vibration has been correlated best with the velocity of the ground. The velocity of the ground is expressed on the decibel scale. The reference velocity is 1×10^{-6} inch/second RMS, which equals 0 VdB, and 1 inch/second equals 120 VdB. The abbreviation "VdB" is used in this document for vibration decibels to reduce the potential for confusion with sound decibels. One of the problems with developing suitable criteria for groundborne vibration is the limited research into human response to vibration and, more importantly, human annoyance inside buildings. The U.S. Department of Transportation, Federal Transit Administration has developed rational vibration limits that can be used to evaluate human annoyance to groundborne vibration. These criteria are primarily based on experience with rapid transit and commuter rail systems, and are discussed in greater detail in the regulations section of this document.

Railroad and transit operations are potential sources of substantial ground vibration depending on distance, the type and the speed of trains, and the type of track. Trains generate substantial vibration due to their engines, steel wheels, heavy loads, and wheel-rail interactions.

Construction operations generally include a wide range of activities that can generate groundborne vibration, which varies in intensity depending on several factors. In general, blasting and demolition of structures, as well as pile driving and vibratory compaction equipment generate the highest vibrations. Because of the impulsive nature of such activities, the use of the peak particle velocity descriptor (PPV) has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans. Vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible amounts of vibration at up to 200 feet. Heavy trucks can also generate groundborne vibrations, which can vary, depending on vehicle type, weight, and pavement conditions. Potholes, pavement joints, discontinuities, differential settlement of pavement, etc., all increase the vibration levels from vehicles passing over a road surface. Construction vibration is normally of greater concern than vibration from normal traffic flows on streets and freeways with smooth pavement conditions.

"Architectural" damage can be classified as cosmetic only, such as minor cracking of building elements, while "structural" damage may threaten the integrity of a building. Safe vibration limits that can be

applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to a building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is in a high state of disrepair and the construction activity occurs immediately adjacent to the structure. Table 4.10-4 shows the criteria established by the Federal Transit Administration (FTA) for the likelihood of structural damage due to vibration.

TABLE 4.10-4 GROUNDBORNE VIBRATION CRITERIA: ARCHITECTURAL DAMAGE

Building Category	PPV (in/sec)	L_v (VdB)[a]
I. Reinforced concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

a. RMS velocity calculated from vibration level (VdB) using the reference of one micro-inch/second.
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2006.

Noise- and Vibration-Sensitive Receptors

Certain land uses are particularly sensitive to noise and vibration, including residential, school, and open space/recreation areas where quiet environments are necessary for enjoyment, public health, and safety. Sensitive receptors within Menlo Park include residences, senior housing, schools, places of worship, and recreational areas. These uses are regarded as sensitive because they are where citizens most frequently engage in activities that are likely to be disturbed by noise, such as reading, studying, sleeping, resting, or otherwise engaging in quiet or passive recreation. Commercial and industrial uses are not considered noise- and vibration-sensitive receptors for the purposes of this analysis because these uses often generate noise in excess of what they receive from other types of land uses.

4.10.1.2 REGULATORY FRAMEWORK

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. This section describes the regulatory framework related to noise and vibration in Menlo Park.

State of California Noise Standards

The State of California, through its General Plan Guidelines, discusses how ambient noise should influence land use and development decisions and includes a table of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels expressed in CNEL. These Land Use Compatibility Guidelines are shown in Table 4.10-5.

State of California Building Code

The State of California provides a minimum standard for building design through the California Building Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations (CCR), commonly referred to as the "California Building Code" (CBC). The CBC is located in Part 2 of Title 24. The CBC is updated every three years, and the current 2013 CBC went into effect in January 2014. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. The 2013 CBC has been adopted for use by the City of Menlo Park, according to Section 12.04.010 of the Menlo Park Municipal Code.

Commercial and residential buildings are plan-checked by local City and County building officials for compliance with the CBC, including noise insulation standards. These noise standards are applied to new construction in California for the purpose of ensuring that the level of exterior noise transmitted to and received within the interior living spaces of buildings is compatible with their comfortable use. For new residential dwellings, hotels, motels, dormitories, and school classrooms, the acceptable interior noise limit for new construction is 45 dBA CNEL or L_{dn}. Title 24 requires acoustical studies for development in areas exposed to more than 60 dBA CNEL to demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. Where exterior noise levels are projected to exceed 60 dBA CNEL or L_{dn} at the façade of a building, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the 45 dBA noise limit.

Local Noise Regulations

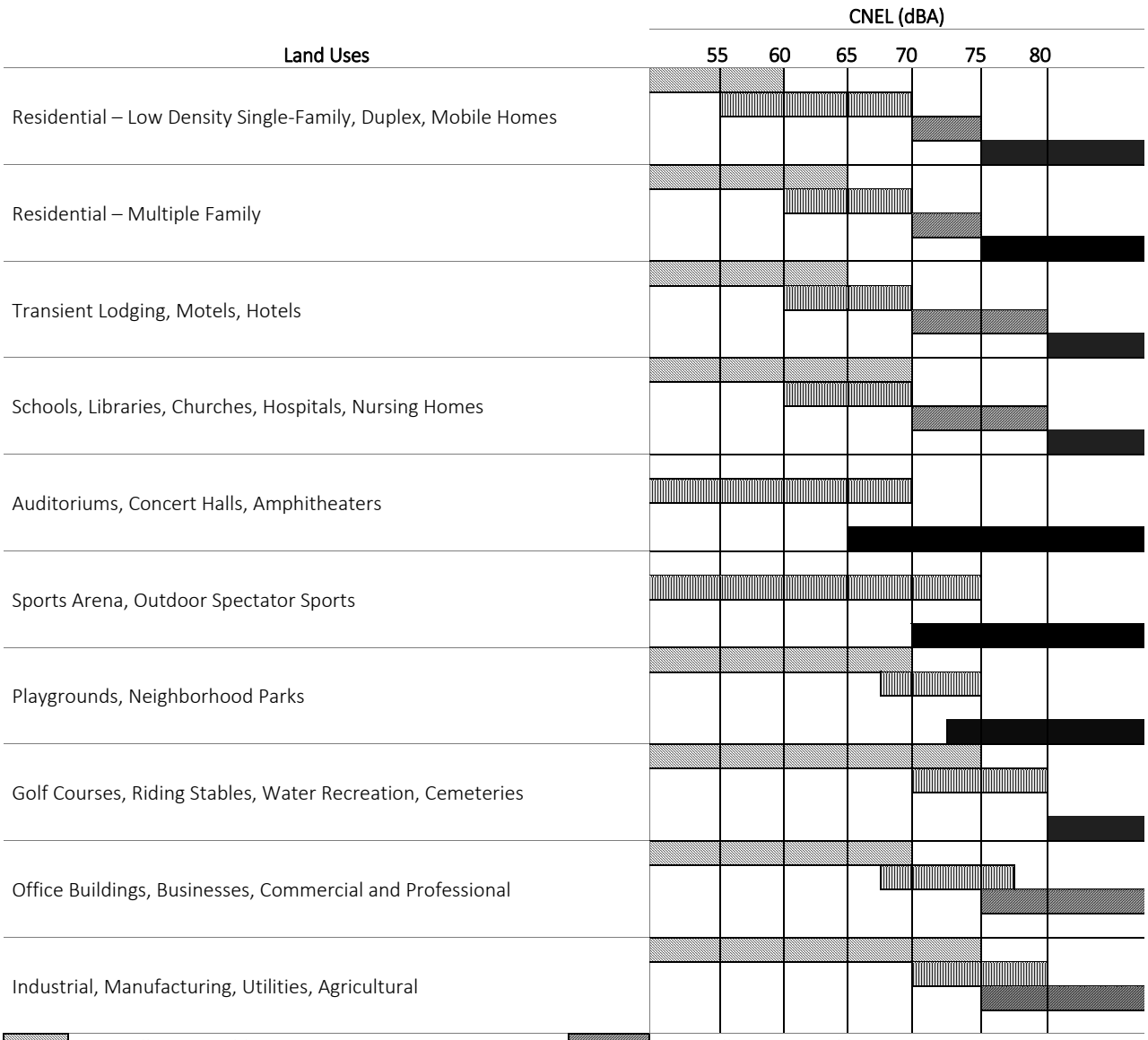
Menlo Park General Plan

The Noise Element of the General Plan was updated in 2013. The City's Noise Element discusses how ambient noise should influence land use and development decisions and includes a chart of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable uses at different noise levels expressed in either L_{dn} or CNEL. The Noise Element directs the City to adopt development and noise insulation standards generally consistent with the contemporaneous version of the State of California's Noise Insulation Standard. Menlo Park's Land Use Compatibility Noise Standards for new development presented in the Noise Element are the same as the State's Land Use Compatibility Guidelines, shown above in Table 4.10-5.

Menlo Park Municipal Code

Menlo Park addresses noise in various capacities under multiple chapters of its municipal code. Noise is primarily addressed in Chapter 8.06 (Noise); additional chapters making brief mention of minor and/or incidental noise issues and regulations include Chapters 8.07 (Leaf Blowers), 8.12 (Business Operations after Midnight), 8.28 (Parks and Recreation), 9.26 (Poultry and Rabbits), 11.64 (Transportation Systems Management), and 13.18 (Use of Public Rights-of-Way).

TABLE 4.10-5 CALIFORNIA LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



Normally Acceptable:
Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable:
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and the needed noise insulation features 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 generally be discouraged. If new construction does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable:
New construction or development generally should not be undertaken.

Source: Governor's Office of Planning and Research, General Plan Guidelines, November 2003.

NOISE

Chapter 8.06, Noise

Basic Exterior Residential Noise Limitations

Chapter 8.06, Noise, contains the primary set of statutes through which Menlo Park regulates noise. For all noise measurements pursuant to the noise ordinance, the municipal code specifies standard procedures for conducting noise measurements, with specifications for sound-meter settings and placement. Section 8.06.030 sets maximum noise levels at any residential receiving property to a maximum of 60 dBA during the daytime hours between 7:00 a.m. to 10:00 p.m., and to 50 dBA during the nighttime hours between 10:00 p.m. and 7:00 a.m. The ordinance applies an additional 5 dBA penalty to sounds of a particularly annoying nature, such as tones, screeches, whines, and pulses, among others. The ordinance also includes a qualitative standard which prohibits noises which can be reasonably determined to be disturbing to an entire neighborhood or any considerable number of residents.

Exceptions – Noise Limitation Exceptions and Exemptions

The Menlo Park noise ordinance also contains a number of qualified exceptions to the limitations stipulated in the ordinance; these include construction, powered equipment, and leaf blowers, deliveries, social gatherings, pavement sweeping, garbage collection, and animals. Additionally, the ordinance contains general exemptions for emergencies and emergency warning devices, sporting and City-permitted events, City and State projects, and the normal operation of typical motor vehicles. Of these, the most notable exceptions and exemptions for the purposes of this analysis include those for construction, motor vehicles, and deliveries.

Construction activities are exempted from the noise ordinance between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday; construction activities are only allowed on Saturday and Sunday between the hours of 9:00 a.m. and 5:00 p.m. and only if they are being personally undertaken by property owners performing maintenance or improvements. Despite these allowances for weekend residential maintenance, the ordinance still prohibits the use of any equipment that results in noise levels exceeding 85 dBA at a distance of 50 feet. Construction that is sufficiently quiet so as to be fully compliant with the basic exterior noise limitations set out by the ordinance is generally allowed at any time.

Notwithstanding specialized vehicle equipment or sound amplification systems, noise from the normal operation of motor vehicles (including cars, trucks, busses, trains, and airplanes) is exempted from the provisions of the noise ordinance. Noise from deliveries to food retailers and restaurants are generally excepted from the ordinance, while noise from other commercial and industrial deliveries are generally excepted between 7:00 a.m. and 6:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. Saturday and Sunday. Temporally and geographically specific exceptions for street sweeping and garbage collection are also described in detail by the noise ordinance.

Other Chapters with Noise Regulations

In addition to Chapter 8.06, Noise, there are several other chapters in the Menlo Park municipal code that mention noise. In Chapter 8.07, Leaf Blowers, the municipal code mentions that leaf blowers are a source of loud noise and stipulates that operators of these devices must wear ear protection. In Chapter 8.12, Business Operations after Midnight, Section 8.12.040 indicates that a permit for late-night business

operations may be revoked if noise from the establishment exceeds that foreseen by the permit. Chapter 8.28, Parks and Recreation, prohibits the creation of obtrusive noise in parks. Section 9.26.080 of Chapter 9.26, Poultry and Rabbits, prohibits the keeping of animals or fowl which cause unreasonable and disturbing noise for residents. In the goals of Chapter 11.64, Transportation Systems Management, it is stated that noise reduction through decreased traffic is a goal of the chapter. Finally, in Chapter 13.18, Use of Public Rights-of-Way, Section 13.18.110, Regulations, stipulates that all regulations, including those related to noise, apply to the construction, operation, maintenance, and repair of facilities in the public rights-of-way.

Vibration Standards

Neither the City of Menlo Park nor the County of San Mateo have regulatory standards for construction or operational vibration sources. For the purpose of this analysis, to evaluate the impacts of the proposed project under CEQA, federal standards are used to address vibration impacts from the operation of equipment to adjacent uses.

The United States Department of Transportation (Federal Transit Administration [FTA]) provides criteria for acceptable levels of groundborne vibration for various types of special buildings that are sensitive to vibration. The human reaction to various levels of vibration is highly subjective and varies from person to person. The upper end of the range shown for the threshold of perception, or roughly 65 VdB, may be considered annoying by some people. Vibration below 65 VdB may also cause secondary audible effects such as a slight rattling of doors, suspended ceilings/fixtures, windows, and dishes, any of which may result in additional annoyance.

The FTA provides criteria to evaluate potential human annoyance due to groundborne vibration caused by frequent and intermittent events. These FTA criteria, shown in Table 4.10-6, are used in this analysis to evaluate impacts from transportation sources to sensitive land uses throughout the city. The FTA also provides criteria to evaluate potential structural damage associated with vibration, and these FTA criteria are used in this analysis. Structures amplify groundborne vibration and wood-frame buildings, such as typical residential structures, are more affected by ground vibration than heavier buildings. The level at which groundborne vibration is strong enough to cause architectural damage has not been determined conclusively. The most conservative estimates are reflected in the FTA standards, shown in Table 4.10-7.

4.10.1.3 EXISTING CONDITIONS

Menlo Park is surrounded by multiple other cities and towns are of various sizes. Municipalities surrounding Menlo Park include Redwood City, Atherton, Palo Alto, Woodside, and Portola Valley. The land in these cities that border Menlo Park consists of residential and commercial uses.

TABLE 4.10-6 GROUNDBORNE VIBRATION AND NOISE IMPACT CRITERIA

Land Use Category	Groundborne Vibration Impact Levels (VdB re 1 micro-inch/second)		Groundborne Noise Impact Levels (dB re 20 micropascals)	
	Frequent Events[a]	Infrequent Events[b]	Frequent Events[a]	Infrequent Events[b]
Category 1: Buildings where low ambient vibration is essential for interior operations.	65 VdB[3]	65 VdB[3]	NA[4]	NA[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	80 VdB	35 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	83 VdB	40 dBA	48 dBA

a. "Frequent Events" is defined as more than 70 vibration events per day.
b. "Infrequent Events" is defined as fewer than 70 vibration events per day.
c. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels.
d. Vibration-sensitive equipment is not sensitive to groundborne noise.
Source: United States Department of Transportation Federal Transit Administration, "Transit Noise and Vibration Impact Assessment" Manual, May 2006.

TABLE 4.10-7 GROUNDBORNE VIBRATION CRITERIA: ARCHITECTURAL DAMAGE

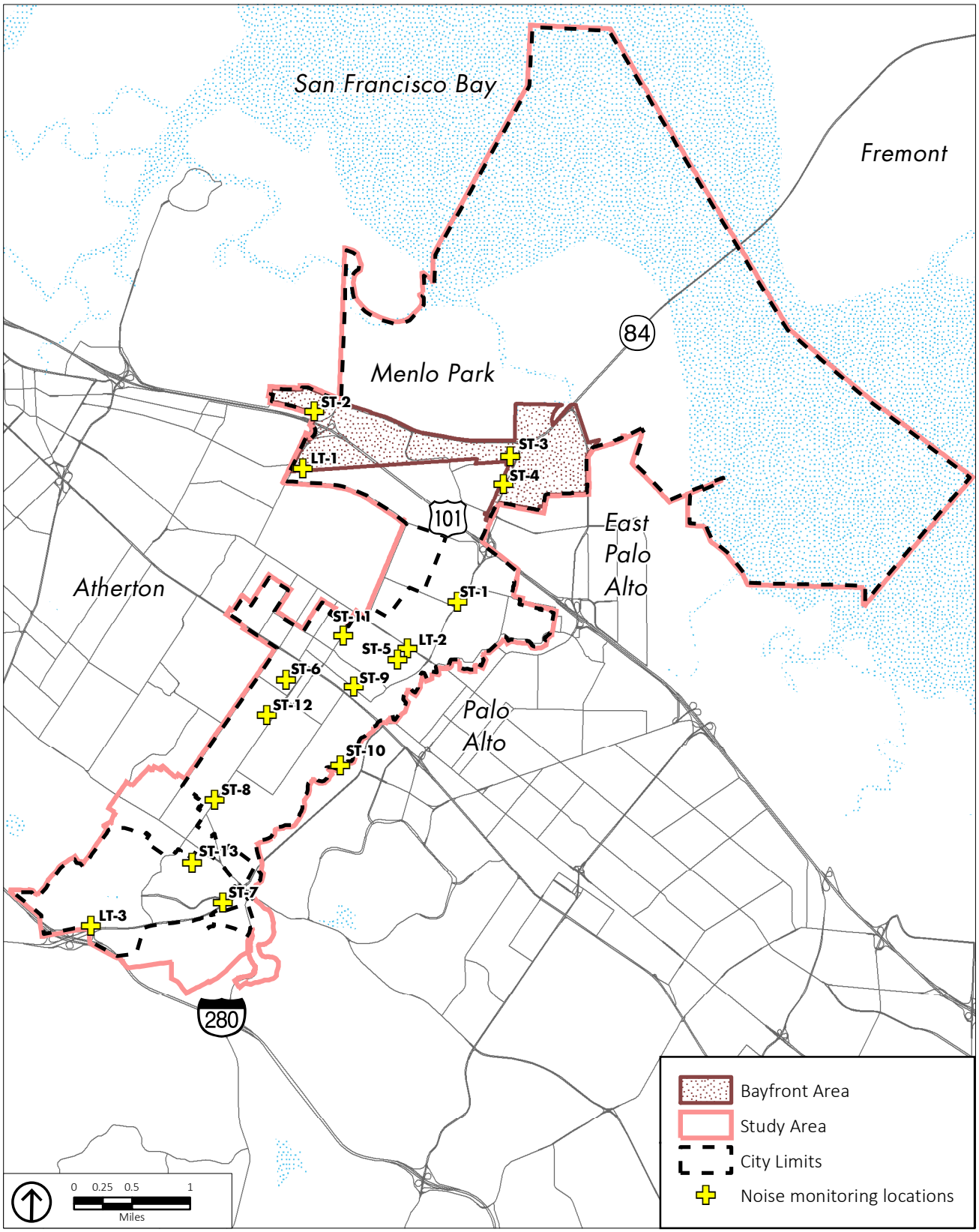
	Building Category	PPV (in/sec)	L_v (VdB)[a]
I.	Reinforced concrete, steel, or timber (no plaster)	0.5	102
II.	Engineered concrete and masonry (no plaster)	0.3	98
III.	Non-engineered timber and masonry buildings	0.2	94
IV.	Buildings extremely susceptible to vibration damage	0.12	90

a. RMS velocity calculated from vibration level (VdB) using the reference of one micro-inch/second.
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2006.

Noise Measurements

Existing ambient noise levels were measured at 16 locations in the city to document representative noise levels at several locations. These locations are shown on Figure 4.10-1. Short-term (ST) noise level measurements were taken at thirteen locations for a minimum period of 15 minutes during the daytime on December 6, 2012 and December 10, 2012, all between the hours of 10:00 a.m. and 6:00 p.m. Long-term (LT) noise level measurements were taken at three locations for a period of 24 hours on December 10 and 11, 2012.

The noise levels were measured using a Larson-Davis Model 820 sound level meter, which satisfies the American National Standards Institute for Type 1 general environmental noise measurement instrumentation. The sound level meter and microphone were mounted on a tripod 5 feet above the ground and equipped with a windscreen during all short-term measurements. For long-term measurements, the microphone and windscreen were attached to available objects including a fence and two sturdy trees/shrubs.



Source: City of Menlo Park; PlaceWorks, 2012; ESRI, 2010; FHA, 2002.

Figure 4.10-1
Noise Monitoring Locations

NOISE

The sound level meters were programmed to record noise levels with the "slow" time constant and using the "A" weighting filter network. Meteorological conditions during the measurement periods were favorable and were noted to be representative of typical conditions for the season. Generally, conditions included clear to partly cloudy skies, daytime temperatures of approximately 60 to 70 degrees Fahrenheit (°F), and less than 5-mile-per-hour winds. A description of the noise level measurement location is included in Appendix G, Noise Data, of this Draft EIR. The results of both the Long Term and Short Term measurements are summarized in Table 4.10-8.

TABLE 4.10-8 NOISE LEVEL MEASUREMENTS

Monitoring Site	L_{min}	L_{eq}	L_{max}	CNEL
LT-1	—	—	—	67.1
LT-2	—	—	—	68.6
LT-3	—	—	—	67.5
ST-1	52.2	67.3	74.4	—
ST-2	53.9	63.6	78.8	—
ST-3	50.6	56.5	60.9	—
ST-4	50.9	59.5	72.3	—
ST-5	41.3	55.9	71.3	—
ST-6	51.5	62.9	82.6	—
ST-7	52.6	69.1	79.4	—
ST-8	48.5	69.8	80.2	—
ST-9	44.7	60.9	78.2	—
ST-10	42.1	49.2	67.8	—
ST-11	46.6	66.8	78.2	—
ST-12	42.2	54.6	72.6	—
ST-13	41.2	57.4	72.6	—

Note: ST = Short-Term, LT = Long-Term

Principal Noise Sources in Menlo Park

On-Road Vehicles

Highway 101 passes through the northeastern part of Menlo Park, and Interstate 280 runs along the southwestern boundary of the city. In addition to Highway 101 and I-280, major roadways running northwest to southeast through or adjacent to Menlo Park include Alameda de las Pulgas, El Camino Real, Middlefield Road, Bay Road, and Bayfront Expressway. Major southwest-northeast roadways include Valparaiso Avenue, Santa Cruz Avenue, Sand Hill Road, Ravenswood Avenue, Ringwood Avenue, Marsh Road, and Willow Road. Together, Highway 101, I-280, and these streets comprise the major roads in the

City of Menlo Park. Figure 4.10-2 shows existing noise contours for Menlo Park, including the roadways referenced above.

In addition to the 2012 measurements taken by PlaceWorks, monitoring was also conducted by Wilson, Ihrig & Associates, Inc. in 2015, in the vicinity of the TE Connectivity site. A summary of the results of the measurements is shown in Table 4.10-9. The complete report, including a noise measurement location map, by Wilson, Ihrig & Associates, Inc. is included in Appendix G, Noise Data, of this Draft EIR.

Train Noise

Two rail lines traverse Menlo Park. One minor rail line crossing the northern-most portion of the city from east to west is a little-used segment of a former Union Pacific line, which once crossed San Francisco Bay. This rail line currently consists of a single track and the rail bridge that served as the connection for this line is no longer functional; however, this bridge is planned for reconstruction and future use as part of the Dumbarton Rail Project. The second and major rail line that crosses the city is the Caltrain right-of-way, which bisects a portion of Menlo Park along the city's short northwest-southeast axis. The Caltrain tracks run in the area between El Camino Real and Alma Road, entering Menlo Park at Watkins Avenue and exiting to Palo Alto at San Francisquito Creek. Caltrain runs on a double track throughout its entire length through Menlo Park, and its right-of-way is owned and administered by the Peninsula Corridor Joint Powers Board. Menlo Park is served by one Caltrain station along this line, and though there are currently only 65 weekday daily stops at this station (either northbound or southbound), more than 90 trains pass either north or south through Menlo Park on a daily basis during the work week. The sheer number of passings by these diesel-powered commuter trains ensures that the activity along the Caltrain railway contributes significantly to the ambient noise environment of nearby areas of Menlo Park.

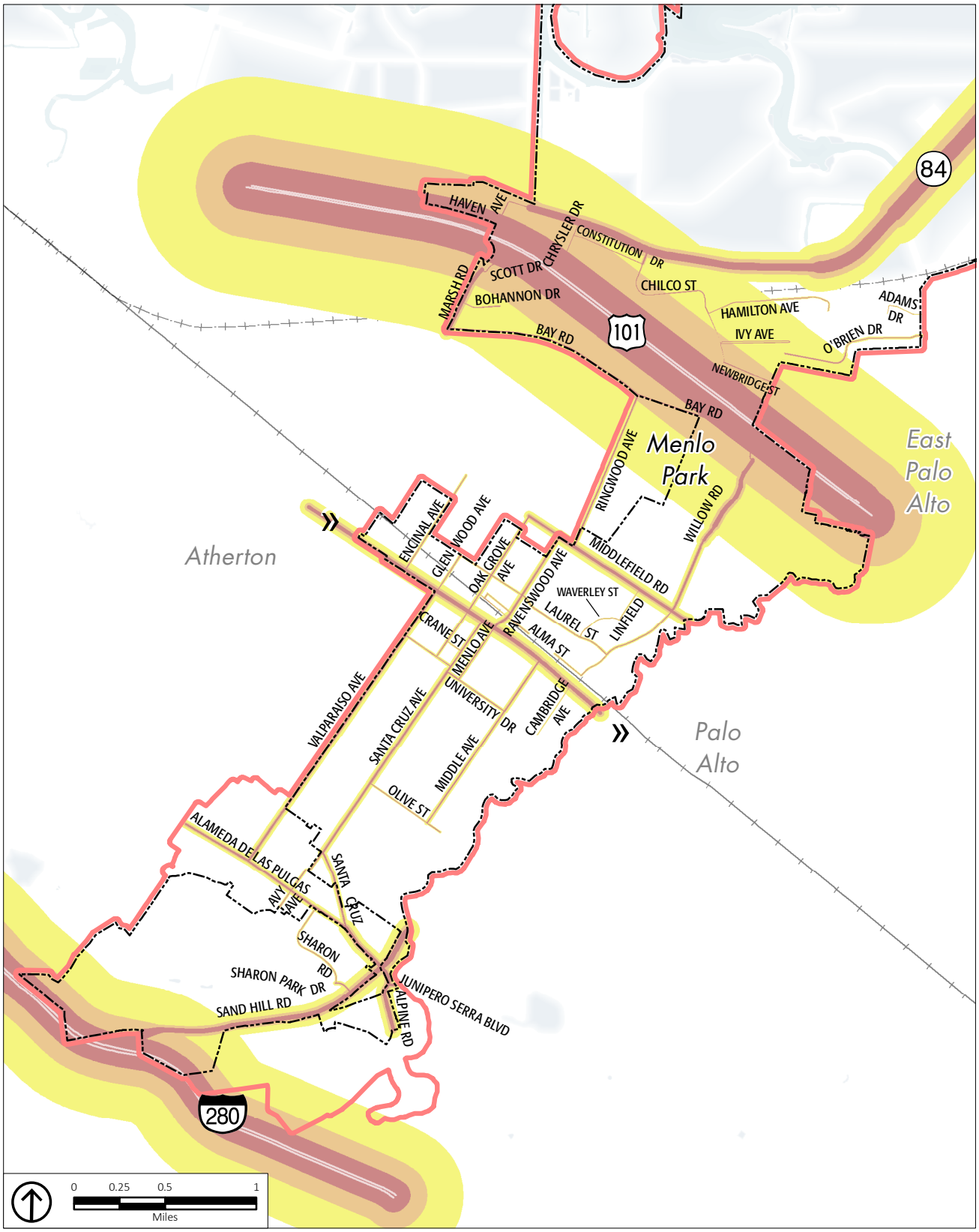
Heliports

There are no heliports located within the City of Menlo Park. The nearest heliport is the Stanford University Hospital heliport, which is located approximately 0.4-mile to the southeast of the border of Menlo Park. There are no other heliports within 10 miles of the City.[1]

Aircraft Noise

Menlo Park is located approximately 6 miles to the northwest of Moffet Federal Airfield, 14 miles to the northwest of the San Jose International Airport, 15 miles to the southeast of San Francisco International Airport, and 18 miles to the south of Oakland International Airport. The project study area is also located in close proximity to two smaller airports; with portions of Menlo Park as near as 2 miles from the Palo Alto Airport and other areas of the project study area as near as approximately 4 miles from the San Carlos Airport. Additional small airports in the vicinity include the Hayward Executive Airport, at 11 miles away, and the Half Moon Bay airport, at 16 miles away. Although Menlo Park does receive some noise from aircraft using these facilities, Menlo Park does not fall within the airport land use planning areas, runway protection zones, or the 55 dBA CNEL noise contours of any of these airports.

[1] www.Airnav.com, accessed on May 4, 2016.



Source: City of Menlo Park; PlaceWorks, 2015; TJKM, 2015

City Limits

Sphere of Influence

60 dBA contour
65 dBA contour
70 dBA contour

Figure 4.10-2
Existing Noise Contours

TABLE 4.10-9 TE CONNECTIVITY SITE MEASUREMENT SUMMARY

		Location 1			Location 2			Location 3		
		Combined Steady	TEC[a] Transient	Other	Combined Steady	TEC[a] Transient	Other	Combined Steady	TEC[a] Transient	Other
1/7/2015 Wednesday	5A – 6A	60	60	60.6	60*	--	61.3	55*	--	56 – 71
	9A – 10A	58	58 – 60	60.8	54 – 57**	--	56 – 63	56 – 58**	--	59 – 76
	3P – 4P	57 – 58	57 – 58	57 – 61	54 – 55	56	56 – 64	53 – 55**	--	54 – 63
	10P – 11P	59 – 60*	59 – 60	60 – 61	56	57	57 – 62	55 – 57	--	57 – 60
1/8/2014 Thursday	5A – 6A	59 – 61	59 – 61	60 – 64	56 – 57*	57 – 60	57 – 60	54 – 56	--	55 – 56
	9A – 10A	58 – 59	58 – 60	59 – 63	55 – 56	--	56 – 65	56**	--	58 – 65
1/15/2014 Thursday	3P – 4P	57 – 58	58.3	61 – 62	55 – 56**	--	57 – 66	55 – 56**	--	57 – 65
	10P – 11P	57 – 59	58 – 61	59 – 63	55 – 56	57 – 58	58 – 68	54 – 56*	--	56 – 63
1/16/2014 Friday	5A – 6A	58 – 59	--	--	56 – 59*	60 – 61*	--	55 – 56*	--	57 – 61*
	9A – 10A	56 – 57	--	59 – 62	55	55*	57 – 61	55 – 56**	--	62 – 74
1/24/2014 Saturday	5A – 6A	56 – 57	57 – 58	58 – 59	55 – 56	56	57	54 – 57	--	56 – 69
	9A – 10A	56	56 – 57	57 – 65	52 – 54	--	57 – 67	52 – 54**	--	54 – 70
	3P – 4P	56	--	58 – 61	51 – 54	--	59 – 61	54 – 56	--	58 – 67
	10P – 11P	56 – 57	57 – 58	62	55	55 – 57	--	54 – 55	--	--
1/25/2014 Sunday	5A – 6A	56	57 – 58	--	54 – 55	--	--	55	--	--
	9A – 10A	55 – 57	56 – 58	56 – 64	53	62	57	52	--	54 – 55
	3P – 4P	56 – 57	56 – 57	56 – 59	52 – 54	54	56 – 77	52 – 54	--	53 – 65
	10P – 11P	56*	56 – 60*	58	55 – 56*	56 – 57	58	55 – 56*	--	57 – 61
1/26/2014 Monday	5A – 6A	58 – 60*	58 – 60*	61	56 – 57*	57 – 59*	60 – 61	56 – 58*	--	60 – 62
	9A – 10A	57	57 – 59	58 – 60	54 – 57	--	55 – 61	54 – 59*	--	58 – 69
	3P – 4P	58 – 60	58 – 61	59 – 60	53 – 57	--	55 – 62	54 – 56**	--	59 – 76
	10P – 11P	58	58 – 60	61	56 – 57	--	--	54 – 57	--	--

a. "Transient" noise levels often include other noise sources such as U.S. 101 and Bayshore Expressway.
*Traffic audible throughout, **Construction audible throughout.

Stationary Source Noise

Stationary sources of noise may occur from all types of land uses. Menlo Park is mostly developed with residential, commercial, institutional, and some light industrial uses. Commercial uses can generate noise from HVAC systems, loading docks, trash compactors, and other sources. Industrial uses may generate noise from HVAC systems, loading docks, and machinery required for manufacturing or other industrial processes. Noise generated by commercial uses is generally short and intermittent. Industrial uses may generate noise on a more continual basis, or intermittently, depending on the processes and types of machinery involved. In addition to on-site mechanical equipment, which generates stationary noise, warehousing and industrial land uses generate substantial truck traffic that results in additional sources of noise on local roadways in the vicinity of industrial operations.

The majority of the Menlo Park's limited industrial operations are located in the far northern reaches of the city, and are usually separated from sensitive uses, such as residences, by either rail lines or by major roads. In both cases, this added distance serves to decrease the noise perceived by these receptors and, in the case of major roads, the noise from the roads was generally observed to exceed that from the industrial uses. Existing residential areas with the greatest potential to be impacted by noise from industrial operations include those along the previously mentioned Union Pacific rail right-of-way (Dumbarton Rail Corridor) and those along the northern end of Willow Road between Ivy Drive and the Bayfront Expressway.

Construction Noise

Construction activity also contributes to the noise environment of Menlo Park; however such activities are typically temporary, occurring in any one location for only a limited period of time. Larger or multi-phase construction projects may contribute to the noise environment of a particular location for a more extended period of time. Public infrastructure that requires ongoing maintenance may also result in ongoing noise impacts, though usually not at a constant location. For example, different sections of road may be repaved at different times, meaning that noise impacts from associated construction activities would, at any given time, only occur along and near the section of roadway undergoing such maintenance.

Public Facility Noise

Outdoor activities that occur on school campuses and in parks throughout the city generate noticeable levels of noise. Noise generated on both the weekdays (from physical education classes and sports programs) and weekends (from use of the fields and stadiums) can elevate community noise levels.

4.10.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would result in a significant impact if it would:

1. Exposure of people to, or generation of, noise levels in excess of standards established in the General Plan or the Municipal Code, and/or the applicable standards of other agencies.
2. Exposure of people to, or generation of, excessive groundborne vibration or groundborne noise levels.

3. Substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
5. Exposure of people residing or working in the vicinity of the project site to excessive aircraft noise levels, for a project located within an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport.
6. Exposure of people residing or working in the project site to excessive noise levels, for a project within the vicinity of a private airstrip.

4.10.3 IMPACT DISCUSSION

This section analyzes potential project-specific and cumulative impacts to noise.

NOISE-1 Implementation of the proposed project would not cause exposure of people to, or generation of, noise levels in excess of standards established in the General Plan or the Municipal Code, and/or the applicable standards of other agencies.

The proposed project includes land use changes in the Bayfront Area that would allow more intense non-residential development and new multi-family residential development in an area that is currently developed with existing non-residential land uses, as well as ongoing development potential allowed under the current General Plan in the remainder of the city.

As described in detail in Section 4.10.1.2, Regulatory Framework, the standards for noise generation and exposure in the City of Menlo Park are determined primarily through the City's existing General Plan and Municipal Code standards, as well as by the interior noise standards set by the Title 24 of the State Building Code.

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and Section III, Noise (N), of the existing Open Space/Conservation, Noise and Safety Elements, contain general goals, policies and programs that would require local planning and development decisions to consider noise impacts. The following General Plan goals, policies, and programs would serve to ensure noise levels do not exceed those standards established for Menlo Park:

- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
  - Policy LU-2.9: Compatible Uses. Promote residential uses in mixed-use arrangements and the clustering of compatible uses such as employment center, shopping areas, open space and parks, within easy walking and bicycling distance of each other and transit stops.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.

NOISE

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

- Goal N-1: Achieve acceptable noise levels.
  - Policy N-1.1: Compliance with Noise Standards. Consider the compatibility of proposed land uses with the noise environment when preparing or revising community and/or specific plans. Require new projects to comply with the noise standards of local, regional, and building code regulations, including but not limited to the City's Municipal Code, Title 24 of the California Code of Regulations, and subdivision and zoning codes.
  - Policy N-1.2: Land Use Compatiblity Standards. Protect people in new development from excessive noise by applying the City's Land Use Compatibility Noise Standards for New Development (see Table 4.10.5 above) to the siting and required mitigation for new uses in existing noise environments.
  - Policy N-1.3: Exterior and Interior Noise Standards for Residential Use Areas. Strive to achieve acceptable interior noise levels and exterior noise levels for backyards and/or common usable outdoor areas in new residential development, and reduce outdoor noise levels in existing residential areas where economically and aesthetically feasible.
  - Policy N-1.4: Noise Sensitive Uses. Protect existing residential neighborhoods and noise-sensitive uses from unacceptable noise levels and vibration impacts. Noise sensitive uses include, but are not limited to, hospitals, schools, religious facilities, convalescent homes and businesses with highly sensitive equipment. Discourage the siting of noise-sensitive uses in areas in excess of 65 dBA CNEL without appropriate mitigation and locate noise sensitive uses away from noise sources unless mitigation measures are included in development plans.
  - Policy N-1.5: Planning and Design of New Development to Reduce Noise Impacts. Design residential developments to minimize the transportation-related noise impacts to adjacent residential areas and encourage new development to be site planned and architecturally designed to minimize noise impacts on noise-sensitive spaces. Proper site planning can be effective in reducing noise impacts.
  - Policy N-1.6: Noise Reduction Measures. Encourage the use of construction methods, state-of-the-art noise abating materials and technology and creative site design including, but not limited to, open space, earthen berms, parking, accessory buildings, and landscaping to buffer new and existing development from noise and to reduce potential conflicts between ambient noise levels and noise-sensitive land uses. Use sound walls only when other methods are not practical or when recommended by an acoustical expert.
  - Policy N-1.7: Noise and Vibration from New Non-Residential Development. Design non-residential development to minimize noise impacts on nearby uses. Where vibration impacts may occur, reduce impacts on residences and businesses through the use of setbacks and/or structural design features that reduce vibration to levels at or below the guidelines of the Federal Transit Administration near rail lines and industrial uses.

- Policy N-1.8: Potential Annoying or Harmful Noise. Preclude the generation of annoying or harmful noise on stationary noise sources, such as construction and property maintenance activity and mechanical equipment.
- Policy N-1.9: Transportation Related Noise Attenuation. Strive to minimize traffic noise through land use policies, traffic-calming methods to reduce traffic speed, law enforcement and street improvements, and encourage other agencies to reduce noise levels generated by roadways, railways, rapid transit, and other facilities..
- Policy N-1.10: Nuisance Noise. Minimize impacts from noise levels that exceed community sound levels through enforcement of the City's Noise Ordinance. Control unnecessary, excessive and annoying noises within the City where not preempted by Federal and State control through implementation and updating of the Noise Ordinance.
    - Program N-1.A: Require Acoustical Studies. Require acoustical studies for all new multi-family residential projects within the projected Ldn 60 dB noise contours so that noise mitigation measures can be incorporated into project design and site planning.
    - Program N-1.C: Consider Noise Impacts in Street Design. Employ noise mitigation practices and materials, as necessary, when designing future streets and when improvements occur along existing road segments. Mitigation measures should consider quieter pavements and emphasize the establishment of natural buffers or setbacks between the arterial roadways and adjoining noise-sensitive areas. Strive to maintain smooth street surfaces adjacent to land uses that are sensitive to noise intrusion.
    - Program N-1.D: Minimize Construction Activity Noise. Minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA review, conditions of approval and enforcement of the City's Noise Ordinance.
    - Program N-1.F: Work with Other Agencies to Reduce Transportation-Related Noise Levels. Work closely with Caltrans, San Mateo County Department of Public Works and other jurisdictions to reduce noise levels along State highways and county roadways through or near the City.
    - Program N-1.G: Monitor Airport Noise. Engage airport authorities and participate in regional planning efforts to ensure future activities and flight patterns at commercial airports do not negatively impact noise levels in the city.
    - Program N-1.H: Work with Railroad Operators to Reduce Noise and Vibration Levels. Work with the railroad operators (e.g., Caltrain, Union Pacific, etc.) to reduce, to the extent possible, the contribution of railroad train noise and vibration to Menlo Park's noise environment.
    - Program N-1.I: Work with Neighboring Communities When Implementing Noise Policies and Programs. Work with neighboring communities to ensure compliance with the land use and noise compatibility policies contained in this Noise Element at Menlo Park's boundaries.
    - Program N-1.J: Evaluate Noise Related Impacts of City Actions as Appropriate. Analyze in detail the potential noise impacts of any actions that the City may take or act upon which could significantly alter noise level in the community.

In addition to the Land Use Compatibility Noise Standards, the City of Menlo Park has adopted noise reception limits for residential uses (Section 8.06.030), and this regulatory approach would continue

under the proposed project. Therefore, there are three subsequent criteria, based on applicable standards and regulations, which may be applied to determine impacts under this significance threshold.

- Development of new residential or other noise-sensitive land uses such that those new uses would experience an indoor L_{dn} exceeding 45 dBA.
- Development of any land use in an area that is characterized by an exterior L_{dn} which indicates that the establishment of that land use in the area would be "clearly unacceptable," pursuant to the Land Use Compatibility Noise Standards continued under the proposed project.
- Development of a new land use that would result in adjacent properties experiencing short- or long-term ambient noise levels that exceed those regarded as compatible, or which exceed levels permitted under Chapter 8.06 of the Menlo Park Municipal Code.

Each of these criteria are discussed in greater detail below.

1) Development of new residential or other noise-sensitive land uses such that those new uses would experience an indoor L_{dn} exceeding 45 dBA.

Multiple components of the proposed project would serve to prevent new residential dwellings, hotels, motels, dormitories, and school classrooms from experiencing interior noise levels in excess of 45 dBA L_{dn}. Prevention of excessive interior noise levels would be achieved both through adherence to the Land Use Noise Compatibility Standards included in the Noise Element (See Table 4.10-5), as well as through the performance of acoustical analysis in noisy areas, which would help determine what, if any, noise attenuating features are necessary to achieve the 45 dBA L_{dn} interior noise standard. As individual projects are proposed under the proposed project, future project applicants would be required to demonstrate compliance with Municipal Code and Title 24 regulations.

Specifically, Policy N-1.1 requires compliance of new projects with all applicable noise standards, Policy N-1.2 would ensure that City land use decisions adhere to the established Land Use Noise Compatibility Standards, and Policy N-1.3 encourages new and existing residential uses to strive for acceptable interior and exterior noise levels. All the Noise Element policies listed above regarding noise-sensitive development are consistent with the California Building Code. Additionally Chapter 8.06, Noise, of the Menlo Park Municipal Code contains provisions to limit the generation and reception of excessive noise. Such provisions include, but are not limited to, restrictions on construction activity and limitations on noise generation as measured on receiving residential properties.

Under the proposed project, in areas where noise levels exceed those that are normally acceptable for a particular land use, development projects would continue to be required to demonstrate—through acoustical studies, as necessary, that interior noise environments would comply with the 45 dBA L_{dn} State standard.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing federal, State and local regulations discussed above, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to noise-related impacts. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the preparation of acoustical studies, reduce vehicular noise, consider noise impacts in street design, and minimize construction activity noise. Together, these General Plan policies and Municipal

Code regulations would serve to ensure that land use and development decisions consider and seek to prevent potential noise impacts. Accordingly, the adoption of the proposed project would result in *less-than-significant* impacts with respect to compliance with local and State standards for interior noise.

2) Development of any land use in an area that is characterized by an exterior L_{dn} which indicates that the establishment of that land use in the area would be "clearly unacceptable," pursuant to the Land Use Noise Compatibility Guidelines continued under the proposed project.

Through adherence to the Land Use Noise Compatibility Standards, the City would prohibit the development of particular land uses in areas where the ambient noise level would indicate those land uses would be clearly unacceptable (such as Low Density Residential uses in areas with noise levels of 75 CNEL or higher). Noise Element Policy N-1.2 would ensure that City land use decisions adhere to the established Land Use Noise Compatibility Noise Standards. As stated above, because future development is required to comply with the City's regulatory procedures, and through continued implementation of these requirements as part of implementation of the proposed project, the City would ensure compliance with local and State standards for land use compatibility, and the impact would be *less than significant*.

3) Development of a new land use that would result in adjacent properties experiencing short- or long-term ambient noise levels that exceed those regarded as compatible, or which exceed levels permitted under Chapter 8.06 of the Menlo Park Municipal Code.

Under the proposed project, the policies of the General Plan and provisions of the Menlo Park Municipal Code listed above would ensure that new land uses do not contribute to excessive noise at existing sensitive receptors. Specifically, Policy N1.1 requires new projects to comply with local, regional, and State noise regulations, Policy N1.5 encourages that new residential developments be designed to minimize transportation-related noise impacts to adjacent residential areas, Policy N1.7 requires that new non-residential development implement measures to minimize noise and vibration impacts on nearby uses, and Policy N1.10 protects the community from unnecessary, excessive, and annoying noises through enforcement of the City's Noise Ordinance, as well as State and federal standards. Furthermore, implementation of Policy N1.6 and Program N1.D would minimize the impacts of construction noise at nearby properties.

Additionally, the maintenance and continued enforcement of the Menlo Park Municipal Code would work in tandem with and reinforce the existing goals, policies and programs within the Noise Element. Therefore, as stated above, adoption of the proposed project would result in *less-than-significant* comments with respect to a violation of applicable local noise standards.

In summary, the proposed is a planning level document and does not propose any project-specific development; therefore, it would not in and of itself result in the generation of noise levels in excess of standards established in the General Plan or the Municipal Code, and/or the applicable standards of other agencies. However, future projects would be required to demonstrate compliance with the City's required standards and in this respect, impacts are considered *potentially significant*.

Applicable Regulations

- California Code of Regulations, Title 24, Building Standards
- Title 21, Subchapter 6, of the California Code of Regulations

NOISE

- Menlo Park Noise Element, 2013
- Menlo Park Municipal Code:
  - Title 8: Peace, Safety, and Morals, Chapter 8.06: Noise

Impact NOISE-1: Future projects in Menlo Park could result in development that exceed noise limits required under Title 24 and the City's regulations.

Mitigation Measure NOISE-1a: To meet the requirements of Title 24 and General Plan Program N-1.A, project applicants shall perform acoustical studies prior to issuance of building permits for development of new noise-sensitive uses. New residential dwellings, hotels, motels, dormitories, and school classrooms must meet an interior noise limit of 45 dBA CNEL or L_{dn}. Developments in areas exposed to more than 60 dBA CNEL must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. Where exterior noise levels are projected to exceed 60 dBA CNEL or L_{dn} at the façade of a building, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the 45 dBA noise limit. Project applicants must perform acoustical studies for all new multi-family residential projects within the projected Ldn 60 dB noise contours, so that noise mitigation measures can be incorporated into project design and site planning.

Mitigation Measure NOISE-1b: Stationary noise sources, and landscaping and maintenance activities shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code.

Mitigation Measure NOISE-1c: Project applicants shall minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA review, conditions of approval and/or enforcement of the City's Noise Ordinance. Prior to issuance of demolition, grading, and/or building permits for development projects, a note shall be provided on development plans indicating that during on-going grading, demolition, and construction, the property owner/developer shall be responsible for requiring contractors to implement the following measures to limit construction-related noise:

- Construction activity is limited to the daytime hours between 8:00 a.m. to 6:00 p.m. on Monday through Friday, as prescribed in the City's municipal code.
- All internal combustion engines on construction equipment and trucks are fitted with properly maintained mufflers, air intake silencers, and/or engine shrouds that are no less effective than as originally equipped by the manufacturer.
- Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses.
- Stockpiling is located as far as feasible from nearby noise-sensitive receptors.
- Limit unnecessary engine idling to the extent feasible.
- Limit the use of public address systems.
- Construction traffic shall be limited to the haul routes established by the City of Menlo Park.

Significance With Mitigation: Less than significant.

NOISE-2 Implementation of the proposed project would not cause exposure of people to, or generation of, excessive groundborne vibration or groundborne noise levels.

CEQA does not specify quantitative thresholds for what is considered "excessive" vibration or groundborne noise. The City of Menlo Park Municipal Code, Section 16.78.020, requires that the potential for damage or nuisance from vibration be considered when determining whether to issue permits, but does not establish quantitative thresholds. Therefore, based on criteria from the Federal Transit Administration (FTA), which are regarded as standard practice, a significant impact would occur if:

- Implementation of the proposed project would result in ongoing exceedance of the criteria for annoyance presented in Table 4.10-3.
- Implementation of the proposed project would result in vibration exceeding the criteria presented in Table 4.10-4 that could cause buildings architectural damage.

The following discusses potential vibration impacts generated by short-term construction and long-term operations that may occur under implementation of the proposed project.

Short-Term Construction-Related Vibration Impacts

The effect on buildings in the vicinity of a construction site varies depending on soil type, ground strata, and receptor-building construction. Groundbourne vibration is almost never annoying to people who are outdoors, so it is usually evaluated in terms of indoor receivers.[2] The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can damage structures, but groundborne vibration and groundborne noise can reach perceptible and audible levels in buildings that are close to the construction site. Table 4.10-10 lists vibration levels for construction equipment.

As shown in Table 4.10-10, vibration generated by construction equipment has the potential to be substantial. Significant vibration impacts may occur from construction activities associated with new development under the proposed project. Implementation of the proposed project anticipates an increase in development intensity in certain areas. Therefore, significant vibration impacts may occur from construction activities associated with new development under the proposed project. However, without specific development details, it is not possible to quantify potential construction vibration impacts. In construction projects, grading and demolition activity typically generate the highest vibration levels during construction.

[2] Federal Transit Administration, 2006. Transit Noise and Vibration Impact Assessment.

TABLE 4.10-10 GROUNDBORNE VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Approximate Velocity Level at 25 Feet (VdB)	Approximate RMS[a] Velocity at 25 Feet (inch/sec)
Pile Driver (Impact) Upper Range	112	1.518
Pile Driver (Impact) Lower Range	104	0.644
Pile Driver (Sonic) Upper Range	105	0.734
Pile Driver (Sonic) Lower Range	93	0.170
Large Bulldozer	87	0.089
Caisson Drilling	87	0.089
Jackhammer	79	0.035
Small Bulldozer	58	0.003
Loaded Trucks	86	0.076
FTA Criteria – Human Annoyance (Daytime)	78 to 90[b]	—
FTA Criteria – Structural Damage	—	0.2 to 0.5[c]

a. RMS velocity calculated from vibration level (VdB) using the reference of 1 micro-inch/second.
b. Depending on affected land use. For residential 78 VdB, for offices 84 VdB, workshops 90 VdB.
c. Depending on affected building structure, for timber and masonry buildings 0.2 in/sec, for reinforced-concrete, steel, or timber 0.5 in/sec.
Source: Federal Transit Administration, Transit Noise, and Vibration Impact Assessment, 2006.

For construction projects generally, with the exception of pile driving, maximum vibration levels measured at a distance of 25 feet from an individual piece of typical construction equipment do not exceed the thresholds for human annoyance for industrial uses, nor the thresholds for architectural damage, as defined in Table 4.10-3, which is shown above in Section 4.10.1, Background.

Methods to reduce vibration during construction would include the use of smaller equipment, use of well-maintained equipment, use of static rollers instead of vibratory rollers, and drilling of piles as opposed to pile driving. Methods to reduce human impacts of vibration from construction include limitations on construction hours and/or guidelines for the positioning of vibration-generating construction equipment. These methods for reducing vibration and human impacts of vibration during construction are outlined in Mitigation Measure NOISE-4 below.

Overall, vibration impacts related to construction would be short-term, temporary, and generally restricted to the areas in the immediate vicinity of active construction equipment. Construction would be localized and would occur intermittently for varying periods of time. Because specific, project-level information is not available at this time, it is not possible to quantify the construction vibration impacts at specific sensitive receptors.

Policies N-1.4, N-1.7, and Program N-1.D listed under NOISE-1, would promote the use of best available technology by construction contractors to minimize excessive noise and vibration from construction equipment. These policies and program would thereby serve to ensure that construction activities do not result in sustained levels of vibration that could result in architectural damage or ongoing annoyance.

Long-Term Vibration Impacts

Development under the proposed project could result in long-term, operations-related vibration impacts to sensitive receptors if sensitive land uses such as residential, educational facilities, hospitals, or places of worship were to be located in close proximity to industrial land uses that could have equipment with the potential to generate significant vibration levels. High levels of vibration are usually associated with heavy industrial uses. The light industrial uses of the sort that would continue to be permitted in Menlo Park under the proposed project are very rarely associated with vibration that is sufficiently intense or sustained so as to cause either human discomfort or architectural/structural damage. Therefore, the potential for sensitive land uses adjacent to uses that would generate significant vibration is limited. Nevertheless, any potential impacts from the juxtaposition of sensitive land uses and land uses with the potential to generate vibration can largely be eliminated through appropriate setbacks, buffers, use restrictions and/or other measures.

As described above, there are Municipal Code provisions for special uses that require the employment of strategies to prevent vibration impacts. These would continue to apply to the proposed project. Specifically, Section 16.78.020 of the Municipal Code contains the general restriction that certain land uses shall be considered unreasonably incompatible if they result in damage or nuisance from vibration in surrounding areas. These include heliports, mining, other excavation, recreational vehicle storage, recycling centers, recreational services, and emergency services. A use permit for these types of uses would not be granted if the operation would cause damage or nuisance from noise and vibration. The current 2013 Noise Element offers generalized direction for the City to consider noise (and vibration) impact during development decisions and provides specific policies in respect to these considerations. Policies N-1.4, N-1.7, and Program N-1.H would provide strategies to minimize long-term vibration impacts of new developments on existing uses. By ensuring general land use compatibility and by requiring, where necessary, approaches to reduce the generation or transmission of vibration, these policies and ordinances would serve to ensure sufficient attenuation of vibration to preclude impacts at sensitive receptors.

Together, these regulations, policies, and actions would ensure that buildout of land uses under the proposed project would not result in perception of excessive noise and vibration by sensitive receptors in new developments. These policies and actions would also serve to ensure that new uses developed under the proposed project would not result in the perception of excessive vibration by individuals living or working in areas of existing sensitive land uses. Through consideration of land use compatibility, project-level review, and requirements for mitigation of noise and vibration, the amended policies of the General Plan would prevent or reduce exposure to long-term, operations-related vibration.

Applicable Regulations:

- California Code of Regulations, Title 24, Building Standards
- Menlo Park Noise Element, 2013
- Menlo Park Municipal Code:

NOISE

- Title 16: Zoning, Section 16.78.020.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing federal, State and local regulations discussed above, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to noise-related impacts. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require construction activity noise to be minimized. Together, these General Plan policies and Municipal Code regulations would serve to ensure that land use and development decisions consider and seek to prevent potential noise impacts. Accordingly, the adoption of the proposed project would result in *less-than-significant* impacts with respect to exposing people to excessive groundbourne vibration and noise level.

In summary, the proposed is a planning level document and does not propose any project-specific development; therefore, it would not in and of itself cause exposure of people to, or generation of, excessive groundborne vibration or groundborne noise levels. However, future projects would be required to demonstrate compliance with the City's required standards, and impacts in this respect are considered *potentially significant*.

Impact NOISE-2: Future projects in Menlo Park could cause exposure of people to, or generation of, excessive groundborne vibration or groundborne noise levels.

Mitigation Measure NOISE-2a: To prevent architectural damage as a result of construction-generated vibration:

- Prior to issuance of a building permit for any development project requiring pile driving or blasting, the project applicant/developer shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. The maximum levels shall not exceed 0.2 inch/second, which is the level that can cause architectural damage for typical residential construction. If maximum levels would exceed these thresholds, alternative methods such static rollers, non-explosive blasting, and drilling piles as opposed to pile driving shall be used.

To prevent vibration-induced annoyance as a result of construction-generated vibration:

- Individual projects that involve vibration-intensive construction activities, such as blasting, pile drivers, jack hammers, and vibratory rollers, within 200 feet of sensitive receptors shall be evaluated for potential vibration impacts. A vibration study shall be conducted for individual projects where vibration-intensive impacts may occur. The study shall be prepared during the project's approval process and by an acoustical or vibration engineer holding a degree in engineering, physics, or allied discipline and who is able to demonstrate a minimum of two years of experience in preparing technical assessments in acoustics and/or groundborne vibrations. The study shall be submitted to and approved by the City prior to issuance of building permits.

Vibration impacts to nearby receptors shall not exceed the vibration annoyance levels (in RMS inches/second) as follows:

- Workshop = 0.126
- Office = 0.063

- Residential Daytime (7AM–10PM)= 0.032
- Residential Nighttime (10PM to 7 AM) = 0.016

If construction-related vibration is determined to be perceptible at vibration-sensitive uses, additional requirements, such as use of less-vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., nonexplosive blasting methods, drilled piles as opposed to pile driving, preclusion for using vibratory rollers, use of small- or medium-sized bulldozers, etc.). Vibration reduction measures shall be identified as mitigation measures in the environmental document and/or incorporated into the site development plan as a component of the project.

Mitigation Measure NOISE-2b: To reduce long-term vibration impacts at existing or potential future sensitive uses, the City shall implement the following best management practices as part of the project approval process:

- Locate sensitive uses away from vibration sources.
- Ensure that industrial development has been designed to minimize vibration impacts on nearby uses. Where vibration impacts may occur, reduce impacts on residences and businesses through the use of setbacks and/or structural design features that reduce vibration to levels at or below the guidelines of the Federal Transit Administration near rail lines and industrial uses. A vibration study shall be conducted for individual projects where vibration-intensive impacts may occur. The study shall be prepared during the project's approval process and by an acoustical or vibration engineer holding a degree in engineering, physics, or allied discipline and who is able to demonstrate a minimum of two years of experience in preparing technical assessments in acoustics and/or groundborne vibrations. The study shall be submitted to and approved by the City prior to issuance of building permits.
- Work with the railroad operators (e.g., Caltrain, Union Pacific, etc.) to reduce, to the extent possible, the contribution of railroad train noise and vibration to Menlo Park's noise environment.

Significance With Mitigation: Less than significant.

NOISE-3 Implementation of the proposed project would not cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed project.

Implementation of the proposed project would have a significant impact if it would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the proposed project. The City has not adopted a specific, quantitative threshold for what constitutes a significant permanent increase in ambient noise levels. The smallest increase in loudness perceptible by the human ear is 3 dBA and increases of 5 dBA or greater are easily noticed.[3] Therefore, in the absence of quantitative ambient noise level increase thresholds adopted by the City, a substantial increase in ambient noise levels would be defined as either: a 5 dB increase, if after the increase the ambient noise level

[3] Bies, David and Hansen, Colin, 2009, *Engineering Noise Control: Theory and Practice, Fourth Edition*, New York: Spon Press.

remains in the range of what would be "normally acceptable" at the sensitive land use where the noise is being received; or a 3 dB increase, if after the increase the ambient noise level exceeds the range of what would be "normally acceptable" at the land use where the noise is being received.[4]

Long-Term Operational Noise

A portion of the substantial permanent increases to ambient noise levels that could result from implementation of the proposed project would be attributable to ongoing operations. Residential, open space, and most passive recreational land uses (i.e., trails, rests areas, picnic areas) are generally not associated with substantial permanent increases in ambient noise. In the case of these land uses, very specific sources of noise, such as lawn equipment or social gatherings, would be the most likely source of excessive noise. Addressing impacts from these noise sources would be handled via the pertinent sections of Menlo Park's Municipal Code. Noise sources associated with residential, open space, and passive recreational land uses are generally not sufficiently frequent or sustained so as to result in permanent substantial increases to ambient noise levels. Instead, substantial permanent increases in ambient noise levels would be most likely to result from development of commercial, industrial, mixed-use, and certain institutional or active recreational land uses (i.e., sports fields, skate-parks, dog parks).

As listed under NOISE-1, the Noise Element contains multiple policies and programs that would serve to prevent or mitigate substantial permanent increases to ambient noise levels from long-term operations. All of the Noise Element policies and programs discussed under NOISE-1 and NOISE-2 would likewise serve to prevent substantial permanent increases to ambient noise levels. Key provisions of these previously discussed policies include, among others: land use compatibility, placement of noise-sensitive uses, site design, and open space buffers. For these reasons, ongoing implementation of the proposed project would serve to ensure that the development of new land uses under the proposed project would not result in substantial permanent increases in the ambient noise level in the project vicinity, and the impact in this regard would be *less than significant*.

Transportation-Related Noise

As a result of implementation of the proposed project and ongoing regional growth, it is anticipated that there would be substantial permanent increases to the ambient noise levels throughout Menlo Park, and that these increases would primarily result from increases to transportation-related noise, especially that of automobile traffic. Because Menlo Park has only one railway with limited service, does not host any airports or heliports, and is not located within the 55 dBA CNEL contour of any airports or heliports, increases in ambient noise levels from rail and air traffic are not anticipated. Nevertheless, increases to ambient noise from car traffic would result in a substantial permanent increase in ambient noise levels. Development of land uses under implementation of the proposed project, as well as development in adjacent communities, would result in increases in traffic that would cause substantial permanent

[4] Note that for industrial land uses only, ambient noise increases would be significant if the resulting noise levels exceed the City's 'normally acceptable' standards. In such cases, therefore, increases larger than 5 dB are allowable in industrial zones wherein there are no sensitive receptors that would experience said increase.

increases in ambient noise levels in the city. Table 4.10-10 shows major roadway segments in Menlo Park with estimated increases in the ambient noise level at a distance of 50 feet from the roadway centerline.

TABLE 4.10-10 INCREASES TO AMBIENT NOISE LEVELS ALONG MAJOR ROADWAY SEGMENTS

			Ambient Noise Level at 50 feet from Roadway Centerline CNEL dBA		
No.	Street	Roadway Segment	2014 Existing Conditions	2040 Forecast Conditions	Increase (dBA)
1	Alameda De Las Pulgas	Avy Avenue to Santa Cruz Avenue	65.2	66.0	0.8
2	Alameda De Las Pulgas	Valparaiso Aveneto Avy Avenue	65.8	66.6	0.7
3	Alameda De Las Pulgas	City Limit Valparaiso Avenue	66.1	66.8	0.8
4	Alma Street	Ravenswood Avenue to Oak Grove Avenue	54.2	54.7	0.5
5	Alma Street	Willow Road to Ravenswood Avenue	57.2	59.1	1.9
6	Alpine Road	City Limit to Junipero Serra	70.5	71.0	0.5
7	Avy Avenue	City Limit to Alameda de las Pulgas	58.7	58.8	0.1
8	Avy Avenue	Alameda de las Pulgas to Santa Cruz Avenue	59.8	60.0	0.2
9	Bay Road	Greenwood Drive to Marsh Road	61.3	63.9	2.6
10	Bay Road	Ringwood Avenue to Greenwood Drive	61.4	63.9	2.5
11	Bay Road	Willlow Road to Ringwood Avenue	62.6	63.7	1.1
12	Bohannon Drive	Campbell Avenue to Marsh Road	59.8	59.8	0.0
13	Chilco Street	Constitution Drive to Bayfront Expressway	65.4	66.7	1.2
14	Chrysler Drive	Constitution Drive to Bayfront Expressway	59.9	59.9	0.0
15	Constitution Drive	Chilco Street to Chrysler Drive	57.6	61.1	3.5[a]
16	Crane Street	Oak Grove Avenue to Santa Cruz Avenue	56.3	57.2	0.9
17	Crane Street	Santa Cruz Avenue to Menlo Avenue	55.9	56.0	0.1
18	Encinal Avenue	El Camino Real to Laurel Street	59.6	60.2	0.6
19	Encinal Avenue	Laurel Street to Middlefield Road	59.0	60.1	1.0
20	Glenwood Avenue	El Camino Real to Laurel Street	59.9	60.2	0.4
21	Hamilton Avenue	Willlow Road to Chilco Street	58.3	59.2	1.0
22	Haven Avenue	Bayfront Expressway to City Limit	60.8	64.5	3.7[a]
23	Junipero Serra Boulevard	City Limit to Alpine Road	67.9	68.5	0.6
24	Laurel Street	Oak Grove Avenue to Glenwood Avenue	58.2	59.5	1.4
25	Laurel Street	Ravenswood Avenue to Oak Grove Avenue	58.5	59.7	1.2
26	Laurel Street	Willlow Road to Ravenswood Avenue	58.6	59.6	1.0
27	Marsh Road	City Limit to Bay Road	69.0	69.6	0.6
28	Marsh Road	Bay Road to Bohannon Drive	70.3	71.5	1.2
29	Marsh Road	Bohannon Drive to Scott Drive	71.3	72.6	1.3
30	Menlo Avenue	University Drive to Crane Street	60.8	60.9	0.1
31	Menlo Avenue	Crane Street to El Camino Real	61.5	61.4	0.0

TABLE 4.10-10 INCREASES TO AMBIENT NOISE LEVELS ALONG MAJOR ROADWAY SEGMENTS

			Ambient Noise Level at 50 feet from Roadway Centerline CNEL dBA		
No.	Street	Roadway Segment	2014 Existing Conditions	2040 Forecast Conditions	Increase (dBA)
32	Middle Avenue	Olive Street to University Drive	62.4	62.7	0.3
33	Middle Avenue	University Drive to El Camino Real	63.3	63.5	0.2
34	Middlefield Road	Ravenswood to Oak Grove Avenue	67.1	67.6	0.5
35	Middlefield Road	Willlow Road to Ravenswood Avenue	69.2	69.6	0.4
36	Middlefield Road	City Limit to Willlow Road	68.9	69.7	0.8
37	Newbridge Street	Willlow Road to Chilco Street	60.6	61.1	0.5
38	Oak Grove Avenue	University Drive to Crane Street	60.1	60.8	0.7
39	Oak Grove Avenue	Crane to El Camino Real	60.9	62.3	1.4
40	Oak Grove Avenue	El Camino Real to Laurel Street	61.9	62.7	0.8
41	Oak Grove Avenue	Laurel Street to Middlefield	61.5	61.5	0.1
42	O'Brien Drive	Kavanaugh Drive to Willlow Road	61.9	65.2	3.3[1]
43	O'Brien Drive	University Drive to Kavanaugh Drive	59.0	61.3	2.3
44	Ravenswood Avenue	El Camino Real to Alma Street	66.7	67.0	0.3
45	Ravenswood Avenue	Alma Street to Laurel Street	64.8	64.9	0.1
46	Ravenswood Avenue	Laurel Street to Middlefield Road	64.3	64.5	0.2
47	Ringwood Avenue	Middlefield Road to Bay Road	62.5	63.2	0.7
48	Sand Hill Road	I-280 to Sharon Park Drive	72.1	72.4	0.3
49	Sand Hill Road	Santa Cruz Avenue to Sharon Park Drivee	72.5	72.9	0.4
50	Sand Hill Road	Santa Cruz Avenue to City Limit	72.8	73.1	0.3
51	Santa Cruz Avenue	Junipero Serra Boulevard to Sand Hill Road	70.4	71.1	0.7
52	Santa Cruz Avenue	Sand Hill Road to Alameda de las Pulgas	69.9	70.5	0.6
53	Santa Cruz Avenue	Alameda de las Pulgas to Avy/Orange	64.2	64.6	0.4
54	Santa Cruz Avenue	Avy/Orange to Olive Street	65.5	65.9	0.4
55	Santa Cruz Avenue	Olive Street to University Drive	65.8	66.1	0.3
56	Santa Cruz Avenue	University Drive to Crane Street	62.8	63.1	0.3
57	Santa Cruz Avenue	Crane Street to El Camino Real	62.7	62.3	-0.4
58	Scott Drive	Marsh Road to Campbell Avenue	60.7	60.7	0.0
59	Sharon Park Drive	Sand Hill Road to Sharon Park Drive	62.2	62.4	0.2
60	Sharon Road	Sharon Park Drive to Alameda de las Pulgas	57.9	58.0	0.1
61	University Drive	Middle Avenue to Menlo Avenue	59.7	59.7	-0.1
62	University Drive	Menlo Avenue to Santa Cruz Avenue	61.8	61.7	0.0
63	University Drive	Santa Cruz Avenue to Oak Grove Avenue	60.6	60.8	0.1
64	University Drive	Oak Grove Avenue to Valparaiso Avenue	59.2	60.2	1.0
65	Valparaiso Avenue	Alameda de las Pulgas to Cotton Street	66.2	66.4	0.2

TABLE 4.10-10 INCREASES TO AMBIENT NOISE LEVELS ALONG MAJOR ROADWAY SEGMENTS

			Ambient Noise Level at 50 feet from Roadway Centerline CNEL dBA		
No.	Street	Roadway Segment	2014 Existing Conditions	2040 Forecast Conditions	Increase (dBA)
66	Valparaiso Avenue	Cotton Street to University Drive	67.0	67.2	0.2
67	Valparaiso Avenue	University Drive to El Camino Real	66.6	66.9	0.3
68	Willow Road	Alma Street to Laurel Street	57.5	59.4	1.9
69	Willow Road	Laurel Street to Middlefield	59.4	61.2	1.7
70	Willow Road	Middlefield Road to Gilbert Avenue	66.1	66.1	0.0
71	Chilco Street	Hamilton Avenue to Terminal Avenue	58.9	61.3	2.4
72	Chilco Street	Ivy Drive to Terminal Avenue	56.3	59.9	3.5[1]
73	Chilco Street	Newbridge to Ivy Drive	55.3	58.1	2.8
74	Hamilton Avenue	Willlow Road to Hamilton Court	56.3	56.3	0.0
75	Willow Road	Gilbert Avenue to Coleman Avenue	69.4	69.7	0.3
76	Willow Road	Coleman Avenue to Durham Street	71.7	71.9	0.2
77	Willow Road	Durham Street to Bay	71.5	72.0	0.4
78	Chilco Street	Terminal Avenue to Constitution	59.2	61.4	2.2
79	Chrysler Drive	Constitution Driveto Independence	57.2	57.2	0.0
80	Chrysler Drive	Independence to Commonwealth	52.5	52.5	0.0
81	Adams Drive	University Drive to Adams Court	53.1	61.0	7.9[b]
82	Olive Street	Santa Cruz Avenue to Middle Avenue	57.7	57.9	0.2
83	Olive Street	Middle Avenue to Oak Avenue	58.7	59.0	0.3
84	Cambridge Avenue	University Drive to El Camino Real	54.1	54.0	-0.1
85	Linfield Drive	Middlefield Road to Waverley Street	54.7	54.8	0.1
86	Waverley Street	Laurel Street to Linfield Drive	54.3	54.9	0.6
87	Ivy Drive	Chilco Street to Willlow Road	57.3	59.2	1.9

Notes:
a. 2040 Forecast Conditions noise level does not exceed the range of what would be "normally acceptable" for the land use along the segment and, therefore, does not constitute a substantial permanent increase despite an increase of 3 dB or greater.
b. 2040 Forecast Conditions noise level does not exceed the range of what would be "normally acceptable" for the land use along the segment and there are no sensitive receptors nearby. Thus, this noise level change does not constitute a substantial permanent increase despite an increase of greater than 5 dB.
Source: TJKM, 2016; PlaceWorks, 2016.

Table 4.10-11 shows highway and freeway segments in Menlo Park with estimated increases in the ambient noise level at a distance of 100 feet from the roadway centerline.

TABLE 4.10-11 INCREASES TO AMBIENT NOISE LEVELS ALONG HIGHWAY AND FREEWAY SEGMENTS

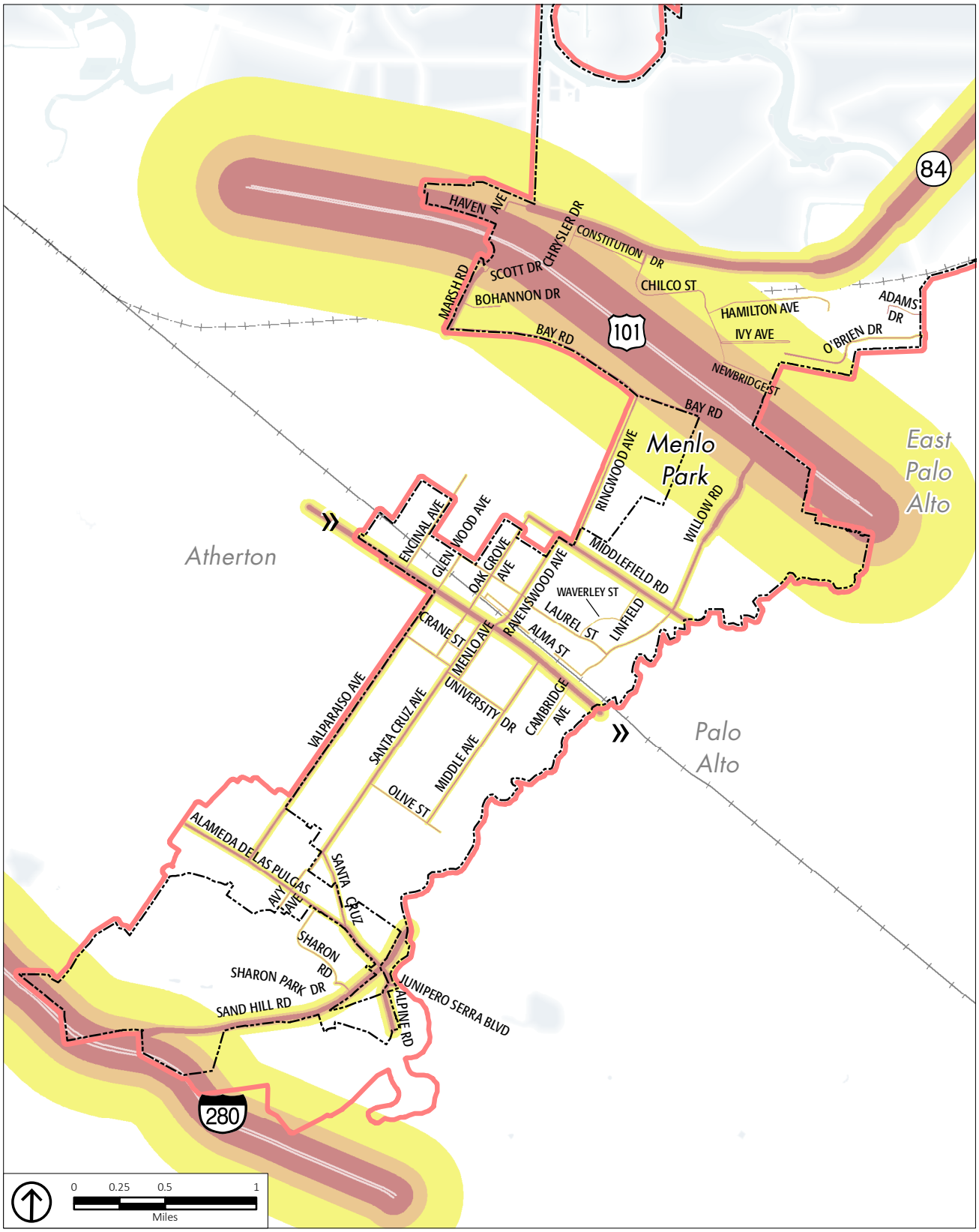
		Ambient Noise Level at 100 feet from Roadway Centerline CNEL dBA		
Roadway	Segment	Existing Conditions	Forecast Conditions	Increase (dBA)
SR 82 / El Camino Real	San Mateo County Line to Atherton Avenue	66.2	67.5	1.3
Highway 101	Route 114 to Marsh Road	82.5	83.6	1.1
Interstate 280	Sand Hill Road to Route 84	79.4	80.5	1.1
SR 84 / Bayfront Expressway	Highway 101/ Marsh Road to Route 114 / Willlow Road	69.3	70.5	1.1
SR 84 / Bayfront Expressway	Route 114 / Willlow Road to Route 109 / University Drive	72.6	73.7	1.1
SR 84 / Bayfront Expressway	Route 109 / University Drive to Dumbarton Bridge	74.2	75.3	1.1

Notes: **Bold** numbers indicate increases in CNEL which would constitute substantial permanent increase in ambient noise level. Negative numbers indicate a decrease in ADT.
Source: CalTrans, 2014; PlaceWorks, 2016.

The ambient noise level increases shown in Tables 4.10-10 and 4.10-11 and the Forecast Noise Contours on Figure 4.10-3 demonstrate that there would be no roadway segments that would experience a substantial permanent increase in ambient noise levels, per the criteria defined above.[5]

Noise Element Policies N-1.6 and N-1.9 and Programs N-1.B and N-1.C are intended to prevent or reduce traffic noise impacts on surrounding land uses. Implementation of these policies and programs would serve to reduce noise from vehicles at the source and to otherwise shield uses from excessive noise. These General Plan considerations, coupled with the intent to keep receptor land uses within the 'normally acceptable' land use compatibility category (even with expected growth facilitated by the Plan), indicates that neither adjacent industrial uses, nor nearby residential uses (either presently or in the future) would be exposed to excessive noise levels above the City of Menlo Park's land use compatibility criteria. Therefore, the impact to ambient noise levels would be *less than significant*.

[5] Note that the following segments, although predicted to have greater than 3 dB (or, in one case, greater than 5 dB) increases would not experience substantial permanent increases; given the adjoining land use types and that the resulting, build-out noise levels would still be within the 'normally acceptable' compatibility category:
Segment 15, Constitution Drive (from Chilco Street to Chrysler Drive)
Segment 22, Haven Avenue (from Bayfront Expressway to City Limit)
Segment 42, O'Brien Drive (from Kavanaugh Drive to Willlow Road)
Segment 72, Chilco Street (from Ivy Drive to Terminal Avenue)
Segment 81, Adams Drive (from University Drive to Adams Court)



Source: City of Menlo Park; PlaceWorks, 2015; TJKM, 2015

Figure 4.10-3
Forecasted Noise Contours

NOISE

Applicable Regulations:

- California Code of Regulations, Title 24, Building Standards
- Menlo Park Noise Element, 2013
- Menlo Park Municipal Code:
  - Title 8: Peace, Safety, and Morals, Chapter 8.06: Noise

Significance Without Mitigation: Less than significant.

NOISE-4 Implementation of the proposed project would not cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Implementation of the proposed project would have a significant impact if it results in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed project. Noise from construction equipment and various construction-related activities is frequently a cause of temporary or periodic increases in ambient noise levels. Table 4.10-12, below, shows typical noise levels generated by commonly used construction equipment. Although the current or amended policies of the General Plan and the provisions of the noise ordinance would serve to prevent or reduce noise generation from construction equipment, it is likely that in certain cases these and other available methods to reduce noise would be inadequate to prevent a significant impact.

By restricting hours of construction and directing the City to review project noise impacts as part of the planning and permitting processes, the noise ordinance and policies of the Noise Element would serve to reduce temporary or periodic increases to ambient noise. Specifically, Policies N1.6 and N1.8, and Programs N1.D and N1.E would promote the use of best available technology noise-reduction measures to minimize excessive noise from construction equipment.

Menlo Park Municipal Code Section 8.06.040, Subsections A and B, serve to regulate noise from construction and related activities in Menlo Park. The ordinance allows construction between the hours of 8:00 a.m. and 6:00 p.m., Monday through Friday. Equipment must not generate noise in excess of 85 dBA at 50 feet. Although it is possible that certain construction activities may in some cases lead to substantial temporary or periodic increases to ambient noise levels, the current and proposed policies and regulations included under the proposed project and the Municipal Code would serve to reduce these impacts. With appropriate noise reduction and shielding measures, temporary or periodic increases to the ambient noise level could be substantially reduced. The policies of the Noise Element and regulations of the Municipal Code would thereby reduce the impacts from temporary or periodic increases to ambient noise levels.

In summary, the proposed is a planning level document and does not propose any project-specific development; therefore, it would not in and of itself result in the generation of construction noise levels in excess of standards established in the General Plan or the Municipal Code, and/or the applicable standards of other agencies. However, future projects would be required to demonstrate compliance with the City's required standards and in this respect, impacts are considered *potentially significant*.

TABLE 4.10-12 CONSTRUCTION EQUIPMENT NOISE EMISSION LEVELS

Construction Equipment	Typical Noise Level (dBA) at 50 Feet	Construction Equipment	Typical Noise Level (dBA) at 50 Feet
Air Compressor	81	Pile-Driver (Impact)	101
Backhoe	80	Pile-Driver (Sonic)	96
Ballast Equalizer	82	Pneumatic Tool	85
Ballast Tamper	83	Pump	76
Compactor	82	Rail Saw	90
Concrete Mixer	85	Rock Drill	98
Concrete Pump	71	Roller	74
Concrete Vibrator	76	Saw	76
Crane, Derrick	88	Scarifier	83
Crane, Mobile	83	Scraper	89
Dozer	85	Shovel	82
Generator	81	Spike Driver	77
Grader	85	Tie Cutter	84
Impact Wrench	85	Tie Handler	80
Jack Hammer	88	Tie Inserter	85
Loader	85	Truck	88
Paver	89		

Source: Federal Transit Administration, Transit Noise, and Vibration Impact Assessment, 2006.

Applicable Regulations:

- California Code of Regulations, Title 24, Building Standards
- Menlo Park Noise Element, 2013.
- Menlo Park Municipal Code:
  - Chapter 8.06.040 A: Construction Activities.
  - Chapter 8.06.040 B: Powered Equipment.

Impact NOISE-4: Future projects in Menlo Park could result in construction-related noise that exceeds noise limits required under the City's regulations.

Mitigation Measure NOISE-4: Implement Mitigation Measure NOISE-1c.

Significance With Mitigation: Less than significant.

NOISE-5 **Implementation of the proposed project would not cause exposure of people residing or working in the vicinity of the study area to excessive aircraft noise levels, for a project located within an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport or public use airport.**

There are no areas of Menlo Park which fall within an airport land use plan for any of the airports located in close proximity to the study area. Although a small portion of Menlo Park falls within 2 miles of the Palo Alto Airport, this area is not covered by the airport's influence area,[6] nor is it within the airport's 55 dB noise contour. All other airports are located 4 or more miles away from the study area. Implementation of the proposed project would therefore not result in exposure to excessive aircraft noise levels and the impact would be *less than significant*.

Significance Without Mitigation: Less than significant.

NOISE-6 **Implementation of the proposed project would not cause exposure of people residing or working in the project site to excessive noise levels, for a project within the vicinity of a private airstrip.**

There are no private airstrips located within Menlo Park. The Stanford University Hospital does operate one heliport, which is located approximately 0.4-mile to the southeast of the border of Menlo Park. Due to limited and sporadic heliport use for medical emergencies, and distance to the nearest housing sites, there would be *no impact* related to excessive noise levels related to private airstrips.

Significance Without Mitigation: No impact.

4.10.4 CUMULATIVE IMPACT DISCUSSION

NOISE-7 **Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to noise.**

The analysis of the proposed project, discussed above, addresses cumulative impacts with regard to noise, as well as groundborne noise and vibration. Although multiple simultaneous nearby noise sources may, in combination, result in higher overall noise levels, this effect is captured and accounted for by the ambient noise level metrics which form the basis of the Thresholds of Significance for noise analysis. Any measurement of sound or ambient noise, whether for the purpose of evaluating land use compatibility, establishing compliance with exterior and interior noise standards, or determining point-source violations of a noise ordinance, necessarily will incorporate noise from all other nearby perceptible sources.

[6] Santa Clara County Airport Land Use Commission, 2008. *Palo Alto Airport Comprehensive Land Use Plan*, Figure 8, https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_20081119_PAO_CLUP.pdf, accessed on February 27, 2015.

Additionally, although noise attenuation is influenced by a variety of topographical, meteorological, and other factors, noise levels decrease relatively rapidly with distance, and vibration impacts decrease even more rapidly. Therefore, site-level cumulative noise or vibration impacts across city boundaries occur only infrequently. The City of Menlo Park shares borders with other incorporated communities and similarly urbanized areas, which makes cross-border cumulative noise and vibration impacts possible. Nevertheless, given the Noise Element policies and Municipal Code requirements discussed above, it is unlikely that operations-related noise would, in combination with noise sources from adjacent cities, result in cumulative noise impacts. Additionally, because any noise measurements taken in conjunction with Noise Element policies or Municipal Code requirements would necessarily account for noises received from outside the boundaries of the City of Menlo Park, the ongoing implementation of these policies and regulations under the proposed project would serve to prevent site-based cumulative noise impacts.

Similarly, the noise contours and traffic-related noise levels developed for the proposed project include and account for regional travel patterns as they affect traffic levels in Menlo Park. Noise contours were based upon both existing and projected future traffic volumes that incorporate cumulative regional effects and trends. Existing noise contours were derived from traffic volumes based on counts of current traffic, and these traffic counts inherently include cumulative traffic, as generated by regional trips. With regard to future noise, projected noise contours were determined using projected 2040 traffic volumes; these data account for growth both within Menlo Park under the proposed project, as well as anticipated regional growth. The future noise modeling which served as the foundation for the overall Project analysis was therefore based on future, cumulative conditions. Additionally, the proposed Circulation (CIRC) element, which would be adopted as part of the proposed project, contains general policies, and programs that would require local planning and development decisions to consider reductions in vehicle trips by providing for a circulation system that accommodates alternative modes of transportation. Additionally, the proposed project includes an update to the City's Zoning Ordinance for the Bayfront Area, resulting in three new zoning districts that would promote the creation of an employment district with travel patterns that are oriented toward pedestrian, transit, and bicycle use. Under the Zoning Ordinance update, new construction and building additions of 10,000 square feet or more are required to develop a Transportation Demand Management (TDM) Plan to reduce trip generation by 20 percent below standard use rates.

NOISE-1, NOISE-3, and NOISE-4 therefore encompass and address cumulative noise impacts from implementation of the proposed project. Therefore, in combination with past, present, and reasonably foreseeable projects elsewhere within the city, the proposed project, even with implementation of applicable regulations, would result in a *significant* cumulative impact with respect to noise.

Impact NOISE-7: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, could result in a significant cumulative impact with respect to noise.

> Mitigation Measure NOISE-7: Implement Mitigation Measure Measures NOISE-1a through NOISE-1c, NOISE-2a, NOISE-2b, and NOISE-4.

Significance With Mitigation: Less than significant.

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4.11 POPULATION AND HOUSING

This chapter describes existing population and housing characteristics in the City of Menlo Park and evaluates the potential environmental consequences from future development that could occur by adopting and implementing the proposed project.

4.11.1 ENVIRONMENTAL SETTING

4.11.1.1 REGULATORY FRAMEWORK

This section summarizes existing State, regional, and local laws and policies pertaining to population and housing in Menlo Park. There are no federal regulations applicable to the proposed project with regards to population and housing.

State Regulations

California Housing Element Law

California Housing Element Law[1] includes provisions related to the requirements for housing elements of local government General Plans. Among these requirements, some of the necessary parts include an assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs. Additionally, in order to assure that counties and cities recognize their responsibilities in contributing to the attainment of the State housing goals, this section of the Government Code calls for local jurisdictions to plan for, and allow the construction of, a share of the region's projected housing needs.

Regional Regulations

Association of Bay Area Governments Projections 2013

The Association of Bay Area Governments (ABAG) is the official regional planning agency for the San Francisco Bay Area region, which is composed of the nine Counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma, and contains 101 cities. ABAG produces growth forecasts on four-year cycles so that other regional agencies, including the Metropolitan Transportation Commission (MTC) and the Bay Area Air Quality Management District (BAAQMD), can use the forecasts to make project funding and regulatory decisions.

The ABAG projections are the basis for the regional Ozone Attainment Plan and the Regional Transportation Plan (RTP), each of which are discussed in Chapters 4.2, Air Quality and 4.13, Transportation and Traffic, of this Draft EIR. The General Plans, zoning regulations and growth management programs of local jurisdictions inform ABAG's projections. The projections are also developed to reflect the impact of "smart growth" policies and incentives that could be used to shift

[1] Government Code Section 65580-65589.8.

development patterns from historical trends toward a better jobs-housing balance, increased preservation of open space, and greater development and redevelopment in urban core and transit-accessible areas throughout their region.

Plan Bay Area, Strategy for a Sustainable Region

The MTC and ABAG's *Plan Bay Area* is the Bay Area's RTP/ Sustainable Community Strategy (SCS). The Final Plan Bay Area was adopted on July 18, 2013.[2] The update to *Plan Bay Area*, *Plan Bay Area 2040*, is currently underway. The SCS sets a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce greenhouse gas (GHG) emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by California Air Resources Board (CARB). Implementation of *Plan Bay Area* would achieve a 16 percent per capita reduction of GHG emissions by 2035 and a 10 percent per capita reduction by 2020 from 2005 conditions.[3]

In 2008, the MTC and ABAG initiated a regional effort (FOCUS) to link local planned development with regional land use and transportation planning objectives. Through this initiative, local governments identified Priority Development Areas (PDAs). The PDAs form the implementing framework for *Plan Bay Area.* The PDAs are areas along transportation corridors which are served by public transit that allow opportunities for development of transit-oriented, infill development within existing communities that are expected to host the majority of future development. One of the other purposes is to encourage new development in areas where there is already infrastructure to support it. Overall, well over two-thirds of all regional growth by 2040 is allocated within PDAs. The PDAs throughout the Bay area are expected to accommodate 80 percent (or over 525,570 units) of new housing and 66 percent (or 744,230) of new jobs.[4] The El Camino Real and Downtown PDA in Menlo Park is located along both sides of El Camino Real Corridor from the City's northern border with Atherton to the San Mateo-Santa Clara County line.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.11.3, Impact Discussion.

[2] It should be noted that the Bay Area Citizens filed a lawsuit on MTC's and ABAG's adoption of Plan Bay Area.

[3] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2013, Final Plan Bay Area, Strategy for a Sustainable Region, page 96.

[4] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2013, Final Plan Bay Area, Strategy for a Sustainable Region.

4.11.1.2 EXISTING CONDITIONS

Population

The City of Menlo Park is home to 32,896 residents with an average of 2.6 persons per household, according to current California Department of Finance estimates. Between 2000 and 2014, Menlo Park saw a population increase of 7 percent, compared to a 9 percent increase in the Combined Counties and the larger Bay Area. Unlike growth in the region, Menlo Park's growth is marked by an increase in household size rather than an increase in the total number of households. Between 2000 and 2014, the average household size increased from 2.4 to 2.6 persons per household or nearly 8 percent. Household growth in the Combined Counties and the Bay Area only grew by 2 percent during the same time period. However, average household size in Menlo Park (2.6) is still smaller than the Combined Counties and the Bay Area (2.9 and 2.8, respectively).[5]

Between 2000 and 2010, the number of single person households and households with two or more persons without children under 18 years of age decreased in Menlo Park. At the same time, the number of households with children increased, which reflects the increase in average household size. The Combined Counties and Bay Area also experienced an increase in the number of households with children under 18, but, counter to trends in Menlo Park, also saw an increase in the number of single person households.[6]

Housing

In 2010, Menlo Park contained 13,085 housing units, with a 5.6 percent vacancy rate.[7] Of the occupied housing units, approximately 56 percent were owner occupied and 44 percent were renter occupied. The vacancy rate and occupancy-by-tenure proportions were similar at the county level, with the estimated 2010 county vacancy rate at approximately five percent, and occupied units being approximately 59 percent owner occupied and 41 percent renter occupied.[8]

In 2010, approximately 55 percent of Menlo Park's homes were detached single-family homes, eight percent were attached single-family homes, 37 percent were multi-family homes, and less than one percent were mobile homes. These housing characteristics are similar to the countywide proportion of 57 percent detached single-family homes, 9 percent attached single-family homes, 32 percent multi-family homes, and one percent mobile homes.[9]

Future Housing Needs

As shown in Table 4.11-1, the ABAG's 2013 Projections indicate that by 2040 population in the study area will grow to 43,200 and the number of households will grow to 16,360. This represents a population

[5] California Department of Finance, 2014. *Census 2000.*
[6] Census, 2000 & 2010.
[7] US Census Bureau, 2010 Census, Table DP-1.
[8] US Census Bureau, 2010 Census, Table DP-1.
[9] US Census, 2006 to 2010 American Community Survey 5-Year Estimates, Table DP04.

growth of 15 percent and a household growth of approximately 13 percent. These rates are lower than the ABAG's projected population growth of 21 percent and household growth of 18 percent for San Mateo County as a whole.[10]

TABLE 4.11-1 POPULATION, HOUSEHOLD, AND EMPLOYMENT PROJECTIONS

					Change 2015–2040	
Menlo Park	2015	2020	2030	2040	Number	Growth Rate Percent[a]
Study Area						
Population	37,700	38,700	40,800	43,200	5,500	15%
Households	14,490	14,870	15,610	16,360	1,870	13%
Employees	31,920	34,130	34,760	36,150	4,230	13%
San Mateo County						
Population	745,400	775,100	836,100	904,400	159,000	21%
Households	267,150	277,200	296,280	315,100	47,950	18%
Employees	374,940	407,550	421,500	445,070	70,130	19%

a. Percent are rounded to the nearest whole number.
Source: Association of Bay Area Governments, *Plan Bay Area, Projections 2013*, Subregional Study Area Table, San Mateo County.

Employment

As shown in Table 4.11-1, there were roughly 31,920 jobs in the study area in 2015, comprising roughly 9 percent of all jobs in San Mateo County. According to ABAG, jobs in the study area are expected to increase by 13 percent between 2015 and 2040 from 31,920 to 36,150. Jobs in San Mateo County are expected to increase by 19 percent between 2015 and 2040, from 374,940 to 445,070.

[10] Association of Bay Area Governments, 2009. *Projections and Priorities 2009: Building Momentum, Projections through 2035.*

4.11.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact to population and housing if it would:

1. Induce substantial unexpected population growth, or growth for which inadequate planning has occurred, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
2. Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere.
3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

4.11.3 IMPACT DISCUSSION

POP-1	**Implementation of the proposed project would not induce substantial population growth, or growth, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).**

The proposed project would result in a significant impact related to population growth if it would lead to substantial unplanned growth either directly or indirectly. As described in Chapter 3, Project Description, of the Draft EIR, the proposed project is a broad, high-level plan and no specific projects are currently proposed. Therefore, the proposed project would not result in direct growth; however, implementation of the proposed project would facilitate growth in the study area through 2040, and therefore, would have indirect effects related to growth. Potential impacts stemming from the indirect inducement of unplanned population growth are discussed below in relation to both local and regional planning efforts.

Local Planning

The developable area of Menlo Park is already largely built out, and the study area is well served by utility and transportation infrastructure. Future development and redevelopment under the proposed project would be infill development and would be concentrated on the sites in the Bayfront Area or on sites previously identified for development, such as the sites identified in the Housing Element (2015–2023) or the El Camino Real/Downtown Specific Plan. Any necessary improvements to the existing infrastructure would be made to accommodate the proposed new development in the study area and would not accommodate additional growth beyond that need that would lead to additional growth outside the study area.

The proposed Land Use (LU) and Circulation (CIRC) Elements, which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, and Housing (H) Element, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to population and employment. The following General Plan goals, policies, and

programs would serve to minimize potential impacts associated with population growth and would serve to accommodate future growth through 2040:

- Goal LU-1: Promote orderly development of Menlo Park and its surrounding area.
  - Policy LU-1.1: Land Use Patterns. Cooperate with the appropriate agencies to help assure a coordinated land use pattern in Menlo Park and the surrounding area.
  - Policy LU-1.2: Transportation Network Expansion. Integrate regional land use planning efforts with development of an expanded transportation network focusing on mass transit rather than freeways, and support multi-modal transit development that coordinates with Menlo Park land uses.
  - Policy LU-1.3: Land Annexation. Work with interested neighborhood groups to establish steps and conditions under which unincorporated lands within the City's sphere of influence may be annexed.
  - Policy LU-1.4: Unincorporated Land Development. Request that San Mateo County consider Menlo Park's General Plan policies and land use regulations in reviewing and approving new developments in unincorporated areas in Menlo Park's sphere of influence.
  - Policy LU-1.5: Adjacent Jurisdictions. Work with adjacent jurisdictions to ensure that decisions regarding potential land use activities near Menlo Park include consideration of City and Menlo Park community objectives.
    - Program LU-1.A: Zoning Ordinance Consistency. Update the Zoning Ordinance as needed to maintain consistency with the General Plan, including implementation programs identified in the Housing Element.
    - Program LU-1.B: Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation, water supply, drainage, and other community-serving facilities and infrastructure.
    - Program LU-1.E: Assessment Districts and Impact Fees. Pursue the creation of assessment districts and/or the adoption of development impact fees (e.g., fire impact fee) to address infrastructure and service needs in the community.
- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
  - Policy LU-2.1: Neighborhood Compatibility. Require new residential development to possess high-quality design that is compatible with the scale, look, and feel of the surrounding neighborhood and that respects the city's residential character.
  - Policy LU-2.3: Mixed use Design. Allow mixed-use projects with residential units if project design addresses potential compatibility issues such as traffic, parking, light spillover, dust, odors, and transport and use of potentially hazardous materials.
  - Policy LU-2.4: Second Units. Encourage development of second residential units on single family lots consistent with adopted City standards.

- Policy LU-2.7: Conversion of Residential Units. Limit the loss in the number of residential units or conversion of existing residential units to nonresidential uses, unless there is a clear public benefit or equivalent housing can be provided to ensure the protection and conservation of the City's housing stock to the extent permitted by law.
    - Program LU-2.B: Single-Family Residential Development. Update the Zoning Ordinance requirements for single-family residential developments to create a more predictable and expeditious process while providing a method for encouraging high-quality design in new and expanded residences.
- Goal LU-3: Retain and enhance existing and encourage new neighborhood-serving commercial uses, particularly retail services, to create vibrant commercial corridors.
    - Policy LU-3.1: Underutilized Properties. Encourage underutilized properties in and near existing shopping districts to redevelop with attractively designed commercial, residential, or mixed-use development that complements existing uses and supports pedestrian and bicycle access.
    - Policy LU-3.3: Neighborhood Retail. Preserve existing neighborhood-serving retail, especially small businesses, and encourage the formation of new neighborhood retail clusters in appropriate areas while enhancing and preserving the character of the neighborhood.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
    - Policy LU-4.1: Priority Commercial Development. Encourage emerging technology and entrepreneurship, and prioritize commercial development that provides fiscal benefit to the City, local job opportunities, and/or goods or services needed by the community.
    - Policy LU-4.2: Hotel Locations. Allow hotel uses at suitable locations in mixed-use and nonresidential zoning districts.
    - Policy LU-4.3: Mixed Use and Nonresidential Development. Limit parking, traffic, and other impacts of mixed-use and nonresidential development on adjacent uses, and promote high-quality architectural design and effective transportation options.
    - Policy LU-4.4: Community Amenities. Require mixed-use and nonresidential development of a certain minimum scale to support and contribute to programs that benefit the community and the City, including education, transit, transportation infrastructure, sustainability, neighborhood-serving amenities, child care, housing, job training, and meaningful employment for Menlo Park youth and adults.
    - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
    - Policy LU-4.6: Employment Center Walkability. Promote local-serving retail and personal service uses in employment centers and transit areas that support walkability and reduce auto trips, including along a pedestrian-friendly, retail-oriented street in Belle Haven.

- Policy LU-4.7: Fiscal Impacts. Evaluate proposed mixed-use and nonresidential development of a certain minimum scale for its potential fiscal impacts on the City and community.
  - Program LU-4.A: Fiscal Impact Analysis. Establish Zoning Ordinance requirements for mixed-use, commercial, and industrial development proposals of a certain minimum scale to include analysis of potential fiscal impact on the City, school districts, and special districts, and establish guidelines for preparation of fiscal analyses.
  - Program LU-4.B: Economic Development Plan. Update the strategic policies in the City's Economic Development plan periodically as needed to reflect changing economic conditions or objectives in Menlo Park and/or to promote land use activities desired by the community, including small businesses and neighborhood-serving retail.
  - Program LU-4.C: Community Amenity Requirements. Establish Zoning Ordinance requirements for new mixed-use, commercial, and industrial development to support and contribute to programs that benefit the community and City, including public or private education, transit, transportation infrastructure, public safety facilities, sustainability, neighborhood-serving amenities, child care, housing for all income levels, job training, parks and meaningful employment for Menlo Park youth and adults (e.g., first source hiring).
- Goal LU-5: Strengthen Downtown and the El Camino Real Corridor as a vital, competitive shopping area and center for community gathering, while encouraging preservation and enhancement of Downtown's atmosphere and character as well as creativity in development along El Camino Real.
  - Policy LU-5.1: El Camino Real/Downtown Specific Plan. Implement the El Camino Real/Downtown Specific Plan to ensure a complementary mix of uses with appropriate siting, design, parking, and circulation access for all travel modes.
  - Policy LU-5.2: El Camino Real/Downtown Housing. Encourage development of a range of housing types in the El Camino Real/Downtown Specific Plan area, consistent with the Specific Plan's standards and guidelines, and the areas near/around the Specific Plan area.
- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.
  - Policy LU-6.2: Open Space in New Development. Require new nonresidential, mixed use, and multiple dwelling development of a certain minimum scale to provide ample open space in the form of plazas, greens, dens, and parks whose frequent use is encouraged through thoughtful placement and design.
  - Policy LU-6.3: Public Open Space Design. Promote public open space design that encourages active and passive uses, and use during daytime and appropriate nighttime hours to improve quality of life.
  - Policy LU-6.4: Park and Recreational Land Dedication. Require new residential development to dedicate land, or pay fees in lieu thereof, for park and recreation purposes.
  - Policy LU-6.5: Open Space Retention. Maximize the retention of open space on larger tracts (e.g., portions of the St. Patrick's Seminary site) through means such as rezoning consistent with

existing uses, clustered development, acquisition of a permanent open space easement, and/or transfer of development rights.

- Policy LU-6.6: Public Bay Access. Protect and support public access to the Bay for the scenic enjoyment of open water, sloughs, and marshes, including restoration efforts, and completion of the Bay Trail.
- Policy LU-6.7: Habitat Preservation. Collaborate with neighboring jurisdictions to preserve and enhance the Bay, shoreline, San Francisquito Creek, and other wildlife habitat and ecologically fragile areas to the maximum extent possible.
- Policy LU-6.9: Pedestrian and Bicycle Facilities. Provide well designed pedestrian and bicycle facilities for safe and convenient multi-modal activity through the use of access easements along linear parks or paseos.
- Policy LU-6.10 :Stanford Open Space Maintenance. Encourage the maintenance of open space on Stanford lands within Menlo Park's unincorporated sphere of influence.
- Policy LU-6.11: Baylands Preservation. Allow development near the Bay only in already developed areas.
    - Program LU-6.A: San Francisquito Creek Setbacks. Establish Zoning Ordinance requirements for minimum setbacks for new structures or impervious surfaces within a specified distance of the top of the San Francisquito Creek bank.
    - Program LU-6.B: Open Space Requirements and Standards. Review, and update as necessary, Zoning Ordinance requirements for provision of open space in all multiple dwelling, mixed-use and nonresidential development of a certain minimum scale that encourages active and passive uses and human presence during daytime and appropriate nighttime hours.
    - Program LU-6.C: Space for Food Production. Establish Zoning Ordinance requirements for new residential developments over a certain minimum scale to include space that can be used to grow food, and to establish a process through which a neighborhood can propose a site as a community garden.

- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
    - Policy LU-7.1: Sustainability. Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste.
    - Policy LU-7.2: Water Supply. Support the efforts of the Bay Area Water Supply and Conservation Agency or other appropriate agencies to secure adequate water supplies for the Peninsula, to the extent that these efforts are in conformance with other City policies.
    - Policy LU-7.3: Supplemental Water Supply. Explore and evaluate development of supplemental water sources and storage systems, such as wells and cisterns, for use during both normal and dry years, in collaboration with water providers and users.
    - Policy LU-7.4 Water Protection. Work with regional and local jurisdictions and agencies responsible for ground water extraction to develop a comprehensive underground water protection program

in accordance with the San Francisquito Creek Watershed Policy, which includes preservation of existing sources and the basin to evaluate the long term effects of water extraction.

- Policy LU-7.5: Reclaimed Water Use. Implement use of adequately treated "reclaimed" water (recycled/nonpotable water sources such as, graywater, blackwater, rainwater, stormwater, foundation drainage, etc.) through dual plumbing systems for outdoor and indoor uses, as feasible.
- Policy LU-7.6: Sewage Treatment Facilities. Support expansion and improvement of sewage treatment facilities to meet Menlo Park's needs, as well as regional water quality standards, to the extent that such expansion and improvement are in conformance with other City policies.
- Policy LU-7.7: Hazards. Avoid development in areas with seismic, flood, fire and other hazards to life or property when potential impacts cannot be mitigated.
- Policy LU-7.8: Cultural Resource Preservation. Promote preservation of buildings, objects, and sites with historic and/or cultural significance.
- Policy LU-7.9: Green Building. Support sustainability and green building best practices through the orientation, design, and placement of buildings and facilities to optimize their energy efficiency in preparation of State zero-net energy requirements for residential construction in 2020 and commercial construction in 2030.
    - Program LU-7.A :Green Building Operation and Maintenance. Employ green building and operation and maintenance best practices, including increased energy efficiency, use of renewable energy and reclaimed water, and install drought-tolerant landscaping for all projects.
    - Program LU-7.B: Groundwater Wells. Monitor pumping from existing and new wells to identify and prevent potential ground subsidence, salinity intrusion into shallow aquifers (particularly in the Bayfront Area), and contamination of deeper aquifers.
    - Program LU-7.C: Sustainability Criteria. Establish sustainability criteria and metrics for resource use and conservation and monitor performance of projects of a certain minimum size.
    - Program LU-7.D: Performance Standards. Establish performance standards in the Zoning Ordinance that requires new development to employ environmentally friendly technology and design to conserve energy and water, and minimize the generation of indoor and outdoor pollutants.
    - Program LU-7.E: Greenhouse Gas Emissions. Develop a Greenhouse Gas (GHG) standard for development projects that would help reduce communitywide GHG emissions to meet City and Statewide reduction goals.
    - Program LU-7.F: Adaptation Plan. Work with emergency service providers to develop an adaptation plan, including funding mechanisms, to help prepare the community for potential adverse impacts related to climate change, such as sea level rise, extreme weather events, wildfire, and threats to ecosystem and species health.

- Program LU-7.G: SAFER Bay Process. Coordinate with the SAFER Bay process to ensure that the Menlo Park community's objectives for sea level rise/flood protection, ecosystem enhancement, and recreational trails are adequately taken into consideration.
- Program LU-7.H; Sea Level Rise. Establish requirements based on State Sea Level Rise Policy Guidance for development projects of a certain minimum scale potentially affected by sea level rise to ensure protection of occupants and property from flooding and other potential effects.
- Program LU-7.I: Green Infrastructure Plan. Develop a Green Infrastructure Plan that focuses on implementing City-wide projects that mitigate flooding and improve storm water quality.

- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
  - Policy CIRC-1.2: Capital Project Prioritization. Maintain and upgrade existing rights-of-way before incurring the cost of constructing new infrastructure, and ensure that the needs of non-motorized travelers are considered in planning, programming, design, reconstruction, retrofit, maintenance, construction, operations, and project development activities and products.
  - Policy CIRC-1.3: Engineering. Use data-driven findings to focus engineering efforts on the most critical safety projects.
  - Policy CIRC-1.6: Emergency Response Routes. Identify and prioritize emergency response routes in the citywide circulation system.
  - Policy CIRC-1.7: Bicycle Safety. Support and improve bicyclist safety through roadway maintenance and design efforts.
  - Policy CIRC-1.8: Pedestrian Safety. Maintain and create a connected network of safe sidewalks and walkways within the public right of way ensure that appropriate facilities, traffic control, and street lighting are provided for pedestrian safety and convenience, including for sensitive populations.
  - Policy CIRC-1.9: Safe Routes to Schools. Support Safe Routes to School programs to enhance the safety of school children who walk and bike to school.
    - Program CIRC-1.A Pedestrian and Bicyclist Safety. Consider pedestrian and bicyclist safety in the design of streets, intersections, and traffic control devices.
    - Program CIRC-1.B Safe Routes to Schools. Work with schools and neighboring jurisdictions to develop, implement and periodically update Safe Routes to School programs. Schools that have not completed a Safe Routes to Schools plan should be prioritized before previously completed plans are updated.
    - Program CIRC-1.C Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes.
    - Program CIRC-1.D Travel Pattern Data. Bi-annually update data regarding travel patterns for all modes to measure circulation system efficiency (e.g., vehicle miles traveled per capita, traffic

volumes) and safety (e.g., collision rates) standards. Coordinate with Caltrans to monitor and/or collect data on state routes within Menlo Park.

- Program CIRC-1.E Emergency Response Routes Map. In collaboration with the Menlo Park Fire Protection District and Menlo Park Police Department, adopt a map of emergency response routes that considers alternative options, such as the Dumbarton Corridor, for emergency vehicle access. Modifications to emergency response routes should not prevent or impede emergency vehicle travel, ingress, and/or egress.
- Program CIRC-1.F Coordination with Emergency Services. Coordinate and consult with the Menlo Park Fire Protection District in establishing circulation standards to assure the provision of high quality fire protection and emergency medical services within the City.

- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.11: Design of New Development. Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.
  - Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system. New development should minimize cut-through and high-speed vehicle traffic on residential streets; minimize the number of vehicles trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitate appropriate or adequate response times and access for emergency vehicles.
    - Program CIRC-2.A: Manage Neighborhood Traffic. Following the adoption of a street classification system with target design speeds, establish design guidelines for each street classification. Periodically review streets for adherence to these guidelines, with priority given to preserve the quality of life in Menlo Park's residential neighborhoods and areas with community requests. Utilize a consensus-oriented process of engagement to develop an appropriate set of modifications when needed to meet the street classification guidelines.
    - Program CIRC-2.C: Transportation Master Plan. Prepare a citywide Transportation Master Plan that includes roadway system improvements and combines and updates the existing Bicycle Plan, includes provisions for overcoming barriers and identifying safe multi-modal routes to key destinations in the City, and replaces the existing Sidewalk Master Plan with a section that identifies areas in Menlo Park where the community and neighborhood have expressed a desire for sidewalk improvements. Update the Transportation Master Plan at least every five years, or as necessary.
    - Program CIRC-2.J: Multi-modal Stormwater Management. Identify funding opportunities for stormwater management that can be used to support implementation of multimodal improvements to Menlo Park's streets.
- Goal CIRC-3: Increase mobility options to reduce traffic congestion, greenhouse gas emissions, and commute travel time.

- Policy CIRC-3.1: Vehicle Miles Traveled. Support development and transportation improvements that help reduce per capita vehicle miles traveled.
- Policy CIRC-3.2: Greenhouse Gas Emissions. Support development, transportation improvements, and emerging vehicle technology that help reduce per capita greenhouse gas emissions.
- Policy CIRC-3.3: Emerging Transportation Technology. Support efforts to fund emerging technological transportation advancements, including connected and autonomous vehicles, emergency vehicle pre-emption, sharing technology, electric vehicle technology, electric bikes and scooters, and innovative transit options.
    - Program CIRC-3.B Emergency Response Coordination. Equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Existing traffic signals without existing pre-emptive devices will be upgraded as major signal modifications are completed.

- GOAL CIRC-4: Improve Menlo Park's overall health, wellness, and quality of life through transportation enhancements.
    - Policy CIRC-4.1: Global Greenhouse Gas Emissions. Encourage the safer and more widespread use of nearly zero-emission modes, such as walking and biking, and lower emission modes like transit, to reduce greenhouse gas emissions.
    - Policy CIRC-4.2: Local Air Pollution. Promote non-motorized transportation to reduce exposure to local air pollution, thereby reducing risks of respiratory diseases, other chronic illnesses, and premature death.
    - Policy CIRC-4.3: Active Transportation. Promote active lifestyles and active transportation, focusing on the role of walking and bicycling, to improve public health and lower obesity.
    - Policy CIRC-4.4: Safety. Improve traffic safety by reducing speeds and making drivers more aware of other roadway users.
- Goal CIRC-5: Support local and regional transit that is efficient, frequent, convenient, and safe.
    - Policy CIRC-5.1: Transit Service and Ridership. Promote improved public transit service and increased transit ridership, especially to employment centers, commercial destinations, schools, and public facilities.
    - Policy CIRC-5.2 Transit Proximity to Activity Centers. Promote the clustering of as many activities as possible within easy walking distance of transit stops, and locate any new transit stops as close as possible to housing, jobs, shopping areas, open space, and parks.
    - Policy CIRC-5.3 Rail Service. Promote increasing the capacity and frequency of commuter rail service, including Caltrain; protect rail rights-of-way for future transit service; and support efforts to reactivate the Dumbarton Corridor for transit, pedestrian, bicycle, and emergency vehicle use.
    - Policy CIRC-5.4: Caltrain Enhancements. Support Caltrain safety and efficiency improvements, such as positive train control, grade separation (with priority at Ravenswood Avenue), electrification, and extension to Downtown San Francisco (Transbay Terminal), provided that Caltrain service to Menlo Park increases and use of the rail right-of-way is consistent with the City's Rail Policy.

POPULATION AND HOUSING

- Policy CIRC-5.5: Dumbarton Corridor. Work with Caltrain and appropriate agencies to reactivate the rail spur on the Dumbarton Corridor with appropriate transit service from Downtown Redwood City to Willow Road with future extension across the San Francisco Bay.
- Policy CIRC-5.6 Bicycle Amenities and Transit. Encourage transit providers to improve bicycle amenities to enhance convenience, including access to transit including bike share programs, secure storage at transit stations and on-board storage where feasible.
- Policy CIRC-5.7 New Development. Ensure that new nonresidential, mixed-use, and multiple-dwelling residential development provides associated needed transit service, improvements and amenities in proportion with demand attributable to the type and scale of the proposed development.
    - Program CIRC-5.A Long-Term Transit Planning. Work with appropriate agencies to agree on long-term peninsula transit service that reflects Menlo Park's desires and is not disruptive to the city.
    - Program CIRC-5.B SamTrans. Work with SamTrans to provide appropriate community-serving transit service and coordination of schedules and services with other transit agencies.

- Goal H-2: Existing Housing and Neighborhoods. Maintain, protect and enhance existing housing and neighborhoods.
    - Policy H-2.5: Maintenance and Management of Quality Housing and Neighborhoods. Encourage good management practices, rehabilitation of viable older housing and long-term maintenance and improvement of neighborhoods.
- Goal H-4: New Housing. Use land efficiently to meet housing needs for a variety of income levels, implement sustainable development practices and blend well-designed new housing into the community.
    - Policy H-4.1: Housing Opportunity Areas. Identify opportunity areas and sites where a special effort will be made to provide affordable housing consistent with other General Plan policies. Given the diminishing availability of developable land, Housing Opportunity Areas should have the following characteristics:
        a. The site has the potential to deliver sales or rental units at low or below market rate prices or rents.
        b. The site has the potential to meet special housing needs for local workers, single parents, seniors, small families or large families.
        c. The City has opportunities, through ownership or special development review, to facilitate provision of housing units to meet its housing objectives.
        d. The site scores well for Low Income Housing Tax Credits (LIHTC) subsidy or has unique opportunities due to financing and/or financial feasibility.
        e. For sites with significant health and safety concerns, development may be tied to nearby physical improvements, and minimum density requirements may be reduced.

f. Site development should consider school capacity and the relationship to the types of residential units proposed (i.e., housing seniors, small units, smaller workforce housing, etc. in school capacity impact areas).

g. Consider incorporating existing viable commercial uses into the development of housing sites.

- Policy H-4.4: Variety of Housing Choices. Strive to achieve a mix of housing types, densities, affordability levels and designs in response to the broad range of housing needs in Menlo Park. Specific items include:

  a. The City will work with developers of non-traditional and innovative housing approaches in financing, design, construction and types of housing that meet local housing needs.

  b. Housing opportunities for families with children should strive to provide necessary facilities nearby or on site.

  c. The City will encourage a mix of housing types, including: owner and rental housing, single and multiple-family housing, housing close to jobs and transit, mixed use housing, work force housing, special needs housing, single-room occupancy (SRO) housing, shared living and cohousing, mobile-homes, manufactured housing, self-help or "sweat equity" housing, cooperatives and assisted living.

  d. The City will support development of affordable, alternative living arrangements such as co-housing and "shared housing" (e.g., the Human Investment Project's — HIP Housing — shared housing program).

- Policy H-4.6: Mixed Use Housing. Encourage well-designed mixed use developments (residential mixed with other uses) where residential use is appropriate to the setting and to encourage mixed-use development in proximity to transit and services, such as at shopping centers and near to the downtown to support Downtown businesses (consistent with the El Camino Real/Downtown Specific Plan).

- Policy H-4.8: Retention and Expansion of Multi-Family Sites and Medium and Higher Density. Strive to protect and expand the supply and availability of multi-family and mixed-use infill housing sites for housing. When possible, the City will avoid re-designing or rezoning multi-family residential land for other uses or to lower densities without re-designating equivalent land for multi-family development and will ensure that adequate sites remain at all times to meet the City's share of the region's housing needs.

- Policy H-4.12: Fair Share Distribution of Housing throughout Menlo Park. Promote the distribution of new, higher density residential developments throughout the city, taking into consideration compatibility with surrounding existing residential uses, particularly near public transit and major transportation corridors in the city.

- Goal OSC-4: Promote Sustainability and Climate Action Planning.

  - Policy OSC-4.1: Sustainable Approach to Land Use Planning to Reduce Resource Consumption. Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher density residential and mixed-use development to be located adjacent to commercial centers and

transit corridors, and (3) retail and office areas to be located within walking and biking distance of transit or existing and proposed residential developments.

All development in the city would be guided by the updated City of Menlo Park General Plan and the proposed project's new growth potential would our on infill sites and would also be also be guided by the updated Zoning for the Bayfront Area, which would introduce three new zoning districts that would create a live/work/play environment. The General Plan serves as the City's constitution for the physical development of the city and is implemented by the Zoning Ordinance; thus, the aforementioned existing and proposed goals, policies, and programs, and zoning regulations would provide the long-term planning framework for orderly development under the proposed project through the 2040 horizon year.

The City currently has the capacity to accommodate 1,000 housing units, 2,580 new residents and 4,400 new employees and the proposed project has been prepared to consider the relationship of the proposed new development potential to the existing setting, and as such includes measures, as listed above, to accommodate the projected new growth. For example, implementation of proposed project would promote coordinated land use patterns within the study area and the region, and expand the transportation network for all modes of transportation. The planning framework under the proposed project would maintain and enhance residential neighborhoods and neighborhood-serving land uses, and promote new and retention of existing businesses and provide community amenities. Under the proposed project, land use decisions would consider fiscal impacts and implement necessary capital improvement projects to accommodate the proposed buildout potential under the proposed project. Additionally, the proposed project would ensure that adequate resources and public facilities are available to residents and employees, and would continue to preserve and conserve natural and cultural resources. Accordingly, the proposed project would ensure that local planning is adequate to accommodate the proposed new development potential in the study area. Therefore, implementation of the proposed project would not induce substantial population growth, or growth for which inadequate planning has occurred, either directly or indirectly, and impacts would be *less than significant.*

Regional Planning

For the purposes of this discussion on regional growth, population, households, and employment projections are considered in a cumulative context because they are compared to 2040 buildout conditions that include all development potential in the city.

As described above, ABAG and MTC have responsibility for regional planning in the nine county Bay Area, which includes the study area. ABAG and MTC have developed regional growth forecasts for the Bay Area as a whole and for constituent jurisdictions. Table 4.11-1 in Section 4.11.1.2, Existing Conditions, above, above, shows population, housing, and job growth projections for the study area that are included in the regional forecasts. The proposed project would be considered to induce substantial growth if the estimated buildout resulting from future development that is permitted under the proposed project, would exceed these regional growth projections for the study area. The 2040 buildout estimates for the proposed project plus cumulative development are shown below in Table 4.11-2.

TABLE 4.11-2 PROPOSED PROJECT PLUS CUMULATIVE DEVELOPMENT ESTIMATED POPULATION, HOUSEHOLD, AND EMPLOYMENT

Menlo Park	Project Plus Cumulative	Existing 2015	Citywide Buildout 2040[d]	Growth Rate Percent
Population	17,450[a]	32,900	50,350	53%
Households	6,780[b]	13,100	19,880	52%
Employees	22,350[c]	30,900	53,250	72%

Notes: Percent rounded to the nearest whole number.
a. 17,450 = 2,580 (Current General Plan) + 11,570 (proposed Bayfront Area) + 3,300 (cumulative projects).
b. 6,780 = 1,000 (Current General Plan) + 4,500 (proposed Bayfront Area) + 1,280 (cumulative projects).
c. 15,800 = 4,400 (Current General Plan) + 5,500 (proposed Bayfront Area) + 12,450 (cumulative projects).
d. Buildout 2040 is the 2015 existing conditions together with the project plus cumulative development.
Source: Association of Bay Area Governments, *Plan Bay Area*, *Projections 2013*, Subregional Study Area Table, San Mateo County; City of Menlo Park; PlaceWorks, 2015.

Because the ABAG Projections in Table 4.11-1 are "estimates" for 2015, the City's growth rate projections are based on "existing on-the-ground conditions" in 2015 as shown in Table 3-2 in Chapter 3, Project Description, of this Draft EIR.

As shown in Table 4.11-2, implementation of the proposed project plus cumulative development would result in a total of 6,780 new households in the study area for a total of 19,880 households for the buildout horizon year 2040. Therefore, population in the study area could increase by 17,450 residents for a total of 50,350 residents by 2040. By comparison, as shown in Table 4.11-1 further above, ABAG anticipates 1,870 new households and 5,500 new residents in the study area, for a total of 16,360 households and 43,200 residents by 2040. The proposed project plus cumulative development therefore, represents a 38 percent rate increase for population (53 percent compared to 15 percent) and a 40 percent increase for households (53 percent compared to 13 percent) above what was projected in the regional growth forecasts.

With respect to employees, implementation of the proposed project plus cumulative development would result in a total of up to 22,350 new employees in the study area for a total of 53,250 employees by 2040. By comparison, as shown in Table 4.11-1 further above, ABAG anticipates 4,230 new employees by 2040 in the study area. Therefore, the proposed project plus cumulative development would result in a 59 percent rate increase for employees (72 percent compared to 13 percent) when compared to regional growth projections.

As described in Chapter 3, Project Description, new development potential plus the existing General Plan's development potential under the proposed project would result in 14,150 new residents, 5,500 new housing units, and 9,900 new jobs. New growth under the proposed project would occur incrementally over a period of approximately 24 years. Although this growth exceeds the ABAG 2013 regional growth projections, future development under the proposed project would be guided by a policy framework included in the proposed project that is generally consistent with many of the principal goals and objectives established in regional planning initiatives for the Bay Area. As discussed above, some of the key concepts of the *Plan Bay Area* is the idea of focusing future growth into transit-oriented and infill

development opportunity areas within existing communities and to encourage new development in areas where there is already the infrastructure to support it. Some of the future growth under the existing General Plan that would be carried forward under the proposed project to the 2040 buildout horizon would occur in the El Camino Real and Downtown PDA consistent with *Plan Bay Area*. Additionally, as previously stated under the discussion on "Local Planning" all development in the city would be guided by the updated City of Menlo Park General Plan and would also be also be guided by the updated Zoning for the Bayfront Area, which would introduce three new zoning districts on infill sites that would create a live/work/play environment. The General Plan serves as the City's constitution for the physical development of the city and is implemented by the Zoning Ordinance; thus, the aforementioned existing and proposed goals, policies, and programs, and zoning regulations would provide the long-term planning framework for orderly development under the proposed project through the 2040 horizon year. Therefore, implementation of the proposed project would not induce substantial population growth, or growth for which inadequate planning has occurred, either directly or indirectly, and impacts would be *less than significant.*

Significance Without Mitigation: Less than significant.

POP-2 Implementation of the proposed project would not displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere.

As shown in Table 4.11-2, under POP-1, the proposed project would result in an increase of 5,500 in new residential units, which would be developed incrementally over the 24-year buildout period. No new non-residential land use designations proposed under the project are located on sites where residential land uses currently exist and housing is proposed as part of the project to address local and regional housing needs; thus, no displacement of existing housing units would occur and impacts would be *less than significant*.

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and the existing Housing (H) Element, contains general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to population issues. The following General Plan goals, policies and a program would serve to minimize potential impacts associated with displacement of housing units:

- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
    - Policy LU-2.7: Conversion of Residential Units. Limit the loss in the number of residential units or conversion of existing residential units to nonresidential uses, unless there is a clear public benefit or equivalent housing can be provided to ensure the protection and conservation of the City's housing stock to the extent permitted by law.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

- Goal H-2: Existing Housing and Neighborhoods. Maintain, protect and enhance existing housing and neighborhoods.
  - Policy H-2.2: Preservation of Residential Units. Limit the conversion of residential units to other uses and regulate the conversion of rental developments to non-residential uses unless there is a clear public benefit or equivalent housing can be provided to ensure the protection and conservation of the City's housing stock to the extent permitted by law.
  - Policy H-2.3: Condominium Conversions. Assure that any conversions of rental housing to owner housing accommodate the tenants of the units being converted, consistent with requirements to maintain public health, safety and welfare. The City will also encourage limited equity cooperatives and other innovative housing proposals that are affordable to lower income households.
  - Policy H-2.4: Protection of Existing Affordable Housing. Strive to ensure that affordable housing provided through government incentives, subsidy or funding, and deed restrictions remains affordable over time, and the City will intervene when possible to help preserve such housing.
  - Policy H-2.5: Maintenance and Management of Quality Housing and Neighborhoods. Encourage good management practices, rehabilitation of viable older housing and long-term maintenance and improvement of neighborhoods.
    - Program H-2.C: Amend the Zoning Ordinance to Protect Existing Housing. Consistent with State law, amend the Zoning Ordinance to reflect the Housing Element policy of limiting the loss of existing residential units or the conversion of existing residential units to commercial or office space (see Policy H-2.2). Zoning Ordinance changes and City activities should address residential displacement impacts, including the following:
      a. Avoid contradicting the Ellis Act.
      b. Consider regulations used in other communities.
      c. Consider a modified replacement fee on a per unit basis, or replacement of a portion of the units, relocation assistance, etc. to the extent consistent with the Ellis Act.
      d. Collaborate with the San Mateo County Department of Housing, Mid-Pen Housing Corporation and others, as needed, to ensure protection of affordable units in Menlo Park.
      e. Consider rezoning of properties for consistency to match and protect their existing residential uses.

- Goal H-4: New Housing. Use land efficiently to meet housing needs for a variety of income levels, implement sustainable development practices and blend well-designed new housing into the community.
  - Policy H-4.8: Retention and Expansion of Multi-Family Sites and Medium and Higher Density. Strive to protect and expand the supply and availability of multi-family and mixed-use infill housing sites

for housing. When possible, the City will avoid re-designing or rezoning multi-family residential land for other uses or to lower densities without re-designating equivalent land for multi-family development and will ensure that adequate sites remain at all times to meet the City's share of the region's housing needs.

Implementation of the proposed project would result in an increase of 5,500 new residential units over the 24-year buildout horizon. There are no plans for displacement of existing housing under the proposed project. Furthermore, the aforementioned General Plan goals, policies, and programs would ensure that adequate housing remains and the potential for displacement of existing housing is limited. Therefore, construction of replacement housing elsewhere would not be necessary and the impact would be *less than significant*.

Significance Without Mitigation: Less than significant.

POP-3 Implementation of the proposed project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

A significant environmental impact could result if implementation of the proposed project would displace substantial numbers of people necessitating the construction of replacement housing elsewhere.

As shown in Table 4.11-2, under POP-1, development under the proposed project would result in 14,150 new residents, 5,500 new housing units, and 9,900 new jobs in the study area, which would occur incrementally over a 24-year buildout period. There are no plans for removal of existing housing under the proposed project, thus displacement of people would not occur. Therefore, the construction of replacement housing elsewhere would not be warranted and the impact would be *less than significant.*

Significance Without Mitigation: Less than significant.

4.11.4 CUMULATIVE IMPACTS

POP-4 Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impact with respect to population and housing.

As discussed in Chapter 4, Environmental Evaluation, of this Draft EIR, this EIR takes into account growth projected by the proposed project within the Menlo Park city boundary and Sphere of Influence (SOI), in combination with impacts from projected growth in the rest of Santa Mateo County and the surrounding region, as forecast by ABAG. Impacts from cumulative growth are considered in the context of their consistency with regional planning efforts.

As described in POP-1 through POP-3, although growth under the proposed project plus cumulative development exceeds the current 2013 regional growth projections, the proposed and existing General Plan goals, policies, and programs, and implementing Zoning Ordinance would provide adequate planning

to accommodate the proposed new increase in growth in the study area. Furthermore, the proposed project would not displace housing or substantial numbers of people necessitating the construction of replacement housing elsewhere. Accordingly, under the cumulative conditions, implementation of the proposed project would also not displace housing or substantial numbers of people necessitating the construction of replacement housing elsewhere.

Because the planning documents for regional growth do not include the new development potential under the proposed project, implementation of the proposed project would introduce growth where adequate planning in the region has not yet occurred. ABAG prepares forecasts of the region's population and employment every two to four years. Amongst other sources, ABAG's projections take into account local planning documents for the nine-county region, such as the City of Menlo Park's General Plan. As such, while the proposed project exceeds the regional projections, both the General Plan and regional forecasts are long-range planning tools that assist local governments to identify policies that address changing environments. Accordingly, following adoption of the proposed project, the regional forecasts will be updated to take into account the new growth potential for Menlo Park; thus, bringing the two long-range planning tools into better alignment.

Therefore, until the regional projections are updated, while the proposed project would provide adequate planning in the study area to accommodate the new growth and would not make a cumulatively considerable contribution to the displacement of housing or people, impacts related to exceeding regional growth without adequate regional planning would be *significant*.

Impact POP-4: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, could result in a significant cumulative impact with respect to population and housing.

Significance Without Mitigation: Significant and unavoidable. There are no available mitigation measures available to reduce this impact. However, as previously stated, when ABAG updates the regional growth projections they will incorporate the proposed project, which would then reduce this impact to a less-than-significant level. Accordingly, this impact remains significant and unavoidable.

POPULATION AND HOUSING

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4.12 PUBLIC SERVICES AND RECREATION

This chapter describes public services and recreation facilities in the City of Menlo Park and evaluates the potential environmental impacts to public services and recreation from future development that could occur by adopting and implementing the proposed project.

4.12.1 FIRE PROTECTION SERVICES

4.12.1.1 ENVIRONMENTAL SETTING

This section describes the current regulations, resources, and response time for fire protection services in Menlo Park.

Regulatory Framework

State Regulations

California Building Code

The State of California provides a minimum standard for building design through Title 24 of the California Code of Regulations (CCR), commonly referred to as the "California Building Code" (CBC). The CBC is located in Part 2 of Title 24. The CBC is updated every three years, and the current 2013 CBC went into effect in January 2014. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. The 2013 CBC has been adopted for use by the City of Menlo Park, according to Section 12.04.010 of the Menlo Park Municipal Code.

Commercial and residential buildings are plan-checked by local City and County building officials for compliance with the CBC. Typical fire safety requirements of the CBC include: the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

California Fire Code

Part 9 of the CBC contains the California Fire Code (CFC). The CFC adopts by reference the 2012 International Fire Code (ICF) with necessary State amendments. Updated every three years, the CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution. Similar to the CBC, the CFC is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Typical fire safety requirements include: installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildlife hazard areas.

PUBLIC SERVICES AND RECREATION

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.12.1.3, Impact Discussion.

Menlo Park Fire Protection District Fire Prevention Code

While the City has not adopted the CFC described under the subheading "California Fire Code" above as part of the City's Municipal Code, it has been adopted by the Menlo Park Fire Protection District (MPFPD), which provides fire protection services to Menlo Park. On November 18, 2014, the Board of Directors of the MPFPD approved Ordinance No. 36A-2013 adopting the 2012 IFC with necessary California amendments for the City. The ordinance was further amended to address automatic sprinklers. The MPFPD adopted the 2013 CFC by reference on January 20, 2015 under Ordinance 36B-2013.[1]On January 27, 2015, the City adopted a resolution ratifying the MPFPD Ordinance for the adoption of and local amendments to the 2013 CFC. The Menlo Park Fire Protection District (MPFPD) has adopted a District Fire Prevention Code to regulate permit processes, emergency access, hazardous material handling, and fire protection systems, including automatic sprinkler systems, fire extinguishers, and fire alarms. Project applications for development in Menlo Park are plan-checked by MPFPD for compliance with the CFC.

Insurance Services Organization

The Insurance Services Organization (ISO) is an advisory organization that, amongst other things, collects information on municipal fire-protection efforts in communities throughout the United States.[2] In each of those communities, ISO analyzes the relevant data using their Fire Suppression Rating Schedule (FSRS). The ISO then assigns a Public Protection Classification from 1 to 10. Class 1 generally represents superior property fire protection, and Class 10 indicates that the area's fire-suppression program does not meet ISO's minimum criteria.[3] The ISO rating is used by the MPFPD to evaluate their public fire-protection services. Currently, the MPFPD has an ISO rating of Class 2.

[1] Ordinance 36A-2013 was introduced on October 21, 2014 to adopt the 2013 CFC by reference and was subsequently amended and adopted under Ordinance 36B-2013 on January 20, 2015.

[2] ISO Mitigation Online, *About ISO,* https://www.isomitigation.com/about-us/about-iso.html, accessed on February 27, 2015.

[3] ISO Mitigation Online website, *ISO's Public Protection Classification (PPC™) Program*, https://www.isomitigation.com/ppc/iso-s-public-protection-classification-ppc-program.html, accessed on February 27, 2015.

National Fire Protection Agency

The National Fire Protection Agency (NFPA) is a non-profit organization that develops, publishes, and disseminates more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risks.[4] The NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments 2010 Edition contains the minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by fire departments. The MPFPD uses the NFPA 1710 to evaluate their public fire-protection services.[5]

Existing Conditions

The MPFPD provides fire protection services to the study area. The MPFPD serves approximately 90,000 people, covering 30 square miles, including Atherton, Menlo Park, East Palo Alto, and some of the unincorporated areas of San Mateo County.[6] The MPFPD operates four major divisions: Administrative Services; Human Resources; Operations and Suppression; and Training. The MPFPD has mutual aid agreements with the neighboring departments, including the cities of Palo Alto, Redwood City, Fremont, and Woodside Fire District, to provide automatic aid.

Staffing

The MPFPD anticipated a staffing of 113.80 full time equivalents (FTE) for the 2015/2016 Fiscal Year (FY), which represents a decrease from the adopted 115.50 FTE from the previous year.[7] The command staff includes a fire chief, a deputy fire chief, three division chiefs, and three battalion chiefs. MPFPD's current service ratio is 0.86 firefighters per 1,000 service populations.[8]

Call Volume and Response Times

The MPFPD currently responds to approximately 8,200 emergencies a year with about 63 percent of them being emergency medical incidents.[9] In 2015, the MPFPD retained Citygate Associates, LLC to perform a Standards of Cover Assessment (SOC) for field deployment services.[10] According to the SOC, the MPFPD responded to 8,152 incidents, consisting of 185 fires, 5,627 emergency medical service (EMS) calls, and 2,700 other types of incidents.[11] Based on the SOC's findings the MPFPD recommended that the MPFPD

[4] National Fire Protection Agency, *Codes and Standards*, http://www.nfpa.org/codes-and-standards, accessed on February 27, 2015.

[5] National Fire Protection Agency, *NFPA 1710*, http://www.nfpa.org/codes-and-standards/standards-development-process/safer-act-grant/nfpa-1710, accessed on November 23, 2015.

[6] Menlo Park Fire Protection District, *Menlo Park Fire Protection District Information.* http://www.menlofire.org/districtinfo.html, accessed on November 23, 2015.

[7] Menlo Park Fire Protection District, 2015, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 Budget, page 34.

[8] Personal communication between Ricky Caperton, Associate, PlaceWorks and Harold Schaperhouman, Fire Chief, Menlo Park Fire Protection District on November 10, 2015.

[9] Personal communication between Ricky Caperton, Associate, PlaceWorks and Harold Schaperhouman, Fire Chief, Menlo Park Fire Protection District on November 10, 2015.

[10] Menlo Park Fire Protection District, 2015, Standards of Cover Assessment, page 1.

[11] Menlo Park Fire Protection District, 2015, Standards of Cover Assessment, page 64.

adopt a time based performance standard. On September 15, 2015, the MPFPD adopted a new time based performance standard under Board Resolution No. 1818-2015.[12] The goal of the MPFPD's first response unit is to arrive on the scene of all Code 3 emergencies within 7 minutes, 90 percent of the time from the time of the call to the dispatch center. This equates to 1 minute dispatch time, 2 minutes company turnout time, and 4 minutes response or drive time. The goal of the MPFPD's multi-unit response units is to arrive on scene within 11 minutes from the time of the call to the dispatch center. This equates to 1 minute dispatch time, 2 minutes company turnout time, and 8 minutes response or drive time.[13] The MPFPD's average response time in 2013 and 2014 was under the now currently adopted 7 minute first response unit standard.[14]

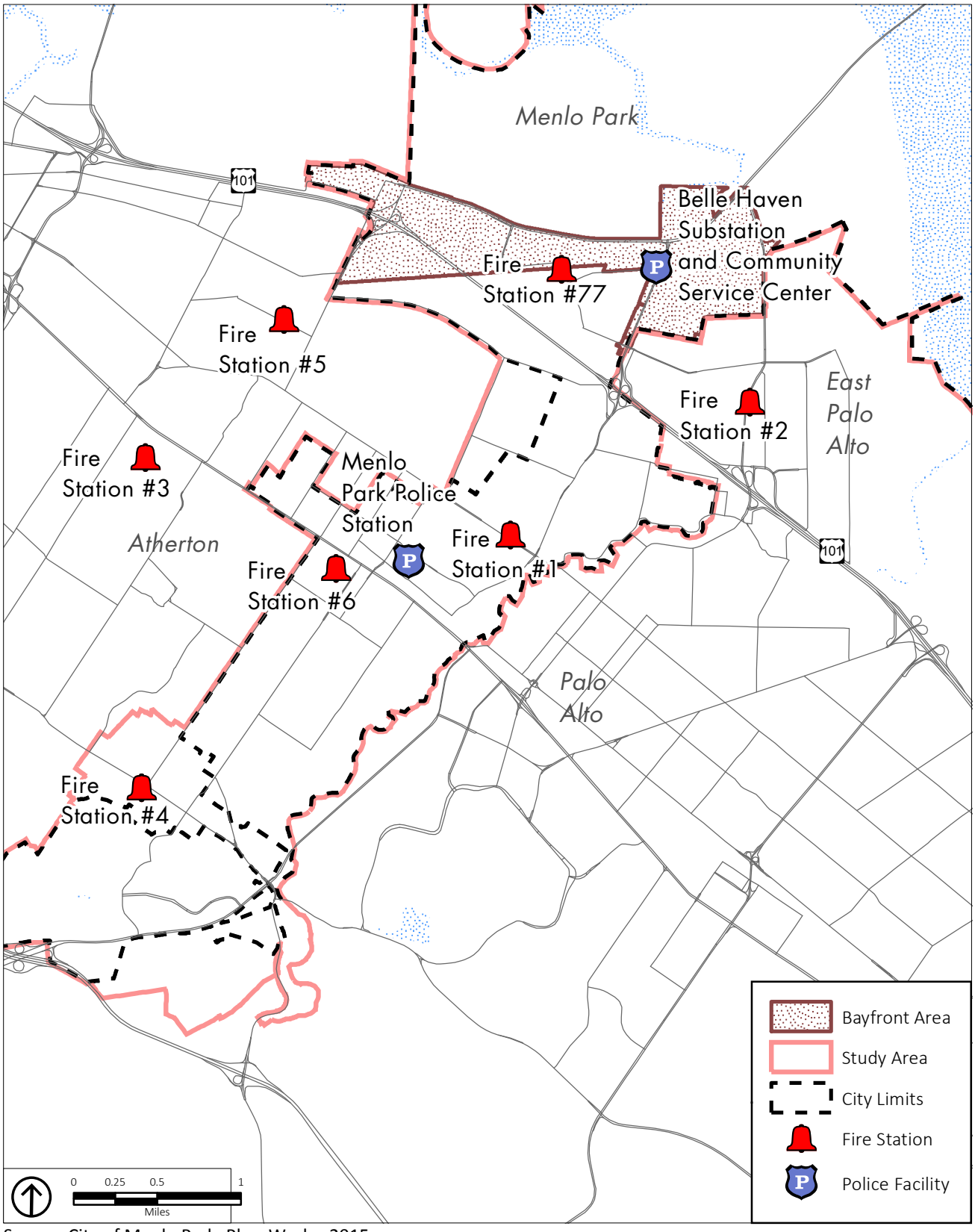
Equipment and Facilities

The MPFPD's headquarters is located at 170 Middlefield Road in Menlo Park. As shown on Figure 4.12-1, the MPFPD operates seven stations in the study area and all Stations serve the study area. The seven stations are strategically placed to provide the most efficient response times. The MPFPD's most recent ISO rating in 2013 was a Class 2 on a scale of one to ten, with one being the best.[15] A list of the station locations, equipment, and staff at each of the locations, followed by descriptions of the each station, is included in Table 4.12-1. Recent upgrades and expansions, and plans for future upgrades are listed directly below Table 4.12-1.

Expansion Plans

In March of 2012, the MPFPD conducted a comprehensive Facility Condition Assessment (FCA) of all eight facilities, including the Administration Office, Fire Station's 1 through 6, and Fire Station 77.[16] The FCA included a baseline of the physical condition of the facilities, an inventory of equipment, and report summaries highlighting conditions that pose a risk to the safety of the public or MPFPD employees. Based on the FCA, Station 1 was in "fair" condition, Station's 3, 5, and the Administration Office were in "Good" condition, Station 77 was in "excellent" condition, and Station's 2 and 6 had existing plans or were in the process of improvements at the time of the FCA. Improvements to Station 6 were approved by the City in 2015. As identified above, several of the stations have either been recently renovated or have plans to renovate or expand in the near future. Further, the MPFPD has indicated that at some point in the future, Stations 3, 4, 5, and 77 would need to be relocated or expanded to accommodate future need.[17]

[12] Menlo Park Fire Protection District, 2015, Board Resolution No. 1818-2015.
[13] Menlo Park Fire Protection District, 2015, Staff Report, page 2.
[14] Menlo Park Fire Protection District, 2015, Standards of Cover Assessment Volume 1, Executive Summary, page 2.
[15] Menlo Park Fire Protection District, 2015, Standards of Cover Assessment Volume 2, Technical Report, page 60.
[16] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 85.
[17] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 85.



Source: City of Menlo Park; PlaceWorks, 2015.

Figure 4.12-1
Fire District and Police Facilities

TABLE 4.12-1 MPFPD STATION EQUIPMENT AND STAFFING STATUS THAT SERVES THE STUDY AREA

Station	Address	Equipment	Staff
Administration and Fire Prevention Office	170 Middlefield Road	N/A	1 Fire Chief, 1 Deputy Chief, 1 Administrative Services Manager, 1 Senior Management Analyst.
Station 1	300 Middlefield Road	Engine 1, Truck 1 (aerial ladder truck - 100' ladder), Battalion 1(the Districts Mobile Command Vehicle), Rescue 1	Engine 1 is staffed by a Captain and 2 Firefighters. Truck 1 is staffed by a Captain and 3 Firefighters. One of the personnel on Engine 1 and Truck 1 will also be a licensed paramedic.
Station 2	2290 University Avenue	Engine 2 (Automatic Aid to Palo Alto and Mutual Aid to Fremont)	1 Captain and 2 Firefighters. One of the personnel will also be a licensed paramedic.
Station 3	32 Almendral Avenue	Engine 3 (Automatic Aid and move/cover to Redwood City)	1 Captain and 2 Firefighters. One of the personnel will also be a licensed paramedic.
Station 4	3322 Alameda de Las Pulgas	Engine 4 (Automatic Aid to Redwood City, Portola Valley, and Woodside)	1 Captain and 2 Firefighters. One of the personnel will also be a licensed paramedic.
Station 5	4101 Fair Oaks Avenue	Engine 5 (Automatic Aid to the Redwood City Fire Department)	1 Captain and 2 Firefighters. One of the three personnel will also be a licensed paramedic.
Station 6	700 Oak Grove Avenue	Engine 6 (Automatic Aid to the City of Palo Alto)	1 Captain and 2 firefighters. One of the three personnel will also be a licensed paramedic.
Station 77	1467 Chilco Avenue	Engine 77 (Automatic Aid to Redwood City and Mutual Aid to Fremont), an Air Boat, USAR Vehicles and the other various Utility Vehicles.	3 firefighting personnel (1 Captain and 2 Fire Fighters) and 2 Shop personnel (1 Fleet Manager and 1 Mechanic)

Source: Menlo Park Fire Protection District website, http://www.menlofire.org/stations.html, accessed on October 2015; Menlo Park Fire Protection District, 2011 Annual Report. Menlo Park Fire Protection District, 2015, Fiscal Year 2015/2016 Adopted District Budget & CA-TF3 US&R Budget, page 34.

According to the MPFPD's Adopted District Budget for the FY 2015/2016, the following capital improvements are planned for each station:

- **Station 1:** The MPFPD plans to construct a new training tower at this location. The project is in Phase I, design and configuration,[18] of a 14, 586 multi-story training tower with a subsurface basement. Although the City has not received and application for this project, the MPFPD budget notes that construction is estimated to begin in FY 2019/2020 and would last through the end of FY 2021/2022.[19]
- **Station 2:** The MPFPD purchased property at 2299 Capitol Avenue and 2293 Capitol Avenue, respectively, for expansion and renovation with the existing Station at 2290 University Avenue. Capital improvements include three bays with drive-through access, a 12,747 square-foot fire station, and a detached communication tower, as well as site improvements, such as water, power, communications

[18] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 87.
[19] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 90.

infrastructure, and landscaping. The project is in Phase III of construction and is anticipated to be completed in the year 2016.[20]

- **Station 3:** The MFPD indicates that the station will need to be enlarged or relocated to accommodate future need; however the station is considered to be in "good" condition.[21]
- **Station 4:** A seismic retrofit occurred in 1997, and according to the MPFPD, will need to be expanded to approximately 12,000 square feet to accommodate future need.[22]
- **Station 5:** The MPFPD indicates that this station will need to be expanded or relocated to address future need; however, the station is considered to be in "good" condition.[23]
- **Station 6:** The MPFPD indicates that this station is in need of replacement, and in 2008 purchased property behind the station at 1231 Hoover Street. The replacement of this station has received City Council approval to construct a new 8,802 square foot fire station consisting of a two-story firehouse, a detached vehicle storage garage, an emergency generator, a 500 gallon fuel tank, and relocation of an existing carriage house from its current location on Middlefield Road.[24] While construction was anticipated to begin in the FY 2015/2016, no building permits have been issued by the City at the time of preparing this Draft EIR.
- **Station 77:** The station is considered in "excellent" condition, however, the MPFPD indicates that this station will need to be enlarged or relocated to another site to accommodate future need.[25]

Budget

The MPFPD FY 2015/2016 Adopted District Budget & CA-TF3 US&R Budget (MPFPD Budget) is $37.5 million, which is a 22 percent decrease from the FY 2014/2015 adjusted budget. For the FY 2015/2016 adopted budget, $3.5 million is budgeted for the construction and improvement of stations. Specifically, $1.5 million is budgeted to complete Station No. 2 construction and $1.6 million to start Station No. 6 construction. As of June 30, 2015, the MPFPD has set aside $21.8 million for the construction and replacement of stations, including $6.9 million for the construction of Station 6. However, as of June 30, 2015, the projected unfunded amount for capital improvement projects is $29 million.[26] To help with the unfunded amount for capital improvement projects, the MPFPD completed a NEXUS Impact Fee study.[27] The MPFPD Board of Directors has approved the NEXUS Impact Fee study and once adopted by the City of Menlo Park, which is anticipated prior to the approval of the proposed project, all new development applicants in the MPFPD service area will be required to pay applicable impact fees.

The MPFPD maintains a schedule of fees for a variety of uses and permits in order to help support cost recovery for the MPFPD. The MPFPD also forms partnership with local businesses to improve public

[20] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 91.
[21] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 92.
[22] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 93.
[23] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 94.
[24] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 87.
[25] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 96.
[26] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 4.
[27] Personal communication between Ricky Caperton, Associate, PlaceWorks and Harold Schaperhouman, Fire Chief, Menlo Park Fire Protection District on November 10, 2015.

safety. For example, the MPFPD partnered with Facebook to fund traffic preemptions and thermal imaging equipment.[28] Facebook conducted a major redevelopment of its property and the MPFPD is in the process of working closely with the company on the construction of its Campus Expansion Project, which consists of about 1,000,000 square feet on the old Tyco Electronics property.

4.12.1.2 STANDARD OF SIGNIFICANCE

Implementation of proposed project would have a significant impact related to fire protection and emergency services if it would result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services.

4.12.1.3 IMPACT DISCUSSION

PS-1	**Implementation of the proposed project would not result in the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.**

As described in Chapter 3, Project Description, of this Draft EIR, the proposed project would introduce new residents and employees by the buildout horizon year 2040. These changes would likely result in an increase in the number of calls for fire protection, and emergency medical services, which could result in expansion or construction of new or physically altered fire protection facilities resulting in significant environmental impacts.

As described above in Section 4.12.1.1, Environmental Setting, under the subheading "Existing Conditions," the MPFPD conducted a comprehensive FCA of all eight facilities, including the Administration Office, Fire Station's 1 through 6, and Fire Station 77.[29] According to the MPFPD's Budget for the FY 2015/2016, the capital improvements are planned for each station. In addition, to these planned improvements, the MPFPD indicated that they would need to hire more personnel and increase the daily staffing ratio from the current 0.86 firefighter per 1,000 residents to 1 firefighter per 1,000 residents, and to remodel or rebuild Fire Station 77 to keep up with future demand.[30] As stated in the FY 2015/2016 MPFPD Budget, the MPFPD has capital improvement plans in place to expand its facilities to accommodate future demand including Station 77. The FY 2015/2016 MPFPD Budget indicates that the need to expand Station 77, which predates the proposed project. Therefore, the proposed project does not in and of itself require this expansion.

[28] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 1.
[29] Menlo Park Fire Protection District, Fiscal Year 2015-2016 Adopted District Budget & CA-TF3 US&R Budget, page 85.
[30] Personal communication between Ricky Caperton, Associate, PlaceWorks and Harold Schaperhouman, Fire Chief, Menlo Park Fire Protection District on November 10, 2015.

General Plan buildout would occur over a 24-year horizon, which would result in an incremental increase in demand for fire protection services to be accommodated by the MPFPD. The MPFPD requires developers in their service area to pay impact fees to help implement the MPFPD's capital improvement plans, which include specific improvements to ensure the MPFPD can adequately serve its service area and population. Applicants of new construction or improvements projects in Menlo Park are required to pay all applicable fees to the MPFPD as identified on the Fee Schedule. Because the Fee Schedule is likely subject to change over the 24-year buildout of the proposed project, project applicants are required to pay the fees per the Fee Schedule that is in place at the time of project approval.

Project applicants for future development would also be required to meet MPFPD standards and Fire Prevention Code requirements, including compliance with the permit processes, emergency access, hazardous material handling, and fire protection systems, including automatic sprinkler systems, fire extinguishers, and fire alarms. The installation of sprinklers in all high-rise buildings and compliance with fire resistance standards for building materials and particular types of construction would be required. In addition, future development would be required to undergo plan review and approval by the MPFPD to ensure that future projects comply with State, and local fire codes, as well as ensure adequate safety features are incorporated into building design to minimize risk of fire.

The proposed Land Use (LU) and Circulation (CIRC) Elements, which would be adopted as part of the proposed project, and existing Section IV, Safety (S), of the Open Space/Conservation, Noise and Safety Elements and Housing (H) Element, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to effective service ratios. The following General Plan goals, policies, and programs would serve to minimize impacts to fire protection services:

- Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.
  - Policy LU-1.1: Land Use Patterns. Cooperate with the appropriate agencies to help assure a coordinated land use pattern in Menlo Park and the surrounding area.
    - Program LU-1.B: Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation, water supply, drainage, and other community-serving facilities and infrastructure.
    - Program LU-1.E: Assessment Districts and Impact Fees. Pursue the creation of assessment districts and/or the adoption of development impact fees (e.g., fire impact fee) to address infrastructure and service needs in the community.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.4: Community Amenities. Require mixed-use nonresidential development of a certain minimum scale to support and contribute to programs that benefit the community and the City, including education, transit, transportation infrastructure, sustainability, neighborhood-serving amenities, child care, housing, job training, and meaningful employment for Menlo Park youth and adults.

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
    - Program LU-4.C: Community Amenity Requirements. Establish Zoning Ordinance requirements for new mixed-use, commercial, and industrial development to support and contribute to programs that benefit the community and City, including public or private education, transit, transportation infrastructure, public safety facilities, sustainability, neighborhood-serving amenities, child care, housing for all income levels, job training, parks and meaningful employment for Menlo Park youth and adults (e.g., first source hiring).
- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
    - Policy LU-7.7: Hazards. Avoid development in areas with seismic, flood, fire and other hazards to life or property when potential impacts cannot be mitigated.
- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
    - Policy CIRC-1.6: Emergency Response Routes. Identify and prioritize emergency response routes in the citywide circulation system.
        - Program CIRC-1.E: Emergency Response Routes Map. In collaboration with the Menlo Park Fire Protection District and Menlo Park Police Department, adopt a map of emergency response routes that considers alternative options, such as the Dumbarton Corridor, for emergency vehicle access. Modifications to emergency response routes should not prevent or impede emergency vehicle travel, ingress, and/or egress.
        - Program CIRC-1.F: Coordination with Emergency Services. Coordinate and consult with the Menlo Park Fire Protection District in establishing circulation standards to assure the provision of high quality fire protection and emergency medical services within the City.
- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
    - Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system. New development should minimize cut-through and high-speed vehicle traffic on residential streets; minimize the number of vehicle trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitate appropriate or adequate response times and access for emergency vehicles.
- Goal CIRC-3: Increase mobility options to reduce traffic congestion, greenhouse gas emissions, and commute travel time.
    - Policy CIRC-3.3: Emerging Transportation Technology. Support efforts to fund emerging technological transportation advancements, including connected and autonomous vehicles, emergency vehicle pre-emption, sharing technology, electric vehicle technology, electric bikes and scooters, and innovative transit options.

- Program CIRC-3.B: Emergency Response Coordination. Equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Existing traffic signals without existing pre-emptive devices will be upgraded as major signal modifications are completed.

- Goal S-1: Assure a Safe Community. Minimize risk to life and damage to the environment and property from natural and human-caused hazards, and assure community emergency preparedness and a high level of public safety services and facilities.
  - Policy S-1.5: New Habitable Structures. Require that all new habitable structures to incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused hazards.
  - Policy S-1.11: Visibility and Access to Address Safety Concerns. Require that residential development be designed to permit maximum visibility and access to law enforcement and fire control vehicles consistent with privacy and other design considerations.
  - Policy S-1.29: Fire Equipment and Personnel Access. Require adequate access and clearance, to the maximum extent practical, for fire equipment, fire suppression personnel, and evacuation for high occupancy structures in coordination with the Menlo Park Fire Protection District.
  - Policy S-1.30: Coordination with the Menlo Park Fire District. Encourage City-Fire District coordination in the planning process and require all development applications to be reviewed and approved by the Menlo Park Fire Protection District prior to project approval.
  - Policy S-1.31: Fire Resistant Design. Require new homes to incorporate fire resistant design and strategies such as the use of fire resistant materials and landscaping, and creating defensible space (e.g., areas free of highly flammable vegetation).
  - Policy S-1.38: Emergency Vehicle Access. Require that all private roads be designed to allow access for emergency vehicles as a prerequisite to the granting of permits and approvals for construction.
    - Program S-1.A: Link the City's Housing and Safety Elements. Continue to review and revise the Safety Element, as necessary, concurrently with updates to the General Plan Housing Element whenever substantial new data or evidence related to prevention of natural and human hazards become available.

- Goal H-4: New Housing. Use land efficiently to meet community housing needs at a variety of in income levels, implement sustainable development practices and blend well-designed new housing into the community.
    - Policy H-4.1: Housing Opportunity Areas. Identify housing opportunity areas and sites where a special effort will be made to provide affordable housing consistent with other General Plan policies. Given the diminishing availability of developable land, Housing Opportunity Areas should have the following characteristics:

      e. For sites with significant health and safety concerns, development may be tied to nearby physical improvements, and minimum density requirements may be reduced.

f. Site development should consider school capacity and the relationship to the types of residential units proposed (i.e., housing seniors, small units, smaller workforce housing, etc. in school capacity impact areas).

- Program H-4.K: Work with the Fire District. Work with the Fire District on local amendments to the State Fire Code to pursue alternatives to standard requirements that could otherwise be a potential constraint to housing development and achievement of the City's housing goals.

Additionally, as part of the proposed Zoning update, the project includes the transportation demand management (TDM) standards for development in the Bayfront Area. These TDM standards require future development to reduce associated vehicle trips to at least 20 percent below standard generation rates. Each individual applicant will be required to prepare a TDM and provide an impact analysis to the satisfaction of the City's Transportation Manager. The reduction in trips would help to alleviate roadway congestion that could interfere with MPFPD access and response times.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to fire protection services. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the continued review of the Safety Element to incorporate the most up to date information in order to prevent natural and human hazards, and require the City's continued coordination with MPFPD to establish circulation standards, adopt an emergency response routes map, and equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Additionally, the City will continue to annually update the Capital Improvement Program to identify priority projects that could improve the transportation network; thus, improving the circulation network, which facilitates MPFPD's overall access and ability to maintain adequate response times. Furthermore, the implementation of proposed project would help to minimize traffic congestion that could impact fire protection services and provide additional funding to support adequate fire protection services. Adherence to the State and City requirements combined with compliance with the MPFPD permitting process and payment of impact fees would ensure that the adoption of the proposed project would result in *less-than-significant* impacts with respect to the need for remodeled or expanded MPFPD facilities.

Significance Without Mitigation: Less than significant.

4.12.1.4 CUMULATIVE IMPACT DISCUSSION

PS-2	**Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to fire protection services.**

As discussed in Chapter 4, Environmental Evaluation, of this Draft EIR, this EIR takes into account growth projected by the proposed project within the study area, in combination with impacts from projected growth in the rest of San Mateo County and the surrounding region, as forecast by the Association of Bay Area of Governments (ABAG). Cumulative impacts are considered in the context of the growth from

development under the proposed project within the city combined with the estimated growth in the service area of the MPFPD, which includes the cities of Atherton, Menlo Park, East Palo Alto, and some of the unincorporated areas of San Mateo County.[31] A significant cumulative environmental impact would result if this cumulative growth would exceed the ability of MPFPD to adequately serve their service area, thereby requiring construction of new facilities or modification of existing facilities.

As discussed under PS-1 above, the proposed project on its own does not create a need for new or physically altered facilities in order for the MPFPD to provide fire protection services to its service area. The expansion of Station 77 would be required to serve the increased growth potential in the Bayfront Area in conjunction with other future growth. The expansion of Station 77 is already planned and budgeted for prior to the proposed project becoming reasonably foreseeable. As discussed under PS-1, the ongoing compliance with State and local laws, including the payment of developer fees to support the ability of the MPFPD to provide adequate services to its service area, including the expansion of Station 77, would minimize impacts related to fire protection services. The expansion of Station 77 would occur in an existing urbanized area, which would reduce the potential for significant and unavoidable environmental impacts. Any environmental impacts related to the expansion of Station 77 would be project-specific, and would require permitting and review in accordance with CEQA, as necessary, which would ensure that any environmental impacts are disclosed and mitigated to the extent possible. In some cases, fire station expansion projects in highly urban settings, such as the Bayfront Area, can qualify for a categorical exemption under CEQA Guidelines Section 15301.[32] This EIR is a programmatic document and does not evaluate the environmental impacts of any project-specific development. For these reasons, the adoption of the proposed project, which would introduce incremental growth over a 24-year buildout, when considered with cumulative projects, would result in *less-than-significant* impacts with respect to the need for remodeled or expanded fire protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives.

Significance With Mitigation: Less than significant.

4.12.2 POLICE SERVICES

4.12.2.1 ENVIRONMENTAL SETTING

This section describes regulations, resources, and response times for police protection services in Menlo Park.

Regulatory Framework

There are no federal or State regulations pertaining to law enforcement that apply to the proposed project.

[31] Menlo Park Fire Protection District, *Menlo Park Fire Protection District Information.* http://www.menlofire.org/districtinfo.html, accessed on November 23, 2015.

[32] *City of Hayward v. Board of Trustees of the California State University*. Court of Appeal of the State of California, First Appellate District, Division Three. Filed on November 30, 2015. Available at www.courts.ca.gov/opinions/documents/A131412A.PDF. Accessed on May 29, 2016.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.12.2.3, Impact Discussion.

Existing Conditions

The Menlo Park Police Department (MPPD) provides law enforcement services in Menlo Park. The MPPD current service population is 42,046.[33] One police station, located at City Hall, primarily covers the whole service area. The MPPD operates a recently renovated police substation and neighborhood service center north of Highway 101 in the Belle Haven neighborhood. The Belle Haven Neighborhood Service Center and Substation houses the MPPD's Code Enforcement Office and Community Safety Police Officer. MPPD locations are shown on Figure 4.12-1. MPPD officers use the substation to make calls, interview and process suspects, victims, or witnesses. In addition, the substation serves as a place for the community members to meet with police officers or to gather amongst themselves. The MPPD divides its service area by three beats:

- Beat 1 covers the area of the City on the hillside of El Camino Real
- Beat 2 covers the area between El Camino Real and US 101
- Beat 3 covers the bayside of US 101

The MPPD has a mutual aid agreement with every other police agency in the County of San Mateo. This agreement includes all neighboring jurisdictions: Atherton Police Department, East Palo Alto Police Department, Redwood City Police Department, and the San Mateo County Sherriff's Office, which is responsible for law enforcement in unincorporated areas of Menlo Park and Redwood City. The MPPD also has an informal mutual aid agreement with the Palo Alto Police Department which borders Menlo Park, but is in Santa Clara County.

Staffing

MPPD staffing includes 48 sworn officers and 22 professional staff, resulting in a total full-time equivalent (FTE) of 70 as of 2014. The sworn officers consist of one chief, two commanders, eight sergeants, and 37 police officers,[34] with a staffing ratio of 1.14 officers per 1,000 service population.[35]

Call Volume and Response Times

The MPPD prioritizes calls for police services as follows: Priority 1 calls involve life-threatening situations; Priority 2 calls are not life-threatening but necessitate immediate response; all other calls are designated

[33] Note: Service population is calculated by taking the total City population and adding .33 of all employees within the City.

[34] Personal communication between Ricky Caperton, Associate, PlaceWorks and David Bertini, Commander, Menlo Park Police Department on November 18, 2015.

[35] Personal communication between Ricky Caperton, Associate, PlaceWorks and David Bertini, Commander, Menlo Park Police Department on November 18, 2015.

Priority 3. The MPPD's optimal response times is less than 5 minutes for Priority 1 calls, 7 to 8 minutes for Priority 2 calls, and 10 to 12 minutes for Priority 3 calls. Vehicle traffic and congestion are the primary impediment to improving response times.[36]

From April 10, 2015 to April 10, 2016, the MPPD received 294 Priority 1 calls, 10,096 Priority 2 calls, and 10,507 Priority 3 calls for service. This does not include the 18,355 additional officer-initiated calls that the dispatch center handled. These officer initiated calls could be priority 1, 2, or 3 depending on their nature. The MPPD identified the Beat 3 area as a "crime hot spot" because of entrenched gang activity in the area and rival gangs in East Palo Alto, although violent crime has dramatically decreased throughout the city in the last two years.[37]

4.12.2.2 STANDARD OF SIGNIFICANCE

Implementation of the proposed project would have a significant impact related to police protection and emergency if it would result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection services.

4.12.2.3 IMPACT DISCUSSION

PS-3	**Implementation of the proposed project would not result in the need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.**

As described in Chapter 3, Project Description, of this Draft EIR, the proposed project would introduce new residents and employees by the buildout horizon year 2040. These changes would likely result in an increase in the number of calls for police protection, and emergency medical services, which could result in expansion or construction of new or physically altered police facilities resulting in significant environmental impacts.

The MPPD indicated that they would need to hire an additional seventeen sworn officers and purchase commensurate equipment for those officers, in order to accommodate the level of growth and expansion of the proposed project. At full buildout, the additional seventeen officers would increase the current staffing ratio of 1.14 officers per 1,000 service population[38] to 1.29 officers per 1,000 service population.[39]

[36] Personal communication between Ricky Caperton, Associate, PlaceWorks and David Bertini, Commander, Menlo Park Police Department on November 18, 2015.

[37] Personal communication between PlaceWorks and David Bertini, Commander, Menlo Park Police Department on November 19, 2014.

[38] Personal communication between Ricky Caperton, Associate, PlaceWorks and David Bertini, Commander, Menlo Park Police Department on November 18, 2015.

[39] 65 officers (Current staff of 48 officers plus the additional 17 new hires) divided by 50.35 service population (Menlo Park population at 2040 buildout/1,000) = 1.29 sworn officers per 1,000 service population.

PUBLIC SERVICES AND RECREATION

The MPPD has confirmed that no expansion or addition of facilities would be required to accommodate the additional sworn officers or equipment.[40]

The proposed Land Use (LU) and Circulation (CIRC) Elements, which would be adopted as part of the proposed project, and existing Section IV, Safety (S), of the Open Space/Conservation, Noise and Safety Elements and Housing (H) Element, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to adequate police protection services. The following General Plan goals, policies, and programs would serve to minimize potential impacts associated with adequate police protection services:

- Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.
  - Policy LU-1.1: Land Use Patterns. Cooperate with the appropriate agencies to help assure a coordinated land use pattern in Menlo Park and the surrounding area.
    - Program LU-1.B: Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation, water supply, drainage, and other community-serving facilities and infrastructure.
    - Program LU-1.E: Assessment Districts and Impact Fees. Pursue the creation of assessment districts and/or the adoption of development impact fees (e.g., fire impact fee) to address infrastructure and service needs in the community.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.4: Community Amenities. Require mixed-use nonresidential development of a certain minimum scale to support and contribute to programs that benefit the community and the City, including education, transit, transportation infrastructure, sustainability, neighborhood-serving amenities, child care, housing, job training, and meaningful employment for Menlo Park youth and adults.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
    - Program LU-4.C: Community Amenity Requirements. Establish Zoning Ordinance requirements for new mixed-use, commercial, and industrial development to support and contribute to programs that benefit the community and City, including public or private education, transit, transportation infrastructure, public safety facilities, sustainability, neighborhood-serving amenities, child care, housing for all income levels, job training, parks and meaningful employment for Menlo Park youth and adults (e.g., first source hiring).
- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.

[40] Personal communication between Ricky Caperton, Associate, PlaceWorks and David Bertini, Commander, Menlo Park Police Department on November 18, 2015.

- Policy CIRC-1.6: Emergency Response Routes. Identify and prioritize emergency response routes in the citywide circulation system.
    - Program CIRC-1.E: Emergency Response Routes Map. In collaboration with the Menlo Park Fire Protection District and Menlo Park Police Department, adopt a map of emergency response routes that considers alternative options, such as the Dumbarton Corridor, for emergency vehicle access. Modifications to emergency response routes should not prevent or impede emergency vehicle travel, ingress, and/or egress.
    - Program CIRC-1.F: Coordination with Emergency Services. Coordinate and consult with the Menlo Park Fire Protection District in establishing circulation standards to assure the provision of high quality fire protection and emergency medical services within the City.
- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
    - Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system. New development should minimize cut-through and high-speed vehicle traffic on residential streets; minimize the number of vehicle trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitate appropriate or adequate response times and access for emergency vehicles.
- Goal CIRC-3: Increase mobility options to reduce traffic congestion, greenhouse gas emissions, and commute travel time.
    - Policy CIRC-3.3: Emerging Transportation Technology. Support efforts to fund emerging technological transportation advancements, including connected and autonomous vehicles, emergency vehicle pre-emption, sharing technology, electric vehicle technology, electric bikes and scooters, and innovative transit options.
        - Program CIRC-3.B: Emergency Response Coordination. Equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Existing traffic signals without existing pre-emptive devices will be upgraded as major signal modifications are completed.
- Goal S-1: Assure a Safe Community. Minimize risk to life and damage to the environment and property from natural and human-caused hazards, and assure community emergency preparedness and a high level of public safety services and facilities.
    - Policy S-1.11: Visibility and Access to Address Safety Concerns. Require that residential development be designed to permit maximum visibility and access to law enforcement and fire control vehicles consistent with privacy and other design considerations.
    - Policy S-1.38: Emergency Vehicle Access. Require that all private roads be designed to allow access for emergency vehicles as a prerequisite to the granting of permits and approvals for construction.

Additionally, as part of the Zoning update, the project includes the transportation demand management (TDM) standards for development in the Bayfront Area. These TDM standards require future development to reduce associated vehicle trips to at least 20 percent below standard generation rates. Each individual

applicant will be required to prepare a TDM and provide an impact analysis to the satisfaction of the City's Transportation Manager. The reduction in trips would help to alleviate roadway congestion that could interfere with MPPD access and response times.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies that have been prepared to minimize impacts related to police protection services. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the continued coordination with MPPD to establish circulation standards, adopt an emergency response routes map, and equip all new traffic signals with pre-emptive traffic signal devices for emergency services, as well as assess district fee programs, and make improvements to the transportation infrastructure. Additionally, the City will continue to annually update the Capital Improvement Program to identify priority projects that could improve the transportation network; thus, improving the circulation network, which facilitates MPPD's overall access and ability to maintain adequate response times. Furthermore, the implementation of proposed project would help to minimize traffic congestion that could impact police services and provide additional funding to support adequate police services. For these reasons and because the MPPD has indicated that it can address maintaining adequate response times through staffing, rather than facility expansion, the adoption of the proposed project, which would introduce incremental growth over a 24-year buildout, would result in *less-than-significant* impacts with respect to the need for remodeled or expanded MPPD facilities.

Significance Without Mitigation: Less than significant.

4.12.2.4 CUMULATIVE IMPACT DISCUSSION

PS-4	**Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to police services.**

As discussed in Chapter 4, Environmental Evaluation, of this Draft EIR, this EIR takes into account growth projected by the proposed project within the study area, Menlo Park City Limits and Sphere of Influence (SOI), in combination with impacts from projected growth in the rest of San Mateo County and the surrounding region, as forecast by the Association of Bay Area of Governments (ABAG).

As described above under Section 4.12.2.1, Environmental Setting, the MPPD is responsible for providing all police services within the Menlo Park city limits. The MPPD also maintains mutual aid agreements with the Atherton Police Department, East Palo Alto Police Department, Redwood City Police Department, and the San Mateo County Sherriff's Office, which is responsible for law enforcement in unincorporated areas of Menlo Park and Redwood City.

The discussion under PS-3 includes the proposed project and cumulative projects. The MPPD has confirmed that no expansion or addition of facilities would be required to accommodate the additional

sworn officers or equipment.[41] Growth under the proposed project is also not expected to significantly increase the degree or incidence of need for mutual aid from neighboring agencies and result in the need for any expanded facilities. Compliance with the existing and proposed General Plan policies listed under PS-3 would require the City to promote orderly development in the city, which requires implementing a coordinated land use pattern in the study area and ongoing transportation infrastructure improvements that would facility police service access and ability to maintain adequate response times. Additionally, the new development potential under the proposed project would occur on infill sites and would occur incrementally throughout the 24-year buildout horizon. Therefore, implementation of the proposed project would have a *less-than-significant* cumulative effect with respect to the need for remodeled or expanded police facilities in order to maintain acceptable service ratios, response times, or other performance objectives.

Significance Without Mitigation: Less than significant.

4.12.3 PARKS AND RECREATION

4.12.3.1 ENVIRONMENTAL SETTING

This section describes the regulatory framework and existing conditions related to parks and recreation services in Menlo Park.

Regulatory Framework

State Regulations

The Quimby Act

The Quimby Act of 1975 authorizes Cities and Counties to pass ordinances requiring developers to set aside land, donate conservation easements or pay fees for park improvements. The Quimby Act sets a standard park space to population ratio of up to 3 acres of park space per 1,000 persons. Cities with a ratio of higher than three acres per 1,000 persons can set a standard of up to 5 acres per 1,000 persons for new development.[42] The calculation of a city's park space to population ratio is based on a comparison of the population count of the last federal census to the amount of city-owned parkland. A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for a recreation facility or park land, and the type of development project upon which the fee is imposed.

[41] Personal communication between Ricky Caperton, Associate, PlaceWorks and David Bertini, Commander, Menlo Park Police Department on November 18, 2015.

[42] California Government Code Section 66477, California Department of Parks and Recreation website, *Quimby Act 101: An Abbreviated Overview,* http://www.parks.ca.gov/pages/795/files/quimby101.pdf, accessed on December 7, 2015.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.12.3.3, Impact Discussion.

Menlo Park Municipal Code

The City of Menlo Park Municipal Code, organized by title, chapter, and section, contains all ordinances for Menlo Park. Title 15, Subdivisions, includes regulations relevant to parks and recreational facilities as discussed below.

Chapter 15.16, Design and Improvement Standards

This chapter outlines the requirements for the dedication of land or payment of fees for park and recreational services and land for public right of access. Under Section 15.16.020, the City can require the dedication of land or the payment of fees, or a combination of both, for park and recreational purposes as a condition to the approval of a tentative subdivision or parcel map for residential development on one or more parcels of the subdivision. The amount of land dedicated or fees paid is calculated based upon residential density per the formula listed under Section 15.16.020(3), which is based on 5 acres per 1,000 persons.

Existing Conditions

City-owned parks and facilities

The Menlo Park Community Services Department owns and operates parks and recreational facilities in the City of Menlo Park. The City has adopted a goal of maintaining a ratio of 5 acres of developed parkland per 1,000 residents.[43] Currently, the City provides 244.96 acres of parkland for the residents, with a ratio of 7.44 acres per 1,000 residents.[44] The detailed list of available facilities in the study area is shown in Table 4.12-2.

[43] City of Menlo Park, General Plan, "General Plan Background Report, Public Facilities and Services," 1994, page B-VI-6.
[44] 245 acres divided by 32.9 (existing population as of 2015[32,900]/1,000)= 7 acres per 1,000 residents.

TABLE 4.12-2 PARK, RECREATION, AND COMMUNITY FACILITIES IN STUDY AREA

Name	Location	Size	Description
City Recreation/Community Facilities			
Arrillaga Family Recreation Center	700 Alma Street	10,000 square feet	A kitchen, lobby area, offices, and two patios, 7 main rooms for purposes of banquets, meetings, exercise, dance, and enrichment activities.
Arrillaga Family Gymnasium	600 Alma Street	24,100 square feet	Two full size basketball courts, 3 volleyball courts, 4 badminton courts, and 4 cross-court basketball, a conference room, offices, lobby area, restrooms, and locker rooms.
Arrillaga Family Gymnastics Center	510 Laurel Street	19,380 square feet	A state of the art gymnastics facility, two multipurpose rooms, office area, lobby, restrooms, and storage.
Burgess Pool	501 Laurel Street	22,700 square feet	Three pools- performance pool, instructional pool (covered during winter months), and kiddie pool (summer only). The facility contracted to Team Sheeper LLC (Menlo Swim and Sport).
Menlo Children's Center	801 Laurel Street	13,000 square feet	Licensed preschool (18 months to 5 years) and school age (Kindergarten - 5th Grade) services.
Menlo Park Civic Center	701 Laurel Street	14.7 acres	ADA accessible, meeting rooms, parking, and restrooms.
Main Library	800 Alma Street	34,046 square feet	Outreach programs, study rooms, exam proctoring, children's room, computer and internet access, and library services.
Belle Haven Community Library	413 Ivy Drive	26,136 square feet	Outreach programs, study rooms, exam proctoring, children's room, computer and internet access, and library services.
Belle Haven Child Development Center	410 Ivy Drive	30,492 square feet	(Licensed by the Department of Social Services.) Quality subsidized, full-time child development services.
Belle Haven Youth Center	100 Terminal Ave	2,485 square feet	(Licensed by the Department of Social Services.) Care for children in kindergarten to sixth grade.
Belle Haven Neighborhood Service Center and Substation	871 Hamilton Ave	4,356 square feet	ADA accessible, meeting rooms, internet access, and restrooms.
Senior Center	110 Terminal Ave	11,000 square feet	Health, recreational, and educational programs, as well as cultural events and social services for older adults. Nutritionally balanced hot meals and door-to-door local transportation to and from the Center are offered on weekdays for minimal cost to the registered patrons. Weekly brown bag through Second Harvest Food Bank, Farmer's Market, monthly free health screenings, HI CAP and tax assistance are also available.
Onetta Harris Community Center	100 Terminal Ave	11,000 square feet	A gym, weight room, computer lab, a large multipurpose room with adjacent kitchen, 3 classrooms, and office space.
Belle Haven Pool	100 Terminal Ave	6,300 square feet	Currently a seasonal pool that is open from mid-June to the end of August; a 25 meter pool with an additional shallow area as well as a small kiddie pool.
City Park Facilities			
Bedwell-Bayfront Park	Bayfront Expressway & Marsh	155 Acres	An extensive trail system, as part of the San Francisco Bay Trail, allowing hiking, running, bicycling, dog walking, bird watching, kite flying, and photography.

TABLE 4.12-2 PARK, RECREATION, AND COMMUNITY FACILITIES IN STUDY AREA

Name	Location	Size	Description
Burgess Park	Alma & Burgess Ave	9.31 acres	Little League Baseball Field; Soccer Field (300' x 200'); Regulation Baseball Field; Open Play field; Skate Park; Two Lighted Tennis Courts, Children's Playground; Picnic Areas, and Restrooms.
Jack W. Lyle Park	Middle Ave & Fremont Street	4.55 acres	Walking path with benches; Open Play field; Half-court basketball; Children's (5 -12 year old) Playground; and Tot-Lot (2 to 5 year old) Playground.
Fremont Park	Santa Cruz & University Ave	0.38 acres	Lighted walkways; benches; picnic areas, drinking fountain; and open grass areas. It is home to the City of Menlo Park Summer Concert Series and other downtown parties.
Kelly Park	100 Terminal Ave	8.3 acres	(Remodeled in 2011.) A synthetic turf soccer field with lights, full size track with four different exercise apparatuses, lighted tennis courts, lighted basketball court, benches, bleachers, and a full men's and women's bathroom facility.
Marketplace Park		1 acre	Playground, open grass areas, and walkways.
Nealon Park	800 Middle Ave	9 acres	Five lighted tennis courts, softball field, playground, picnic areas, grass areas, and an off-leash dog area.
Seminary Park	Seminary Drive & Santa Monica Ave.	3.51 acres	Walking path with benches; open play field; "Serenity Rock Garden"; children's playground, and tot-lot playground.
Sharon Hills Park	Altschul & Valparaiso	12.5 acres	Walking paths and benches.
Sharon Park	Sharon Park Drive & Monte Rosa Drive	9.83 acres	A small lake with fountain; gazebo; walking path with benches; shaded picnic area; grass areas; natural wooded area; and tot-lot playground.
Stanford Hills Park	Sand Hill Road & Branner Drive	3.11 acres	Benches, walkways, picnic tables, and a large grass area.
Tinkers Park	Santa Cruz Ave & Elder	0.54 acres	Tot-lot playground and picnic area.
Willow Oaks Park	Willow Street & Coleman Ave	2.63 acres	Three lighted tennis courts, children's playground, tot-lot playground, public area, off leash dog area, little league field, and large open play field for soccer and other sports.
Hamilton Park	Hamilton Ave	1.2 acres	A play structure, picnic tables, and open grass area.
County Park Facilities			
Flood Park	215 Bay Road	26	Picnic sites, children's playgrounds, open lawn areas, and facilities for softball, tennis, horse shoes, volleyball, and pentanque.
Total		255 acres (244 acres - parks only)	

a. Acreage for this facility excludes Burgess Park acreage.
Source: Menlo Park Community Services Department website, http://www.menlopark.org/212/Community-Services, accessed on December 12, 2015.
Personal communication between PlaceWorks and Katrina Whiteaker, Community Service Manager, City of Menlo Park, November 13, 2012.

Regional Parks and Preserves

In addition to the City's parks facilities, Menlo Park residents have access to a range of regional parks and open space, including the Don Edwards San Francisco Bay National Wildlife Refuge. Wunderlich County Park, Huddart County Park, and San Francisco Bay Trail also provide recreational opportunities for Menlo Park residents. Flood Park, a 26-acre facility owned by San Mateo County Parks Department, provides a

place for picnicking and strolling, the City and the County have discussed transferring it to the City because of the County's budget deficit and is currently undergoing a master planning process to add new sports fields play areas, walking paths and other amenities. However, there are no plans to move forward at this time. Furthermore, the residents of Menlo Park have access to the 373-acre Ravenswood Preserve located largely within Menlo Park and owned and managed by the Midpeninsula Regional Open Space District. The southern portion of the preserve offers pedestrian and bicycle access along the shore and levees along the marshland.

School Facilities

The City has joint use agreements with La Entrada, Oak Knoll, Belle Haven, and Hillview Schools for use of fields after school hours, as follows:

- La Entrada: soccer, basketball, baseball, and tennis courts; playground
- Oak Knoll: soccer, basketball and baseball
- Belle Haven: basketball and baseball
- Hillview: soccer, football, lacrosse, basketball court, track

4.12.3.2 STANDARDS OF SIGNIFICANCE

The proposed project would have a significant impact with regard to parks and recreation if it would:

1. Result in substantial adverse physical impacts associated with the provision of new or physically altered parks and recreational facilities, need for new or physically altered parks and recreation facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.
2. Increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated.

4.12.3.3 IMPACT DISCUSSION

PS-5	**Implementation of the proposed project would not result in the need for new or physically altered park facilities or other recreational facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.**

The City of Menlo Park has an adopted goal of maintaining a ratio of 5 acres of developed parkland per 1,000 residents. Currently, the City provides approximately 245 acres of parkland for residents, with a ratio of about 7 acres per 1,000 residents, based on an existing population of 32,900. As described in Chapter 3, Project Description, of this Draft EIR, the projected growth for the proposed project would result in approximately 14,150 new residents by the buildout horizon year 2040. With this increase in growth, the ratio of parkland per 1,000 residents would be about 5 acres.[45] Therefore, the existing 245

[45] 244.96 acres divided by 47.1 ([32,900 + 14,150]/1000) = 5.2 acres per thousand residents.

acres of parkland in Menlo Park would still be sufficient to provide 5 acres per 1,000 residents. Accordingly, impacts with respect to the need for new or physically altered park facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, would be *less than significant*.

Significance Without Mitigation: Less than significant.

PS-6 Implementation of the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur, or be accelerated.

The potential increase in the number of residents under the proposed project would lead to an increase in demand for recreational opportunities and facilities in the study area. However, the demand would be distributed throughout the study area and would occur incrementally over a 24-year horizon. As shown above under discussion PS-5, there is adequate capacity in the study area to maintain the City's adopted goal of 5 acres per 1,000 residents' ratio in Menlo Park. Additionally, there are a number of open spaces and parklands in the vicinity of Menlo Park, including publicly accessible trails and access to recreation destinations, such as Don Edwards San Francisco Bay National Wildlife Refuge, Wunderlich County Park, Huddart County Park, and San Francisco Bay Trail. While future residents would be expected to increase the use of these existing facilities, because the City would maintain its 5 acres of parkland per 1,000 residents' ratio and because growth under the proposed project would occur incrementally, the substantial or accelerated deterioration of these facilities is not anticipated. However, Menlo Park Community Services Department expressed concerns regarding potential demands to existing park and facilities programming that would result from the potential population increase under the proposed project. The Menlo Park Community Services Department indicated that amenities and accessibility improvements such as trails, pedestrian paths, bicycle paths, and interpretive programming would be needed at Bedwell Bayfront Park and Onetta Harris Campus to serve additional residents. In addition, Menlo Park Community Services Department indicated that additional child care programs, after school programs, and expanded hours and services at the Senior Center would be needed.[46]

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to adequate parks and recreational services. The following General Plan goals, policies and a program would serve to minimize potential impacts associated with adequate parks and recreational services:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.

[46] Personal communication between Ricky Caperton, Associate, PlaceWorks and Cherise E. Brandell, Community Services Director, Menlo Park Community Services on November 13, 2015.

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.
  - Policy LU-6.1: Parks and Recreation System. Develop and maintain a parks and recreation system that provides areas, play fields, and facilities conveniently located and properly designed to serve the recreation needs of all Menlo Park residents.
  - Policy LU-6.2: Open Space in New Development. Require new nonresidential, mixed use, and multiple dwelling development of a certain minimum scale to provide ample open space in the form of plazas, greens, community gardens, and parks whose frequent use is encouraged through thoughtful placement and design.
  - Policy LU-6.4 Park and Recreational Land Dedication. Require new residential development to dedicate land, or pay fees in lieu thereof, for park and recreation purposes.
- Goal OSC-2: Provide Parks and Recreation Facilities. Develop and maintain a parks and recreation system to provide areas and facilities conveniently located, sustainable, properly designed and well-maintained to serve the recreation needs and promote healthy living of all residents, workers and visitors to Menlo Park.
  - Policy OSC-2.1: Open Space for Recreation Use. Provide open space lands for a variety of recreation opportunities, make improvements, construct facilities and maintain programs that incorporate sustainable practices that promote healthy living and quality of life.
  - Policy OSC-2.2: Planning for Residential Recreational Needs. Work with residential developers to ensure that parks and recreational facilities planned to serve new development will be available concurrently with need.
  - Policy OSC-2.3: Recreation Requirements for New Development. Require dedication of improved land, or payment of fee in lieu of, for park and recreation land for all residential uses.
  - Policy OSC-2.4: Parkland Standards. Strive to maintain the standard of 5 acres of parkland per 1,000 residents.
  - Policy OSC-2.5: Schools for Recreational Use. Coordinate with the local school districts to continue to operate school sites for local recreation purposes.
  - Policy OSC-2.6: Pedestrian and Bicycle Paths. Develop pedestrian and bicycle paths consistent with the recommendations of local and regional trail and bicycle route projects, including the Bay Trail.
    - Program OSC-2.B: Evaluate Recreational Needs. Evaluate park facilities on a regular basis for their overall function and ability to meet recreational needs. Provide new amenities as needed to support changing needs of the population and recreational trends.

Additionally, as part of the Zoning Code update, the project includes design standards for development within the Bayfront Area. These design standards require all development to provide publicly accessible open space. Also, per the development regulations included in the Zoning Code update, developers may

seek an increase in floor area ratio and/or height in exchange for providing community amenities or the payment of impact fees, which could apply to improvements to recreational facilities and programs.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies that have been prepared to minimize impacts related to park and recreation services and facilities. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the ongoing evaluation of the City's recreational facilities and services.

While the Menlo Park Community Services Department has indicated the proposed project could require the construction of new or expanded recreation facilities, it is not known at what time over the 24-year buildout of the proposed project the need would occur, or the location that such facilities would be required or what the exact nature of these facilities would be, so it cannot be determined what project-specific environmental impacts would occur from their construction and operation. However, such impacts would be project-specific, and would require permitting and review in accordance with CEQA, as necessary, which would ensure that any environmental impacts are disclosed and mitigated to the extent possible. This EIR is a programmatic document and does not evaluate the environmental impacts of any project-specific development.

For these reasons, the adoption of the proposed project, which would introduce incremental growth over a 24-year buildout, would result in *less-than-significant* impacts with respect to the need for improved or expanded park and recreational facilities.

Significance Without Mitigation: Less than significant.

4.12.3.4 CUMULATIVE IMPACT DISCUSSION

PS-7	**Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would result in less–than-significant cumulative impacts with respect to parks.**

As discussed in Chapter 4, Environmental Evaluation, of this Draft EIR, this EIR takes into account growth projected by the proposed project within the Menlo Park city boundary and Sphere of Influence (SOI), in combination with impacts from projected growth in the rest of San Mateo County and the surrounding region, as forecast by the Association of Bay Area of Governments (ABAG). The geographic scope for this discussion includes park and recreation facilities within the city boundary, as well as San Mateo County, and the Midpeninsula Regional Open Space District.

As discussed under PS-4 and PS-5, the potential population increase under the proposed project would increase demand for park and recreational facilities. However, the City would continue to meet its 5 acre per 1,000 resident parkland ratio and compliance with the regulations listed in PS-5 would ensure that adequate parklands and recreational facilities are provided. When considering the growth of the proposed project together with cumulative development, the City would still be able to maintain its current 5 acres

of parkland to 1,000 residents.[47] As a result, significant cumulative impacts associated with parks and recreational facilities would be *less than significant.*

Significance Without Mitigation: Less than significant.

4.12.4 SCHOOLS

4.12.4.1 ENVIRONMENTAL SETTING

Regulatory Framework

State Regulations

The following sections explain State of California regulations pertaining to schools, relevant to the proposed General Plan update.

Senate Bill 50

Senate Bill (SB) 50 (funded by Proposition 1A, approved in 1998) limits the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provides instead for a standardized developer fee. SB 50 generally provides for a 50/50 State and local school facilities funding match. SB 50 also provides for three levels of statutory impact fees. The application level depends on whether State funding is available, whether the school district is eligible for State funding and whether the school district meets certain additional criteria involving bonding capacity, year round school and the percentage of moveable classrooms in use.

California Government Code, Section 65995(b), and Education Code Section 17620

SB 50 amended California Government Code Section 65995, which contains limitations on Education Code Section 17620, the statute that authorizes school districts to assess development fees within school district boundaries. Government Code Section 65995(b)(3) requires the maximum square footage assessment for development to be increased every two years, according to inflation adjustments. On January 22, 2014 the State Allocation Board (SAB) approved increasing the allowable amount of statutory school facilities fees (Level I School Fees) from $3.20 to $3.36 per square foot of assessable space for residential development of 500 square feet or more, and from $0.51 to $0.54 per square foot of chargeable covered and enclosed space for commercial/industrial development.[48] According to California Government Code Section 65995(3)(h), the payment of statutory fees is "deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization...on the provision of adequate school facilities." The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

[47] 245 acres divided by 50.35 ([32,900 + 17,450]/1000) = 5 acres per thousand residents.

[48] State Allocation Board Meeting, January 22, 2014, http://www.documents.dgs.ca.gov/opsc/SAB_Agenda_Items/2014-01/01222014_SAB_Transcript.pdf, accessed on December 8, 2015.

Mitigation Fee Act (California Government Code 66000-66008)

Enacted as AB 1600, the Mitigation Fee Act requires a local agency establishing, increasing, or imposing an impact fee as a condition of development to identify the purpose of the fee and the use to which the fee is to be put.[49] The agency must also demonstrate a reasonable relationship between the fee and the purpose for which it is charged, and between the fee and the type of development project on which it is to be levied. This Act became enforceable on January 1, 1989.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.12.4.3, Impact Discussion.

Existing Conditions

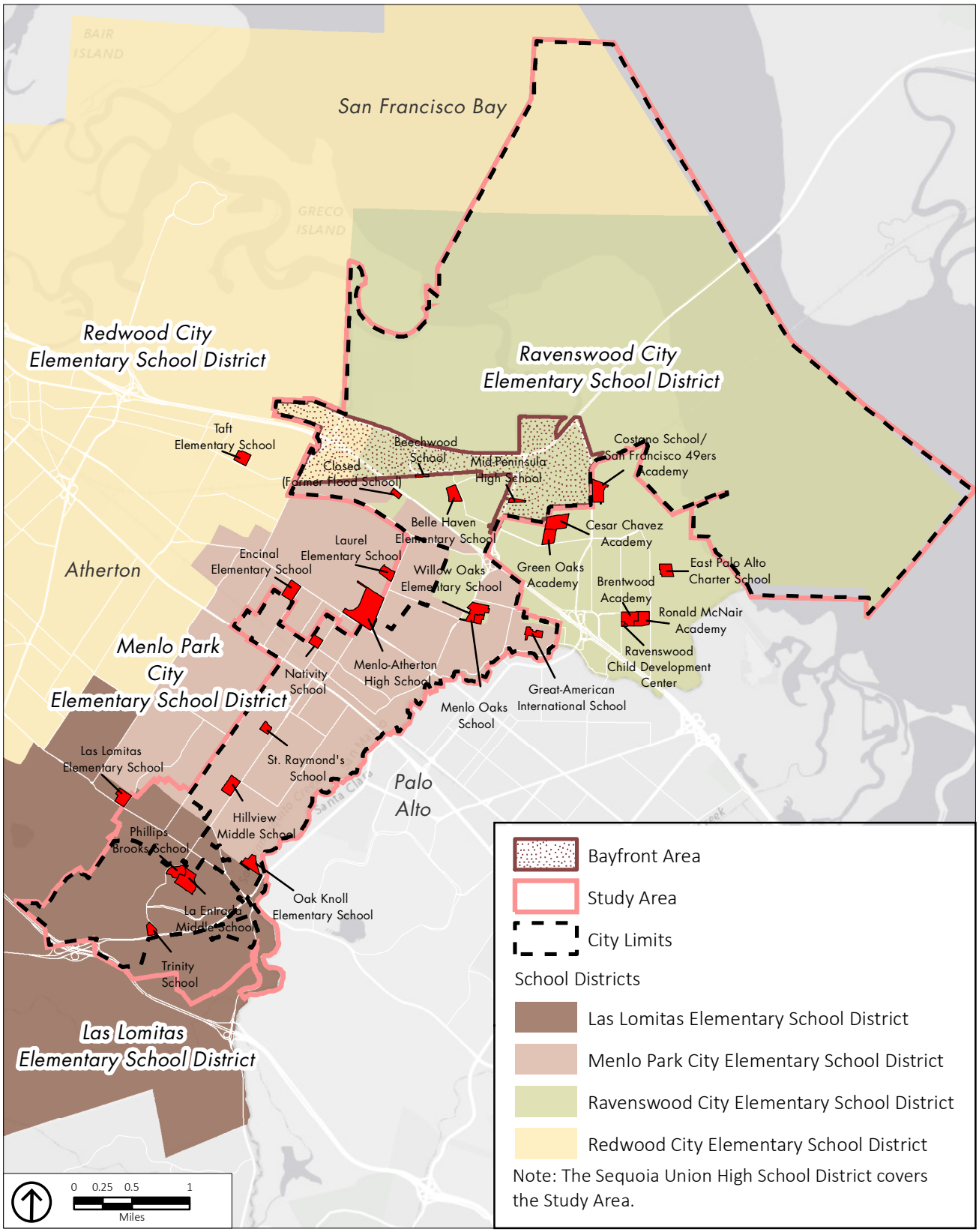
The City of Menlo Park is served by four elementary school districts and one high school district: Menlo Park City School, Redwood City School, Las Lomitas School, Ravenswood City School, and Sequoia Union High School Districts. Figure 4.12-2 shows the boundaries for each district and the location of each school. The Sequoia Union High School District boundary is undefined on Figure 4.12-2 as it serves the entire study area.

The following subsections provide a brief summary of each school district's enrollment trends, capacity, and facility status.

Menlo Park City School District

The Menlo Park City School District (MPCSD) serves the central portion of the study area (roughly between Orange Avenue and Highway 101), a portion of the Town of Atherton, and a portion of unincorporated area of San Mateo County. The MPCSD operates three elementary schools and one middle school, and owns one unused school site (i.e., the former O'Connor School) which is being repurposed as an Elementary School in the MPCSD, within the study area. Students in kindergarten to fifth grade could attend Encinal, Oak Knoll, and Laurel Elementary Schools. Students in sixth to ninth grade could attend Hillview Middle School. Table 4.12-3 shows the current enrollment and capacity for the MPCSD schools.

[49] California Government Code, Sections 66000-66008, http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=65001-66000&file=66000-66008, accessed on December 8, 2015.



Source: City of Menlo Park; PlaceWorks, 2015.

Figure 4.12-2
Menlo Park School Districts

TABLE 4.12-3 CURRENT CAPACITY AND ENROLLMENT FOR THE MPCSD SCHOOLS IN MENLO PARK

Schools	Capacity[a]	2014/15 Enrollment[b]	Difference
Encinal Elementary	720	792	(72)
Laurel Elementary	360	465	(105)
Oak Knoll Elementary	720	766	(46)
ELEMENTARY SCHOOLS TOTAL	*1,800*	*2,023*	*(223)*
Hillview Middle School	1,100	881	219
MIDDLE SCHOOLS TOTAL	*1,100*	*833*	*219*

Notes:
a. School Capacity and enrollment data from Menlo Park City School District forecast update, 2015.
b. Enrollment from California Department of Education, DataQuest, 2015.

As shown in Table 4.12-3, enrollment for the 2014/2015 school year at Encinal, Laurel, and Oak Knoll Elementary schools exceeds current capacity. In contrast, Hillview Middle school enrollment is currently below capacity. The MPCSD recently underwent a series of upgrades to expand and modernize the four school sites in order to increase the overall capacity to approximately 2,700 students. However, MPCSD elementary schools exceed capacity. The MPCSD projects an increase of 3,440 students by the year 2015.[50] Consequently, the MPCSD has started the process of updating its Facilities Master Plan and is currently in the process of opening a fourth elementary school on the district-owned O'Conner School site. The new Laurel Upper Campus elementary school is expected to open in 2016.[51]

The MPCSD has a policy to maintain a teacher-student ratio of 1:20 for kindergarten to third grade classrooms and 1:24 for fourth to eighth grade classrooms. The MPCSD's current student generation rates are: 0.44 for new single-family housing and 0.18 for multi-family housing.[52]

The development impact fee is the source of school capital improvement funding provided by new development. The MPCSD is eligible to levy Level 1 development impact fees on new residential and commercial development, and, by agreement with the Sequoia Union High School District, MPCSD is entitled for 60 percent of $3.36 per square foot of residential development and $0.54 per square foot of commercial development. Therefore, the MPCSD assesses fees of $2.02 per square foot of residential space, and $0.32 per square foot of non-residential space.[53]

Redwood City School District

The Redwood City School District (Redwood CSD) operates 17 schools, including 11 elementary schools, one middle school, two academies, one alternative, and one Spanish immersion school. The Redwood CSD serves the cities of Menlo Park, Redwood City, San Carlos, Atherton, and Woodside. Among these

[50] Menlo Park City School District, November 2015, Enrollment Projection Study Report.
[51] Menlo Park City School District website, http://menlopark.schoolwires.net/Page/104accessed on December 9, 2015.
[52] Personal communication between Ricky Caperton, Associate, PlaceWorks and Ahmad Sheikholeslami, Chief Business and Operations Officer, Menlo Park School District on November 11, 2015.
[53] Personal communication between Ricky Caperton, Associate, PlaceWorks and Ahmad Sheikholeslami, Chief Business and Operations Officer, Menlo Park School District on November 11, 2015.

schools, one elementary school and one middle school are located near a small portion of the study area, around Highway 101 at Marsh Road. Students enrolled in kindergarten through ninth grade that reside within this small portion of the study area could attend John F. Kennedy Middle or Taft Elementary Schools. However, since the Redwood CSD is a "district of choice,"[54] it is also likely not all students generated from future development under the proposed project in this portion of the study area would go to these two schools.[55] Table 4.12-4 shows the current enrollment and capacity for the Redwood CSD schools.

TABLE 4.12-4 CURRENT CAPACITY AND ENROLLMENT FOR THE REDWOOD CSD SCHOOLS IN MENLO PARK

Schools	Capacity[a]	2014/15 Enrollment[b]	Difference
Taft Elementary School	947	524	423
Elementary Schools Total	**947**	**524**	**423**
John F. Kennedy Middle School	1,218	728	490
MIDDLE SCHOOLS TOTAL	*1,218*	*728*	*219*

a. Personal communication between Ricky Caperton, Associate, PlaceWorks and Ahmad Sheikholeslami, Chief Business and Operations Officer, Menlo Park School District on November 11, 2015.
b. Enrollment from California Department of Education, DataQuest, 2015.

As shown in Table 4.12-4, enrollment rates for the 2014/15 school year at both Taft Elementary School and John F. Kennedy Middle School were below capacity. The Redwood CSD projects student enrollment rates at all the elementary and middle schools to slightly decline over the next 10 years.[56] Redwood CSD recently updated their Facilities Master Plan,[57] however, there are no current plans for new or expanded facilities.[58]

The Redwood CSD maintains an average teacher-student ratio of 1:30 for all grades.[59] The Redwood CSD's student generation rates for elementary schools are 0.36 for single-family detached; 0.18 for single-family attached; and 0.10 for multi-family. The Redwood CSD's student generation rates for middle schools are 0.10 for single-family detached; 0.06 for single-family attached; and 0.04 for multi-family.[60]

[54] The Redwood City School District assigns students to a specific school based on their home address, however, students are granted the option to attend any school within the Redwood City School District.

[55] The Redwood City School District (RCSD) offers a combination of neighborhood schools and Schools of Choice. Neighborhood schools have residential boundaries and students are generally assigned to them based on where they live. RCSD offers four schools of choice -- Adelante Spanish Immersion School, McKinley Institute of Technology (MIT), North Star Academy, and Orion School -- that do not have neighborhood boundaries. All students within the district are eligible to apply to attend one of the four schools of choice, or a neighborhood school outside their boundary area. From Redwood City School District, http://www.rcsd.k12.ca.us/site/Default.aspx?PageID=228, accessed on December 10, 2015.

[56] Redwood City School District, 2015, Annual Enrollment Projection Report, pages 11 and 12.

[57] Redwood City School District, http://www.rcsd.k12.ca.us/Page/6104, accessed on December 9, 2015.

[58] Personal communication between Ricky Caperton, Associate, PlaceWorks and Wael Saleh, Chief Business Official, Redwood City School District on November 23, 2015.

[59] Personal communication between Ricky Caperton, Associate, PlaceWorks and Wael Saleh, Chief Business Official, Redwood City School District on November 23, 2015.

[60] Redwood City School District, 2015, Residential Research Summary, page 3.

The development impact fee is the source of school capital improvement funding provided by new development. The Redwood CSD is eligible to levy Level 1 development impact fees on new residential and commercial development, and is entitled to $1.92 per square foot of residential development and $0.306 per square foot of commercial development.[61]

Las Lomitas School District

The Las Lomitas School District (LLSD) operates two schools, the Las Lomitas Elementary School and La Entrada Middle School. The LLSD serves the very southern portion of Menlo Park, a portion of the Town of Atherton, and the unincorporated San Mateo County area. Table 4.12-5 shows the current enrollment and capacity for the LLSD schools.

TABLE 4.12-5 CURRENT CAPACITY AND ENROLLMENT FOR THE LLSD SCHOOLS IN MENLO PARK

Schools	Capacity[a]	2014/15 Enrollment[b]	Difference
Las Lomitas Elementary	532	581	(49)
Elementary Schools Total	**532**	**581**	**(49)**
La Entrada Middle School	556	803	(247)
Middle Schools Total	**556**	**803**	**(247)**

a. Las Lomitas Elementary School District, Development Impact Fee Justification, 2008.
b. Enrollment from California Department of Education, DataQuest, 2015.

As shown in Table 4.12-5, enrollment rates for the 2014/15 school year at both Las Lomitas Elementary School and La Entrada Middle School exceed capacity. The LLSD projects an increase of 1,478 students by the year 2024.[62] The LLSD indicated that it was necessary to add portable classrooms at both schools sites in order to accommodate growth in enrollment. The LLSD is in the process of replacing existing portable classrooms with new permanent classrooms. In addition, LLSD plans to re-design La Entrada Middle School and Las Lomitas Elementary school to accommodate growth in enrollment, construction is expected to begin in 2017.[63]

The LLSD has a policy to maintain a teacher-student ratio of 1:24 for kindergarten to third grade classrooms, 1:25 for fourth to fifth grade classrooms, and 1:28 for sixth to eight grade classrooms. The LLSD's student generation rate is 0.4 per dwelling unit.[64]

The development impact fee is the source of school capital improvement funding provided by new development. The LLSD is eligible to levy Level 1 development impact fees on new residential and

[61] Personal communication between Ricky Caperton, Associate, PlaceWorks and Wael Saleh, Chief Business Official, Redwood City School District on November 23, 2015.
[62] Personal communication between Ricky Caperton, Associate, PlaceWorks and Carolyn Chow, Chief Business Officer, Las Lomitas School District on October 28, 2015.
[63] Personal communication between Ricky Caperton, Associate, PlaceWorks and Carolyn Chow, Chief Business Officer, Las Lomitas School District on October 28, 2015.
[64] Personal communication between Ricky Caperton, Associate, PlaceWorks and Carolyn Chow, Chief Business Officer, Las Lomitas School District on October 28, 2015.

commercial development, and, by agreement with the Sequoia Union High School District, LLSD is entitled for 60 percent of $3.36 per square foot of residential development and $0.54 per square foot of commercial development. Therefore, the LLSD assesses fees of $2.02 per square foot of residential space, and $0.32 per square foot of non-residential space.[65]

In addition to the development impact fee, voters within the LLSD passed bond Measure S in November 2013 which is a $60 million bond measure that authorizes funds for building additional permanent classrooms to the LLSD's schools. Funds from Measure S will help with replace the existing portable classrooms with permanent structures.[66]

Ravenswood City School District

The Ravenswood City School District (Ravenswood CSD) operates two elementary schools, two middle schools, four academies, one charter school, and one development center. The Ravenswood CSD serves East Palo Alto and northern Menlo Park. Belle Haven Elementary School and Willow Oaks Elementary School are located within Menlo Park, and serve students residing within the study area. Table 4.12-6 shows the current enrollment and capacity for the Ravenswood CSD schools located in Menlo Park.

TABLE 4.12-6 CURRENT CAPACITY AND ENROLLMENT FOR THE RAVENSWOOD CSD SCHOOLS IN MENLO PARK

Schools	Capacity[a]	2014/15 Enrollment[b]	Difference
Belle Haven Elementary	622	591	31
Willow Oaks Elementary	722	705	17
Elementary Schools Total	**1,344**	**1,296**	**48**

a. Personal communication between Ricky Caperton, Associate, PlaceWorks and Kevin Sved, Chief Business Officer, Ravenswood City School District on November 16, 2015.
b. Enrollment from California Department of Education, DataQuest, 2015.

As shown in Table 4.12-6, enrollment rates for the 2014/15 school year at both Belle Haven Elementary School and Willow Oaks Elementary were below capacity. The Ravenswood CSD projects an increase of 3,502 students by the year 2020. The Ravenswood CSD indicated that facilities are in severe disrepair and it was necessary to add portable classrooms at both schools sites in order to accommodate growth in enrollment. The Ravenswood CSD recently prepared a Facilities Master Plan and is currently in the process of determining priorities and creating a funding plan to begin implementation.[67]

[65] Personal communication between Ricky Caperton, Associate, PlaceWorks and Carolyn Chow, Chief Business Officer, Las Lomitas School District on October 28, 2015.
[66] Personal communication between Ricky Caperton, Associate, PlaceWorks and Carolyn Chow, Chief Business Officer, Las Lomitas School District on October 28, 2015.
[67] Personal communication between Ricky Caperton, Associate, PlaceWorks and Kevin Sved, Chief Business Officer, Ravenswood City School District on November 16, 2015.

The Ravenswood CSD maintains a teacher-student ratio of 1:24 for kindergarten to third grade classrooms and 1:31 for fourth to eight grade classrooms. The Ravenswood CSD's student generation rate is 0.39 per single-family unit and 0.56 per multi-family unit.[68]

The development impact fee is the source of school capital improvement funding provided by new development. The Ravenswood CSD is eligible to levy Level 1 development impact fees on new residential and commercial development, and, by agreement with the Sequoia Union High School District, Ravenswood CSD is entitled for 60 percent of $3.36 per square foot of residential development and $0.54 per square foot of commercial development. Therefore, the Ravenswood CSD assesses fees of $2.02 per square foot of residential space, and $0.32 per square foot of non-residential space.[69]

Sequoia Union High School District

The Sequoia Union High School District (SUHSD) operates four comprehensive high schools, a continuation high school, one adult school, and Middle College. The SUHSD serves Atherton, East Palo Alto, and Menlo Park. Among these schools, Menlo-Atherton High School serves students residing in Menlo Park.[70] Table 4.12-7 shows the current enrollment and capacity for Menlo-Atherton High School.

TABLE 4.12-7 CURRENT CAPACITY AND ENROLLMENT FOR THE SUHSD SCHOOLS IN MENLO PARK

Schools	Capacity[a]	2014/15 Enrollment[a]	Difference
Menlo-Atherton High School	2,250	2,278	(28)
High Schools Total	**2,250**	**2,278**	**(28)**

a. Personal communication between Ricky Caperton, Associate, PlaceWorks and Anilisa Manolache, Chief Facilities Officer, Sequoia Union High School District on December 4, 2015.

As shown in Table 4.12-7, enrollment rates for the 2014/15 school year at Menlo-Atherton High School were just above the current capacity. The SUHSD projects an increase of 2,796 students by the year 2020. The SUHSD indicated that enrollment growth is steadily increasing and that there are current plans to build a small high school in Menlo Park to accommodate enrollment growth. In addition, the SUHSD is planning to build a 21 classroom building unit, a six classroom lab building, and expand the guidance office. However, SUHSD indicated that student projections do not take into account new students generated under the proposed project. The SUHSD indicated that the potential population increase under the proposed project would result in a need for new facilities to accommodate enrollment growth.[71]

[68] Personal communication between Ricky Caperton, Associate, PlaceWorks and Kevin Sved, Chief Business Officer, Ravenswood City School District on November 16, 2015.

[69] Personal communication between Ricky Caperton, Associate, PlaceWorks and Kevin Sved, Chief Business Officer, Ravenswood City School District on November 16, 2015.

[70] Personal communication between Ricky Caperton, Associate, PlaceWorks and Anilisa Manolache, Chief Facilities Officer, Sequoia Union High School District on December 4, 2015.

[71] Personal communication between Ricky Caperton, Associate, PlaceWorks and Anilisa Manolache, Chief Facilities Officer, Sequoia Union High School District on December 4, 2015.

The SUHSD is currently exceeding the teacher-student ratio standard of 1:27.5. The SUHSD student generation rate is 0.2 per housing unit.[72]

The development impact fee is the source of school capital improvement funding provided by new development. The SUHSD is eligible to levy Level 1 development impact fees on new residential and commercial development, and, by agreement with the Elementary School Districts, SUHSD is entitled to forty percent of $3.36 per square foot of residential development and $0.54 per square foot of commercial development.[73] Therefore, the SUHSD assesses fees of $1.34 per square foot of residential space, and $0.22 per square foot of non-residential space.

4.12.4.2 STANDARD OF SIGNIFICANCE

The proposed project would have a significant impact related to schools if in order to maintain acceptable service ratios or other performance objectives, the proposed project would result in the provision of or need for new or physically altered school facilities, the construction or operation of which could cause significant environmental impacts.

4.12.4.3 IMPACT DISCUSSION

PS-8	**Implementation of the proposed project would not result in the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.**

This section reviews the need for existing school facilities to accommodate any increases in public school enrollment due to the proposed project. However, the California State Legislature, under Senate SB 50, has determined that payment of school impact fees shall be deemed to provide full and complete school facilities mitigation. All new developments proposed pursuant to the adoption of the proposed project will be required to pay the school impact fees adopted by each school district. According to California Government Code Section 65995(3)(h), the payment of statutory fees is "deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization...on the provision of adequate school facilities."

Future development under the current General Plan development potential includes 1,000 residential units throughout the city and new development potential under the proposed project could generate up to 4,500 residential units in the Bayfront Area. Collectively, the combined development potential under the proposed project could generate up to 5,500 residential units throughout Menlo Park over the 24-year buildout, which could impact student enrollment rates.

[72] Personal communication between Ricky Caperton, Associate, PlaceWorks and Anilisa Manolache, Chief Facilities Officer, Sequoia Union High School District on December 4, 2015.

[73] Personal communication between Ricky Caperton, Associate, PlaceWorks and Anilisa Manolache, Chief Facilities Officer, Sequoia Union High School District on December 4, 2015.

PUBLIC SERVICES AND RECREATION

This analysis assumes that 55 single-family units and 5,428 multi-family units, of the total 5,500 residential units, in the following school impact discussion. The 55 single-family units are derived from the development potential under the existing General Plan and could therefore be built anywhere in Menlo Park on qualifying lots that are designated for single-family housing. There are parcels that satisfy the designation and size criteria within the MPCSD, LLSD, Ravenswood CSD, and SUHSD; therefore, for the purposes of this analysis, it is assumed that the students generated from the 55 single-family units could attend each of these school districts. However, it is unlikely that all of the 55 single-family units would be built within one school district service area; therefore, this represents a conservative analysis. The remainder of the potential new housing was assigned to the applicable school district based on allowed density under the existing General Plan zoning designations, and the proposed zoning designations in the Bayfront Area. A breakdown of residential units proposed within each of the school districts that serve the study area and their potential impacts are discussed below.

Menlo Park City School District

As shown in Table 4.12-8, 983 residential units could result in 418 new students by the horizon year 2040.

TABLE 4.12-8 STUDENT GENERATION FOR THE MPCSD SCHOOLS IN MENLO PARK

Housing Unit Type	Housing Units	Student Generation Rate	Students
Single-Family Dwelling Units	55	0.18	10
Multi-Family Dwelling Units	928	0.44	408
Total Units	983		
Total Students			418

Source: City of Menlo Park 2015; Menlo Park City School District, November 2015, Enrollment Projection Study Report.

As previously shown in Table 4.12-3 above, enrollment for the 2014/2015 school year at Encinal, Laurel, and Oak Knoll Elementary schools exceeds current capacity. In contrast, Hillview Middle school enrollment is currently below capacity. As discussed above under Section 4.10.2.2, Existing Conditions, MPCSD recently underwent a series of upgrades to increase the overall capacity to approximately 2,700 students; however, current enrollment at MPCSD elementary schools continue to exceed capacity. Therefore, the added students generated by the proposed project would add to the increasing enrollment rates at MPCSD elementary schools. However, as described above in Section, 4.12.4.1, Environmental Setting, under the subheading "Existing Conditions," the MPCSD has current plans for expansion and is in the process of opening a fourth elementary school on the district-owned O'Conner School site in 2016 to accommodate future growth in enrollment. In addition to these school improvements, the MPCSD imposes development impact fees for residential and commercial development. Because future development under the proposed project would occur incrementally over the 24-year buildout horizon and, in compliance with SB 50, would be subject to pay development impact fees that are current at the time of development, impacts related to the MPCSD would be *less than significant.*

Significance Without Mitigation: Less than significant.

Redwood City School District

As shown in Table 4.12-9, 963 units could result in 96 new students to Taft Elementary School and 39 new students to John F. Kennedy Middle School by the horizon year 2040.

TABLE 4.12-9 STUDENT GENERATION FOR THE REDWOOD CSD SCHOOLS IN MENLO PARK

Housing Unit Type	Housing Units	Student Generation Rate (K-5)	Students
Elementary School (K-5)			
Single-Family Dwelling Units	0	0.36	0
Multi-Family Dwelling Units	963	0.10	96
Total Units	**963**		
Potential Total Elementary School Students			**96**

Middle School (6-8)	Housing Units	Student Generation Rate (6-8)	Students
Single-Family Dwelling Units	0	0.10	0
Multi-Family Dwelling Units	963	0.04	39
Total Units	963		
Potential Total Middle School Students			**39**

Source: City of Menlo Park, 2015; Personal communication between Ricky Caperton, Associate, PlaceWorks and Ahmad Sheikholeslami, Chief Business and Operations Officer, Menlo Park School District on November 11, 2015.

The Redwood CSD calculates student generation rates for their elementary schools and middle schools separately using different generation ratios. Thus, the potential number of students generated under the proposed project will vary depending on whether they will attend John F. Kennedy Middle or Taft Elementary Schools. For the purposes of this analysis, it was assumed that all of the potential number of students generated under the proposed project would enroll in either John F. Kennedy Middle or Taft Elementary School.

As previously shown in Table 4.12-4, enrollment rates for the 2014/15 school year at both Taft Elementary School and John F. Kennedy Middle School were below capacity. The Redwood CSD projects student enrollment rates at all the elementary and middle schools to slightly decline over the next ten years. In addition, the Redwood CSD recently updated their Facilities Master Plan; however, there are no current plans for new or expanded facilities. Therefore, the additional students generated by the proposed project would not negatively impact student enrollment rates in the Redwood CSD service area. Furthermore, as discussed above in Section, 4.12.4.1, Environmental Setting, under the subheading “Existing Conditions,” new development under the proposed project would be subject to development impact fees imposed by Redwood CSD.

PUBLIC SERVICES AND RECREATION

Because future development under the proposed project would occur incrementally over the 24-year buildout horizon and, in compliance with SB 50, would be subject to pay development impact fees that are current at the time of development, impacts related to the Redwood CSD would be *less than significant*.

Significance Without Mitigation: Less than significant.

Las Lomitas School District

As shown in Table 4.12-10, a total of 173 units could result in 69 students by the horizon year 2040.

TABLE 4.12-10 STUDENT GENERATION FOR THE LLSD SCHOOLS IN MENLO PARK

Housing Unit Type	Housing Units	Student Generation Rate	Students
Single-Family Dwelling Units	55	0.4	22
Multi-Family Dwelling Units	118	0.4	47
Total Units	**173**		
Total Students			**69**

Source: City of Menlo Park, 2015; Personal communication between Ricky Caperton, Associate, PlaceWorks and Carolyn Chow, Chief Business Officer, Las Lomitas School District on October 28, 2015.

As previously shown in Table 4.12-5, enrollment rates for the 2014/15 school year at both Las Lomitas Elementary School and La Entrada Middle School exceed capacity. The LLSD projects an increase of 1,478 students by the year 2024. The LLSD indicated that it was necessary to add portable classrooms at both schools sites in order to accommodate growth in enrollment. As discussed above under in Section, 4.12.4.1, Environmental Setting, under the subheading "Existing Conditions," the LLSD is in the process of replacing existing portable classrooms with new permanent classrooms. In addition, LLSD plans to re-design La Entrada Middle School and Las Lomitas Elementary school to accommodate growth in enrollment, construction is expected to begin in 2017. In addition to these planned improvements, the LLSD imposes development impact fees on new residential and commercial development and voters within the LLSD passed bond Measure S in November 2013, which is a $60 million bond measure that authorizes funds for building additional permanent classrooms to the District's schools.

Because future development under the proposed project would occur incrementally over the 24-year buildout horizon and, in compliance with SB 50, would be subject to pay development impact fees that are current at the time of development, impacts related to the LLSD would be *less than significant.*

Significance Without Mitigation: Less than significant.

Ravenswood City School District

As shown in Table 4.12-11, 3,727 units could result in 2,078 new students by the horizon year 2040.

TABLE 4.12-11 STUDENT GENERATION FOR THE RAVENSWOOD CSD SCHOOLS IN MENLO PARK

Housing Unit Type	Housing Units	Student Generation Rate	Students
Single-Family Dwelling Units	55	0.39	22
Multi-Family Dwelling Units	3,672	0.56	2,056
Total Units	**3,727**		
Total Students			**2,078**

Note: Under the proposed project 1,000 of the residential units assigned to the Ravenswood CSD could be dormitory-style units that would not accommodate families with children.
Source: City of Menlo Park, 2015; Personal communication between Ricky Caperton, Associate, PlaceWorks and Kevin Sved, Chief Business Officer, Ravenswood City School District on November 16, 2015.

As previously shown in Table 4.12-6, enrollment rates for the 2014/15 school year at both Bell Haven Elementary School and Willow Oaks Elementary School were below capacity. As discussed under section 4.12.4.1, Environmental Setting under subheading "Existing Conditions," the Ravenswood CSD indicated that facilities are in severe disrepair and they project an increase of 3,502 students by the year 2020. The Ravenswood CSD recently prepared a Facilities Master Plan and is currently in the process of determining priorities and creating a funding plan to begin implementation. Also, the Ravenswood CSD imposes development impact fees for residential and commercial development.

Because future development under the proposed project would occur incrementally over the 24-year buildout horizon and, in compliance with SB 50, would be subject to pay development impact fees that are current at the time of development, impacts related to the Ravenswood CSD would be *less than significant*.

Significance Without Mitigation: Less than significant.

Sequoia Union High School District

As shown in Table 4.12-12, 5,483 units could result in 1,097 new students by the horizon year 2040.

TABLE 4.12-12 STUDENT GENERATION FOR THE SUHSD SCHOOLS IN MENLO PARK

Housing Unit Type	Housing Units	Student Generation Rate	Students
Single-Family Dwelling Units	55	0.39	11
Multi-Family Dwelling Units	5,428	0.56	1,086
Total Units	**5,483**		
Total Students			**1,097**

Source: City of Menlo Park, 2015; Personal communication between Ricky Caperton, Associate, PlaceWorks and Anilisa Manolache, Chief Facilities Officer, Sequoia Union High School District on December 4, 2015.

As previously shown in Table 4.12-7 above, enrollment rates for the 2014/15 school year at Menlo-Atherton High School were just above the current capacity. As discussed in Section, 4.12.4.1, Environmental Setting, under the subheading "Existing Conditions," the SUHSD indicated that enrollment growth is steadily increasing and that there are current plans to build a small high school in Menlo Park to accommodate enrollment growth. However, SUHSD indicated that student projections do not take into account new students generated under the proposed project and thus, would need new facilities to accommodate the growth in enrollment. The SUHSD imposes development impact fees for residential and commercial development.

Because future development under the proposed project would occur incrementally over the 24-year buildout horizon and, in compliance with SB 50, would be subject to pay development impact fees that are current at the time of development, impacts related to the SUHSD would be *less than significant.*

Significance Without Mitigation: Less than significant.

Summary

Development allowed by the proposed project would occur incrementally over the 24-year buildout horizon and would be subject to pay development impact fees, which under SB 50 are deemed to be full and complete mitigation. In addition, the proposed Land Use (LU) Element, which would be adopted as part of the proposed project, and existing Housing (H) Element, contains general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to adequate school services. The following General Plan goals, policies, and programs would serve to minimize potential impacts associated with adequate school services:

- Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.
    - Policy LU-1.1: Land Use Patterns. Cooperate with the appropriate agencies to help assure a coordinated land use pattern in Menlo Park and the surrounding area.
    - Policy LU-1.5 Adjacent Jurisdictions. Work with adjacent jurisdictions to ensure that decisions regarding potential land use activities near Menlo Park include consideration of City and Menlo Park community objectives.
    - Policy LU-1.7 School Facilities. Encourage excellence in public education citywide, as well as use of school facilities for recreation by youth to promote healthy living.
        - Program LU-1.D School District Partnership. Work with the school districts to aid in identifying opportunities for partnership with the City in promoting excellence in education and recreation at all schools serving Menlo Park residents.
- Goal LU-4 Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
    - Policy LU-4.4 Community Amenities. Require mixed-use and nonresidential development of a certain minimum scale to support and contribute to programs that benefit the community and the City, including education, transit, transportation infrastructure, sustainability, neighborhood-

serving amenities, child care, housing, job training, and meaningful employment for Menlo Park youth and adults.

- Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Policy LU-4.7 Fiscal Impacts. Evaluate proposed mixed-use and nonresidential development of a certain minimum scale for its potential fiscal impacts on the City and community.
    - Program LU-4.A: Fiscal Impact Analysis. Establish Zoning Ordinance requirements for mixed-use, commercial, and industrial development proposals of a certain minimum scale to include analysis of potential fiscal impact on the City, school districts, and special districts, and establish guidelines for preparation of fiscal analyses.

- Goal H-4: New Housing. Use land efficiently to meet community housing needs at a variety of in income levels, implement sustainable development practices and blend well-designed new housing into the community.
    - Policy H-4.1: Housing Opportunity Areas. Identify housing opportunity areas and sites where a special effort will be made to provide affordable housing consistent with other General Plan policies. Given the diminishing availability of developable land, Housing Opportunity Areas should have the following characteristic:

        f. Site development should consider school capacity and the relationship to the types of residential units proposed (i.e., housing seniors, small units, smaller workforce housing, etc. in school capacity impact areas).

Additionally, per the development regulations included in the prosed Zoning update, developers may seek an increase in floor area ratio and/or height in exchange for providing community amenities or the payment of impact fees, which could apply to improvements to school services.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including the General Plan policies and Zoning regulations that have been prepared to minimize impacts related to schools. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require working with school districts to promote excellence in schools, the analysis of the potential fiscal impact of development on school districts, and the relationship between new housing and school capacity. Furthermore, the implementation of proposed Zoning could help to provide additional funding to support enhanced school services. For these reasons, and because the development potential of the proposed project would occur incrementally over a 24-year period and would be subject to the mandatory payment of developer impact fees pursuant to SB 50, the adoption of the proposed project would result in *less-than-significant* impacts with respect to the need for remodeled or expanded school facilities.

Significance Without Mitigation: Less than significant.

4.12.4.4 CUMULATIVE IMPACT DISCUSSION

PS-9	**Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would not result in less-than-significant cumulative impacts with respect to school services.**

As discussed in Chapter 4, Environmental Evaluation, of this Draft EIR, this EIR takes into account growth projected by the proposed project within the study area, Menlo Park City Limits and Sphere of Influence (SOI), in combination with impacts from projected growth in the rest of San Mateo County and the surrounding region, as forecast by the Association of Bay Area of Governments (ABAG). This section analyzes potential impacts related to schools that could occur from implementation of the proposed project in combination with reasonably foreseeable growth in the area served by the MPCSD, Redwood CSD, LLSD, Ravenswood CSD, and the SUHSD. Cumulative projects would add new students to the MPCSD, Redwood CSD, LLSD, Ravenswood CSD, and the SUHSD, in addition to those generated by development allowed by the proposed project and, which could result in the need for new or expanded school facilities. However, these cumulative projects would also be subject to compliance with the City's General Plan and the mandatory school impact fees discussed under discussion PS-8. Therefore, cumulative impacts related to school facilities would be less than significant.

The number of students generated by the proposed project in each district appears to be consistent with enrollment trends and planned school facility expansions. It is unknown exactly where school facility expansions would occur to support the cumulative increase in population. As specific school expansion or improvement projects are identified, additional project specific, environmental analyses would be required to be completed by each school district.

In conclusion, with the payment of mandatory developer impact fees as previously described, the proposed project would have a *less-than-significant* impact on school facilities.

Significance Without Mitigation: Less than significant.

4.12.5 LIBRARIES

4.12.5.1 ENVIRONMENTAL SETTING

This section describes the regulatory framework and existing conditions related to library services in the study area.

Regulatory Framework

There are no federal or State regulations pertaining to library services that apply to the proposed project.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.12.5.3, Impact Discussion.

Existing Conditions

The City of Menlo Park has one public library system with two locations: The Main Library on Alma Street and the Branch Library on Ivy Drive.

The Main Branch, located at 800 Alma Street next to Menlo Park City Hall, is a 34,000 square-foot, 1-story building, expanded and remodeled in 1992, and with minor remodeling in 2010 and 2012. The library provides reader seats, computers, a meeting room, and a variety of loanable materials.

The Belle Haven Community Library, located in a 3,800 square-foot space at 413 Ivy Drive, was opened in 1999 as part of a joint venture with the Ravenswood City School District (Ravenswood CSD). This branch serves primarily the area north of US 101, especially students on the Belle Haven Elementary School campus. The library currently holds a collection of 18,000 books.[74]

Collectively, the Main Branch and Belle Haven Community Libraries currently hold a collection of 165,659 books and provide access to a wide range of multi-media resources via the library website. Library patrons have access to electronic books, audio and video materials, online databases, and online journals and periodicals.[75] Both locations also provide a range of programs, such as daily children's story times, regular special programs, and a monthly adult Saturday Series, which invite speakers, authors, and performers.[76] In addition, Library patrons have access to wireless internet services and computer networks at Main Branch and Belle Haven libraries.[77] Menlo Park residents with a library card can borrow books, magazines, digital video discs (DVDs), and compact discs (CDs) from the 31 public libraries in the Peninsula Library System.

The Menlo Park Library Commission makes recommendations to the City Council regarding the operation of the Menlo Park libraries by keeping in touch with patrons and the general public; promotes the use of the libraries; reports on library activities and encourages public as well as legislative support for library services. The Menlo Park Library Commission also maintains lines of communication with the friends of the Menlo Park Library, the Menlo Park Library Foundation and Project Read-Menlo Park Literacy Partners.

[74] State Library, Public Library Survey Data (2014-15 Fiscal Year), http://library.ca.gov/lds/librarystats.html, accessed on February 27, 2015.

[75] Personal communication between Ricky Caperton, Associate, PlaceWorks and Susan E. Holmer, Library Director, Menlo Park Community Services on November 20, 2015.

[76] Menlo Park Library, *Programs and Events,* http://menlopark.org/542/Programs-Events, accessed on December 9, 2015.

[77] Menlo Park Library, *Equipment,* http://menlopark.org/537/Equipment, accessed on December 9, 2015.

One of the Menlo Park Library Commission's priorities is to create a vibrant and resilient economy supporting a sustainable budget.[78]

Because 62 percent of the library services are primarily funded by County property taxes, the Menlo Park Library Foundation, established in 2004, is strategic component of the Menlo Park Library's long range planning in order to keep pace with the communities growing needs. The Menlo Park Library Foundation's mission is to develop a private endowment to supplement the Menlo Park Library's resources for the enhancement of facilities, services, and programs. The Menlo Park Library Foundation actively seeks contributions from individuals, businesses, service clubs, and foundations. The financial support from the Menlo Park Library Foundation establishes an endowment to provide a stable source to supplement public funding for the Menlo Park Library. The Menlo Park Library Foundation has identified the need to expand the library building to accommodate new and changing library services and growing community needs.[79] In addition to the Menlo Park Library Foundation, the Friends of Menlo Park Library, a volunteer organization of local residents dedicated to enhancing the Menlo Park Public Library, its resources and the many services it provides to the community, works to raise funds to support the Menlo Park Library budget.[80, 81] The financial support from the Menlo Park Library Foundation together with the Friends of the Menlo Park Library, grants, private endowments, and donations, make up the remainder of the Menlo Park Library budget.[82]

4.12.5.2 STANDARD OF SIGNIFICANCE

The proposed project would have a significant impact related to libraries if in order to maintain acceptable service ratios or other performance objectives, the proposed project would result in the provision of or need for new or physically altered library facilities, the construction or operation of which could cause significant environmental impacts.

4.12.5.3 IMPACT DISCUSSION

PS-10	**Implementation of the proposed project would not result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, or other performance objectives.**

A significant environmental impact could result if implementation of the proposed project would result in the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.

[78] Menlo Park, Commissions and Committees, *Library Commission*, http://menlopark.org/322/Library-Commission, accessed on May 20, 2016.

[79] Menlo Park Library, *Menlo Park Library Commission*, http://www.foundationmpl.org/about.html, accessed on May 20, 2016.

[80] Friends of the Menlo Park Library, Friends Home, *What We Do,* http://www.friendsmpl.org/activities.html, accessed on May 20, 2016.

[81] Menlo Park Library, *Friends of the Library*, http://menlopark.org/414/Friends-of-the-Library, accessed on May 20, 2016.

[82] Menlo Park Library, *Menlo Park Library Commission*, http://www.foundationmpl.org/about.html, accessed on May 20, 2016.

As described in Chapter 3, Project Description, of this Draft EIR, the proposed project would introduce new residents by the buildout horizon year 2040. These changes would likely result increase the demand for library services, which could result in expansion or construction of new or physically altered libraries resulting in significant environmental impacts.

As described under Section, 4.12.5.1, Environmental Setting, under subheading "Existing Conditions," the Menlo Park Library indicated that future expansion would be needed to accommodate future growth in Menlo Park without the project; therefore, the proposed project does not in and of itself require the expansion of the library.

General Plan buildout would occur over a 24-year horizon, which would result in an incremental increase in demand for fire protection services to be accommodated by the Menlo Park Library. The Menlo Park Library includes long-range strategies to ensure adequate library facilities are provided to sufficiently meet the demands of the existing and future residents of Menlo Park. Additionally, the increased property taxes from new development in Menlo Park that could occur under the proposed project would result in additional funding being available to the Menlo Park Library to support the provision of adequate services.

The proposed Land Use (LU) Element, which would be adopted as part of the proposed project, contains general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to adequate library services. The following General Plan goals, policies and a program would minimize impacts to library services:

- Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.
    - Policy LU-1.1: Land Use Patterns. Cooperate with the appropriate agencies to help assure a coordinated land use pattern in Menlo Park and the surrounding area.
        - Program LU-1.B: Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation, water supply, drainage, and other community-serving facilities and infrastructure.
        - Program LU-1.E: Assessment Districts and Impact Fees. Pursue the creation of assessment districts and/or the adoption of development impact fees (e.g., fire impact fee) to address infrastructure and service needs in the community.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
    - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulation, including General Plan policies that have been prepared to minimize impacts related to library services. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the adoption of development impact fees to address

infrastructure and service needs in the community, which could include library services. For these reasons, the adoption of the proposed project, which would introduce incremental growth over a 24-year horizon would result in *less-than-significant* impacts with respect to the need for remodeled or expanded library facilities.

Significance Without Mitigation: Less than significant.

4.12.5.4 CUMULATIVE IMPACT DISCUSSION

PS-11	**Implementation of the proposed project, in combination with past, present and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to libraries.**

As discussed in Chapter 4, Environmental Evaluation, of this Draft EIR, this EIR takes into account growth projected by the proposed project within the study area, Menlo Park City Limits and Sphere of Influence (SOI), in combination with impacts from projected growth in the rest of San Mateo County and the surrounding region, as forecast by the Association of Bay Area of Governments (ABAG). The Menlo Park Library system is part of the Peninsula Library system, which includes libraries throughout San Mateo County. The geographic scope of this cumulative analysis is taken as the Menlo Park Library service area, which includes the study area. A significant cumulative environmental impact would result if this cumulative growth would exceed the ability of Menlo Park Library to adequately serve the service area, thereby requiring construction of new facilities or modification of existing facilities. As described under PS-10 above, the proposed project on its own does not create a need for new or physically altered facilities in order for the Menlo Park Library to provide services to its service area; however, the expansion of the library would be required to serve the increased growth potential in conjunction with other future growth accounted for by the Menlo Park Library. However, it is not known at what time over the 24-year buildout of the proposed project the need would occur, or what the exact nature of these expansion would be, so it cannot be determined what project-specific environmental impacts would occur from their construction and operation. As discussed under PS-10, the ongoing implementation of the proposed project, and the payment of property taxes that support the ability of the Menlo Park Library to provide adequate services to its service area, including the expansion of library, would minimize impacts related to library services. Additionally, the Menlo Park Library includes long-range strategies to ensure adequate library facilities are provided to sufficiently meet the demands of the existing and future residents of Menlo Park. The expansion of the existing library or the construction of a new library would occur in an existing urbanized area, which would reduce the potential for new environmental impacts. Any environmental impacts related to the expansion or construction of a library would be project-specific, and would require permitting and review in accordance with CEQA, as necessary, which would ensure that any environmental impacts are disclosed and mitigated to the extent possible. This EIR is a programmatic document and does not evaluate the environmental impacts of any project-specific development. For these reasons, the adoption of the proposed project, which would introduce incremental growth over a 24-year buildout, when considered with cumulative projects, would result in *less-than-significant* impacts with respect to the need for remodeled or expanded library facilities.

Significance Without Mitigation: Less than significant.

4.13 TRANSPORTATION AND CIRCULATION

This chapter describes the regulatory framework and existing conditions related to transportation and circulation, the potential impacts on the transportation system from future development that could occur by adopting and implementing the proposed project, and the recommended mitigation measures for identified significant impacts.

The information in this chapter is based in part on travel demand modeling, transportation impact analysis and identification of mitigations conducted by TJKM Transportation Consultants. The analyses were conducted in accordance with the standards and methodologies set forth by the City of Menlo Park (City) and City/County Association of Governments of San Mateo County (C/CAG). The technical appendices are included in Appendix K, Transportation Data, of this Draft EIR.

4.13.1 ENVIRONMENTAL SETTING

4.13.1.1 REGULATORY FRAMEWORK

Federal Regulations

Federal Highway Administration

The Federal Highway Administration (FHWA) is the agency of the United States (U.S.) Department of Transportation (DOT) responsible for the federally-funded roadway system, including the interstate highway network and portions of the primary State highway network, such as Interstate 280 (I-280).

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the US Access Board, an independent Federal agency created in 1973 to ensure accessibility for people with disabilities, has created accessibility guidelines for public rights-of-way. While these guidelines have not been formally adopted, they have been widely followed by jurisdictions and agencies nationwide in the last decade. The guidelines, last revised in July 2011, address various issues, including roadway design practices, slope and terrain issues, and pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way. These guidelines would apply to proposed roadways in the study area.

State Regulations

State Transportation Improvement Program

The California Transportation Commission (CTC) administers the public decision-making process that sets priorities and funds projects envisioned in long-range transportation plans. CTC's programming includes the State Transportation Improvement Program (STIP), a multi-year capital improvement program of transportation projects on and off the State highway system, funded with revenues from the State Highway

TRANSPORTATION AND CIRCULATION

Account and other funding sources. The California Department of Transportation (Caltrans) manages the operation of State highways.

California Department of Transportation

Caltrans is responsible for planning, design, construction, and maintenance of all interstate freeways and State routes. Caltrans sets design standards for State roadways that may be used by local governments. Caltrans requirements are described in their Guide for Preparation of Traffic Impact Studies,[1] which covers the information needed for Caltrans to review the impacts to State highway facilities; including freeway segments, on- and off-ramps, and signalized intersections.

Assembly Bill 1358

Originally passed in 2008, Assembly Bill (AB) 1358 or California's Complete Streets Act, came into effect in 2011 and requires local jurisdictions to plan for land use transportation policies that reflect a "complete streets" approach to mobility. "Complete streets" comprises a suite of policies and street design guidelines which provide for the needs of all road users, including pedestrians, bicyclists, transit operators and riders, children, the elderly, and the disabled. From 2011 onward, any local jurisdiction—county or city—that undertakes a substantive update of the circulation element of its general plan must consider complete streets and incorporate corresponding policies and programs.

Senate Bill 375

As a means to achieve the statewide emission reduction goals set by AB 32 or The California Global Warming Solutions Act of 2006, Senate Bill (SB) 375 or "The Sustainable Communities and Climate Protection Act of 2008," directs the California Air Resources Board (CARB) to set regional targets for reducing greenhouse gas (GHG) emissions from cars and light trucks. Using the template provided by the State's Regional Blueprint program to accomplish this goal, SB 375 seeks to align transportation and land use planning to reduce vehicle miles traveled (VMT) through modified land use patterns.

There are five basic directives of the bill: 1) creation of regional targets for GHG emissions reduction tied to land use; 2) a requirement that regional planning agencies create a Sustainable Communities Strategy (SCS) to meet those targets (or an Alternative Planning Strategy if the strategies in the SCS would not reach the target set by CARB); 3) a requirement that regional transportation funding decisions be consistent with the SCS; 4) a requirement that the Regional Housing Needs Allocation numbers for municipal general plan housing element updates must conform to the SCS; and 5) California Environmental Quality Act (CEQA) exemptions and streamlining for projects that conform to the SCS.[2] The implementation mechanism for SB 375 that applies to land use in Menlo Park is *Plan Bay Area* (discussed more below).

[1] California Department of Transportation, *Guide for the preparation of Traffic Impact Studies*, December 2002.

[2] William Fulton, 2008. *SB 375 Is Now Law – But What Will It Do,* California Planning and Development Report.

Senate Bill 743

On September 27, 2013, SB 743 was signed into law.[3] The Legislature found that with the adoption of SB 375, the State had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce VMT and thereby contribute to the reduction of GHG emissions, as required by the AB 32. Additionally, AB 1358 requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users. To further the State's commitment to the goals of SB 375, AB 32 and AB 1358, SB 743 adds Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, to Division 13 (Section 21099) of the Public Resources Code.

SB 743 initiated a process that could fundamentally change transportation impact analysis as part of CEQA compliance. These changes are anticipated to include the elimination of auto delay, level of service, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts in many parts of California (if not statewide). SB 743 includes amendments that allow cities and counties to opt out of traditional level of service standards where Congestion Management Programs (CMPs) are used and requires the Office of Planning and Research (OPR) to update the CEQA Guidelines and establish "criteria for determining the significance of transportation impacts of projects within transit priority areas.[4] As part of the new CEQA Guidelines, the new criteria "shall promote the reduction of GHGs, the development of multimodal transportation networks, and a diversity of land uses."

OPR is in the process of investigating alternative metrics, but a preliminary metrics evaluation[5] suggests that auto delay and level of service may work against goals such as GHG reduction and accommodation of all transportation modes. New criteria for determining the significance of transportation impacts may include, but are not limited to, "VMT, VMT per capita, automobile trip generation rates, or automobile trips generated."[6]

OPR is still in the process of preparing the Guidelines and has submitted drafts for public comment in 2014, 2015 and as recently as January 20, 2016 with a public comment period ending on February 29, 2016. It is the goal of OPR to then make one more set of revisions and submit the final Guidelines to the Natural Resources Agency in the summer of 2016. This will start the formal 'rulemaking' process, which is anticipated to last about six months. Upon completion, there is a 60-day administrative law review before the Guidelines are formally law. After that date though, lead agencies still have 120 days to update their guidance to comply with SB 743. Additional time may be available before full implementation is required. Once the Guidelines are prepared and certified, "automobile delay, as described solely by level of service

[3] An act to amend Sections 65088.1 and 65088.4 of the Government Code, and to amend Sections 21181, 21183, 21186, 21187, 21189.1, and 21189.3 of, to add Section 21155.4 to, to add Chapter 2.7 (commencing with Section 21099) to Division 13 of, to add and repeal Section 21168.6.6 of, and to repeal and add Section 21185 of, the Public Resources Code, relating to environmental quality.

[4] A "transit priority area" is defined in as an area within one-half mile of an existing or planned major transit stop. A "major transit stop" is defined in Public Resources Code Section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

[5] Office of Planning and Research, *Updating the Analysis of Transportation Impacts Under CEQA,* opr.ca.gov/docs/PreliminaryEvaluationTransportationMetrics.pdf, accessed on May 20, 2016.

[6] Public Resources Code Section 21099(b)(1)

or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment."[7] This, however, does not prohibit local agencies from considering level of service in the local planning process.

California Building Code

The California Building Code (CBC), Title 24 of the California Code of Regulations, provides fire and emergency equipment access standards for public roadways in Part 9, Appendix D. These standards include specific width, grading, design and other specifications for roads that provide access for fire apparatuses; the code also indicates which areas are subject to requirements for such access. The CBC also incorporates by reference the standards of the International Fire Code (IFC). The future construction of streets in the study area would be subject to these and any modified State standards.

Regional Regulations

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county Bay Area, including San Mateo County. It also functions as the federally mandated metropolitan planning organization (MPO) for the region. It is responsible for regularly updating the Regional Transportation Plan (RTP), a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities.

The Bay Area's current 25-year RTP, *Plan Bay Area*, was adopted on July 18, 2013. *Plan Bay Area* was prepared by MTC in partnership with the Association of Bay Area Governments (ABAG), the Bay Area Air Quality Management District (BAAQMD), and the Bay Conservation and Development Commission (BCDC). The MTC updates the RTP every four (4) years. *Plan Bay Area* specifies a detailed set of investments and strategies throughout the region from 2013 through 2040 to maintain, manage, and improve the surface transportation system, specifying how anticipated federal, State, and local transportation funds will be spent. The update *Plan Bay Area, Plan Bay Area 2040*, is currently underway.

Plan Bay Area sets a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from cars and light trucks beyond the per capita reduction targets identified by CARB pursuant to SB 375. As part of the implementation framework for *Plan Bay Area*, local governments may identify "Priority Development Areas" (PDAs) to focus growth. The PDAs are transit-oriented, infill development opportunity areas within existing communities. Over two-thirds of overall Bay Area growth through 2040 is allocated to the PDAs, which are expected to accommodate 80 percent (or over 525,570 units) of new housing and 66 percent (or 744,230) of new jobs in the region.[8] Menlo Park currently has one PDA that surrounds El Camino Real and includes areas in and around Downtown Menlo Park. The area covered by the El Camino Real and Downtown Specific Plan falls within Menlo Park's PDA. The SCS does not directly govern land uses within Menlo Park and does not affect local decision-making authority. However, there are a number of benefits

[7] Public Resources Code Section 21099(b)(2)

[8] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2013. *Final Plan Bay Area, Strategy for a Sustainable Region.*

available to the City from being consistent with *Plan Bay Area*, including potential streamlining of CEQA review for certain transit priority, residential, and/or mixed-use projects, as well as high eligibility for transportation funding, provided that policies and land use patterns proposed in the General Plan align with SCS goals.

The 2013 *Plan Bay Area* EIR[9] also included an evaluation of VMT per capita. These regional thresholds are applied in this document for the purpose of evaluating the VMT of the proposed project.

MTC has established its policy on Complete Streets for the Bay Area. The policy states that projects funded all, or in part, with regional funds (e.g., federal, State Transportation Improvement Program, bridge tolls) must consider the accommodation of bicycle and pedestrian facilities, as described in Caltrans Deputy Directive 64. These recommendations do not replace locally-adopted policies regarding transportation planning, design, and construction. Instead, these recommendations facilitate the accommodation of pedestrians, including wheelchair users, and bicyclists into all projects where bicycle and pedestrian travel is consistent with current adopted regional and local plans.

With the passage of AB 32, the State of California committed itself to reducing statewide GHG emissions to 1990 levels by 2020. Subsequent to adoption of AB 32, the State adopted SB 375 as the means for achieving regional transportation-related GHG targets. Among the requirements of SB 375 are the adoption of targets to be met by 2020 and 2035 for each MPO in the state, as well as the creation of a SCS that provides a plan for meeting regional targets. The SCS and the RTP must be consistent with one another, including action items and financing decisions. If the SCS does not meet the regional target, the MPO must produce an Alternative Planning Strategy that details an alternative approach to meet the target. Finally, MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the State CTC. The RTPs, cities, and counties are encouraged, but not required, to use travel demand models consistent with the State CTC guidelines. The provisions of AB 32 and SB 375 and the project's relationship to GHG reduction are discussed in detail in Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR.

San Mateo City/County Association of Governments

2011 Congestion Management Plan

C/CAG is designated as the Congestion Management Agency (CMA) for the County. C/CAG's CMP identifies strategies to respond to future transportation needs, identifies procedures to alleviate and control congestion, and promotes countywide solutions. Pursuant to the United States Environmental Protection Agency's (US EPA) transportation conformity regulations and the *Bay Area Conformity State Implementation Plan* (also known as the Bay Area Air Quality Conformity Protocol), the CMP is required to be consistent with the MTC planning process including regional goals, policies, and projects for the Regional Transportation Improvement Program (RTIP).[10] MTC cannot approve any transportation plan, program, or project unless these activities conform to the State Implementation Plan (SIP).

[9] The existing Plan Bay Area was adopted and companion EIR was certified jointly by ABAG and MTC in July 2013.

[10] City/County Association of Governments of San Mateo (C/CAG), 2011. Final San Mateo County Congestion Management Program (CMP) 2011. http://www.ccag.ca.gov/pdf/Studies/Final%202011%20CMP_Nov11.pdf.

TRANSPORTATION AND CIRCULATION

C/CAG has adopted guidelines to evaluate the impacts of net new vehicle trips generated by new developments on the CMP network. These guidelines apply to all developments that generate 100 or more net new peak period[11] vehicular trips on the CMP network and are subject to CEQA review. C/CAG also has guidelines that "the developer and/or tenants will reduce the demand for all new peak hour trips (including the first 100 trips) projected to be generated by the development" through the use of a trip credit system. C/CAG has published a list of mitigation options in a memorandum that also outlines a process for obtaining C/CAG approval.

The CMP roadway system is comprised of 53 roadway segments and 16 intersections, including all of the State highways within the county in addition to Mission Street, Geneva Avenue, and Bayshore Boulevard. The intersections are located mostly along El Camino Real.

Countywide Transportation Plan

The Countywide Transportation Plan (CTP) was adopted by C/CAG in 2001, to reduce traffic congestion, increase demand for transit, decrease demand for automobile travel, and increase capacity for all modes. The plan also sets targets to increase the safety, reliability, and convenience of all transportation systems.

San Mateo County Comprehensive Bicycle and Pedestrian Plan

The C/CAG, with support from the San Mateo County Transportation Authority (SMCTA) have developed the 2011 *San Mateo County Comprehensive Bicycle and Pedestrian Plan* (CBPP) to addresses the planning, design, funding, and implementation of bicycle and pedestrian projects of countywide significance. The CBPP identifies El Camino Real as the corridor in the county with the highest densities of population and employment, and thus pedestrian activity. The CBPP notes that the high level of through-movement along this corridor necessitates the need for bicycle and pedestrian improvements. Although biking, walking, and transit percentages in San Mateo County are lower than the averages for the Bay Area, Menlo Park has one of the highest percentages of commuters commuting by bicycle in the Bay Area. In 2000, this figure was 3.7 percent (three times the Bay Area average) and rose to 7.2 percent of workers in 2006-2008. Relevant goals of the CBPP are listed as follows:

- Goal 2: More People Riding and Walking for Transportation and Recreation.
- Goal 4: Complete Streets and Routine Accommodation of Bicyclists and Pedestrians.

San Francisco Bay Trail Plan

The San Francisco Bay Trail Plan (Bay Trail) (ABAG, 1989) and *Enhanced San Francisco Bay Area Water Trail Plan* (California Coastal Conservancy, 2011) provide guidance to the development of a shared-use bicycle and pedestrian path that will one day allow continuous travel around the San Francisco Bay. The Bayfront Area includes a segment of the Bay Trail.

[11] Peak periods refer to typical weekday a.m. and p.m. highest travel demand periods (i.e. 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m., respectively).

Bay Area Air Quality Management District

The air quality district that addresses air pollution in the study area is the Bay Area Air Quality Management District (BAAQMD). Since a primary source of air pollution in the Menlo Park region is from motor vehicles, air district regulations affect transportation planning in the study area. The BAAQMD is a public agency tasked with regulating air pollution in the nine-county Bay Area, including San Mateo County. The BAAQMD's goals include reducing health disparities due to air pollution, achieving and maintaining air quality standards, and implementing exemplary regulatory programs and compliance of federal, State, and regional regulations. Air quality impacts are discussed in detail in Chapter 4.2, Air Quality, of this Draft EIR.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.13.3, Impact Discussion.

Menlo Park Municipal Code

The City of Menlo Park Municipal Code, organized by title, chapter, and section, contains all ordinances for Menlo Park. Title 13, Street, Sidewalks, and Utilities, includes regulations relevant to transportation and circulation in Menlo Park, as discussed below.

Chapter 13.26, Transportation Impact Fee[12]

The City of Menlo Park initiated a transportation impact fee (TIF) in 2009 to help fund transportation improvements that are needed in conjunction with new development. The intent of the fee is to maintain adequate service levels as new development places a strain on existing roadway capacity. The TIFs ensure that development pays a proportional fair share of the cost of transportation infrastructure deemed necessary and reasonably related to accommodating the impact of development in Menlo Park.

As described in Section 13.26.020, the City levies a TIF by establishing the nexus among the trips associated with development, their impacts on the transportation system, and the cost to improve the City's impacted transportation system. The detailed TIF study, the current version of which was developed in 2009, establishes the required nexus between anticipated future development in Menlo Park and the need for certain improvements to the local transportation facilities. The City updates TIF rates for each land use annually based on the Engineering News Record (ENR) Construction Cost Index percentage change for the San Francisco Bay Area.

[12] The City of Menlo Park Transportation Impact Fee was enacted pursuant to the Mitigation Fee Act contained in Government Code Section 66000 et seq. (Ordinance 964 Section 2 (part), 2009).

TRANSPORTATION AND CIRCULATION

The TIF study reviewed the improvement measures on a preliminary level. TIF's may only be used for the building of new arterial streets, sidewalks, bicycle lanes, and other physical enhancements to the City's multi-modal transportation network. The adoption of the TIF ordinance does not require the City to construct all of the improvements in the plan. The mix of projects and the details related to each individual project can be modified and prioritized by the Council over time. A more detailed design would need to be developed for each improvement measure prior to implementation.

City's Public Works Department

The City of Menlo Park maintains several environmental programs under the City's Public Works Department. The City's Public Works Department is responsible for developing a more functional and efficient roadway network for the effective movement of people and goods. The division promotes the use of public transit, ride sharing, bicycles, and walking as commuting alternatives to single-occupant automobiles. The City operates a trip reduction program and was the first city on the Peninsula to establish a shuttle program. Transit programs are discussed below under Existing Roadway Network.

Comprehensive Bicycle Development Plan

The 2005 *Comprehensive Bicycle Development Plan* (Bike Plan) provides a broad vision, strategies, and actions for the improvement of bicycling in the city. The Bike Plan recommends the enhancement of the existing network with the addition of approximately 0.3 miles of new Class I Bike Paths, 3.6 miles of new Class II Bike Lanes, and 16.8 miles of new Class III Bike Routes.[13] Several long-term projects are also identified; including two short Class I connector segments near the Bayfront Expressway and two new bicycle/pedestrian undercrossings, including the Caltrain crossing near Middle Avenue.

The Bike Plan outlines new educational and promotional programs aimed at bicyclists and motorists. These programs include bicycle parking improvements, multi-modal (transit) support facilities, bicycle safety and education programs for cyclists and motorists, safe routes to schools programs, community and employer outreach programs, continued development of bikeway network maps, and bike-to-work and school day events, among others. The prioritization and budgeting of individual bicycle improvements takes place through City Council approval of the five-year Capital Improvement Program (CIP). This process incorporates public comment.

The goals of the Bike Plan provide the context for the specific policies and actions discussed in the Bike Plan. The goals provide the long-term vision and serve as the foundation of the Bike Plan, while the policies of the Bike Plan provide more specific descriptions of actions to undertake to implement the Bike Plan.

[13] City of Menlo Park, 2005. *Menlo Park Comprehensive Bicycle Development Plan*. See Section 4.13.1.2, Existing Transportation and Circulation System, below for a description of bike classifications.

The relevant bicycle-related goals are as follows:

- Goal 1: Expand and Enhance Menlo Park's Bikeway Network.
- Goal 2: Plan for the Needs of Bicyclists.
- Goal 3: Provide for Regular Maintenance of the Bikeway Network.
- Goal 4: Encourage and Educate Residents, Businesses, and Employers in Menlo Park on Bicycling.

Sidewalk Master Plan

The 2009 *City of Menlo Park Sidewalk Master Plan* (Sidewalk Plan) identifies segments with no standard walkway or discontinuous walkway facilities; identifies opportunities and constraints for future walkway facilities; recommends changes and additions to existing programs, policies, and municipal codes; and develops prioritization criteria and procedures for installing standard sidewalks. The Sidewalk Plan identified priority streets as those roadways that provide network connectivity and access to important pedestrian destinations, such as schools, parks, and downtown. The priority streets make up over a third of the roadways under Menlo Park's jurisdiction. As with bicycle improvements, the prioritization and budgeting of individual sidewalk improvements takes place through City Council approval of the five-year CIP.

Menlo Park Complete Streets Policy

The City's Complete Streets policy was adopted by Resolution No. 6123 by the City Council on March 22, 2013 consistent with AB 1358 to ensure that local streets meet the needs of all users. As described in the Complete Streets Policy, the City of Menlo Park is committed to creating and maintaining complete streets that provide safe, comfortable, and convenient travel along and across streets (including streets, roads, highways, bridges, and other portions of the transportation system) through a comprehensive, integrated transportation network that serves all categories of users, including pedestrians, bicyclists, persons with disabilities, motorists, movers of commercial goods, users and operators of public transportation, seniors, children, youth, and families, emergency vehicles and freight. The proposed Circulation Element includes complete streets-focused goals, policies and programs and would replace this stand-alone policy.

Neighborhood Traffic Management Plan

Established in 2004, the *Neighborhood Traffic Management Plan* (NTMP) is intended to provide consistent, citywide policies for neighborhood traffic management to ensure equitable and effective solutions that enhance the safety and livability of neighborhoods in Menlo Park. The document provides instruction for residents in identifying appropriate neighborhood traffic management measures such as driver education, enforcement, and physical improvements that can be utilized in addressing specific neighborhood traffic issues. An important component of the NTMP is to build consensus through neighborhood and stakeholder meetings, resident surveys, as well as trial installations prior to permanent installation of physical improvements.

TRANSPORTATION AND CIRCULATION

Transportation Demand Management Guidelines

The City of Menlo Park Transportation Demand Management (TDM) Guidelines provides options for the City to encourage the use of innovative strategies to mitigate the traffic impact of new development projects.

TDM measures identified in the Guidelines include, but are not limited to:

- Charging employees for parking.
- Employer subsidized transit tickets.
- Preferential parking for carpools/vanpools.
- Employer shuttles.
- Parking cash-out.
- Shared parking.
- Provision of bicycle storage and showers.

In addition to the City's TDM Guidelines, as previously described, the C/CAG's CMP guidelines that must be followed for all development projects that a) generate a net 100 or more peak hour trips on the CMP roadway network; and b) the project is subject to CEQA review. The C/CAG list of acceptable TDM measures is similar to the City TDM Guidelines list.

El Camino Real/Downtown Specific Plan

The El Camino Real/Downtown Specific Plan focuses on new development in an area well-served by transit with a host of mixed uses, it encourages transit and non-motorized modes to reduce reliance on single-occupant vehicles, minimize congestion, limit land dedicated to parking, and reduce GHG emissions. The El Camino Real/Downtown Specific Plan envisions the following:

- A vehicular system that accommodates local traffic on El Camino Real.
- An integrated pedestrian network of expansive sidewalks, promenades and paseos along El Camino Real and within Downtown Menlo Park.
- A bicycle network that builds on existing plans and integrates more fully with Downtown and proposed public space improvements in the area.
- Modified parking rates for private development based on current industry standards.

The City is currently conducting a related study, the El Camino Real Corridor Study, to review potential transportation and safety improvements to El Camino Real between Sand Hill Road and Encinal Avenue. The study will evaluate potential impacts to traffic, active transportation, safety, parking and aesthetics.

4.13.1.2 EXISTING TRANSPORTATION AND CIRCULATION SYSTEM

This section describes the existing transportation environment in the study area, including roadway network, bicycle facilities, pedestrian facilities and available transit services. While this Draft EIR addresses citywide impacts to the transportation and circulation system, as discussed throughout this Draft EIR, the Bayfront Area is the location where the new development potential under the proposed project would occur. Therefore, the existing conditions below focuses on the transportation and circulation setting in the Bayfront Area.

City of Menlo Park Roadway System

This section describes existing roadway facilities in the study area. The San Mateo County CMP Land Use Analysis Program guidelines require that Routes of Regional Significance be evaluated in land use impact analysis to identify potential candidates for the capital improvement program.

The existing roadway network serving the study area is shown on Figure 4.13-1 and described as follows:

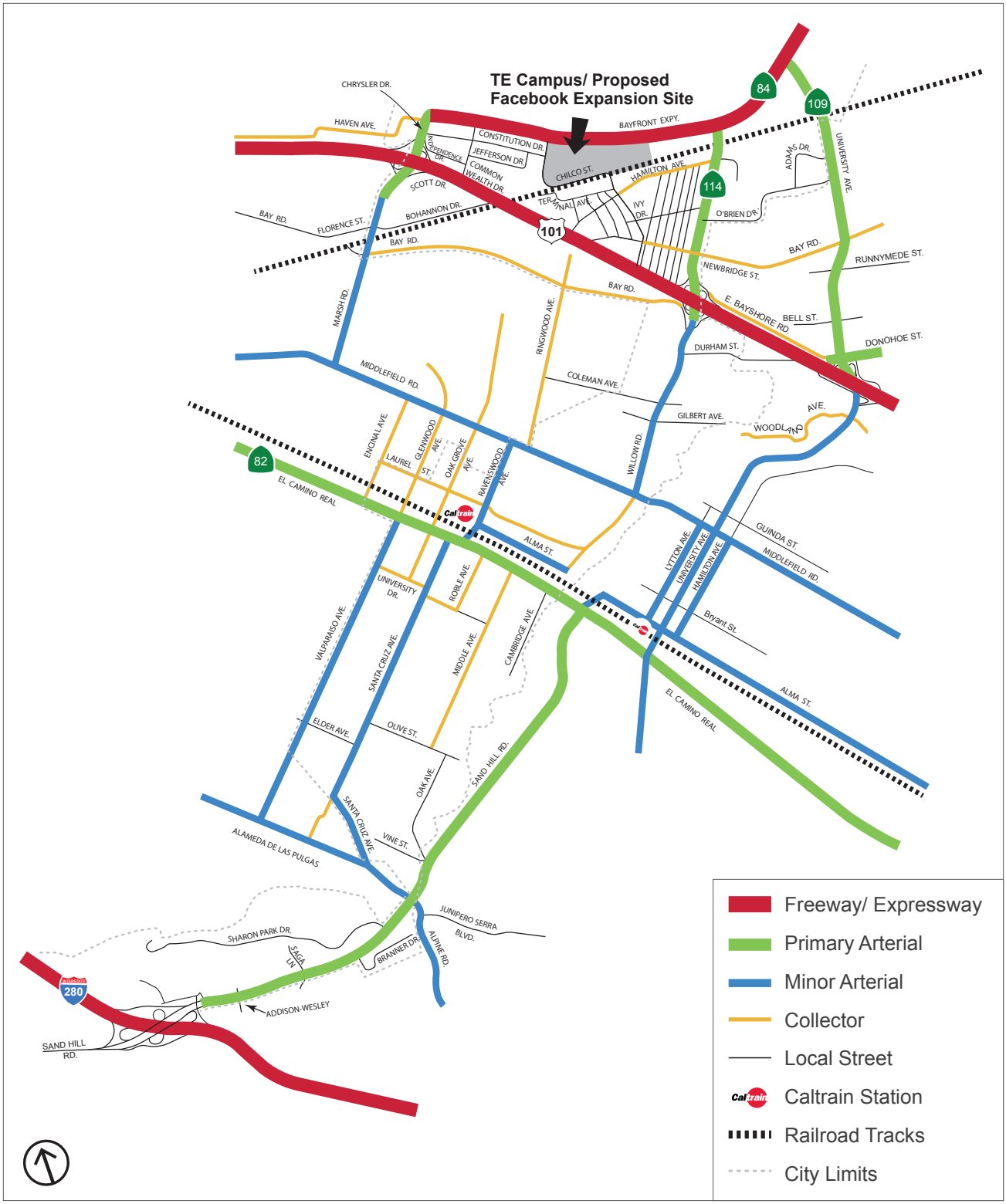
- US 101 (Bayshore Freeway) is an eight-lane north-south freeway that runs between Los Angeles, California and Olympia, Washington and is a major regional freeway on the San Francisco Peninsula. It connects Menlo Park with the other cities in the San Francisco Peninsula from San Jose to San Francisco. There is one high occupancy vehicle (HOV) lane on both directions within the City of Menlo Park. Two interchanges serve Menlo Park at Willow Road and Marsh Road.
- I-280 (Junipero Serra Freeway) is an eight-lane north-south freeway that connects San Jose with San Francisco. There is one HOV lane on both directions within the City of Menlo Park. Two interchanges serve Menlo Park at Sand Hill Road and Alpine Road.
- SR 84 (Bayfront Expressway) is a six-lane, east-west Expressway that connects the Peninsula to the east via the Dumbarton Bridge. Within the City of Menlo Park, it connects Marsh Road with the Dumbarton Bridge. On-street parking is not permitted on Bayfront Expressway and the speed limit is 50 miles per hour (mph). A segment of the San Francisco Bay Trail accommodates bicycle and pedestrian circulation adjacent to Bayfront Expressway.
- SR 82 (El Camino Real) is a primary north-south Primary Arterial that connects San Jose with San Francisco. It enters Menlo Park north of Sand Hill Road as a six-lane arterial, becomes a four-lane arterial near Downtown Menlo Park, and exits the city as a five-lane arterial (three southbound lanes and two northbound lanes) north of Encinal Avenue. There are no bicycle lanes on El Camino Real.
- SR 114 (Willow Road) is an east-west roadway that connects Bayfront Expressway with US 101 and Middlefield Road. Between Bayfront Expressway and US 101, Willow Road is a Major Arterial with four motor vehicle lanes and bicycle lanes. Between US 101 and Middlefield Road, Marsh Road is a Minor Arterial with two motor vehicle lanes and bicycle lanes.
- SR 109 (University Avenue) is a four-lane, east-west Arterial Street that connects Bayfront Expressway with US 101 via East Palo Alto, and connects US 101 with El Camino Real via downtown Palo Alto. Bicycle lanes are provided on University Avenue between Bayfront Expressway and Middlefield Road, except for a gap in the bicycle lanes where University Avenue approaches and crosses US 101.

- Marsh Road is an east-west roadway that connects Bayfront Expressway with US 101 and Middlefield Road. Marsh Road has six motor vehicle lanes between Bayfront Expressway and US 101, and four motor vehicle lanes between US 101 and Fair Oaks Avenue. Marsh Road narrows to two lanes between Fair Oaks and Middlefield Road. There are no bicycle lanes on Marsh Road.
- Chilco Street is an east-west roadway with two motor vehicle lanes that connects Bayfront Expressway with the adjacent Belle Haven neighborhood. Bicycle lanes are provided on the portion of Chilco Road between Bayfront Expressway and the Dumbarton rail tracks. There are no sidewalks on the portion of Chilco Road between Constitution Drive and the Dumbarton rail tracks at the time this document was prepared.
- Middlefield Road is a north-south Minor Arterial with two-to-four motor vehicle lanes that connects Mountain View, Palo Alto, Menlo Park, Atherton and Redwood City. Bicycle lanes are provided on segments of Middlefield Road within Menlo Park.
- Sand Hill Road is an east-west Primary Arterial street that connects El Camino Real with I-280.

Existing Bicycle Facilities

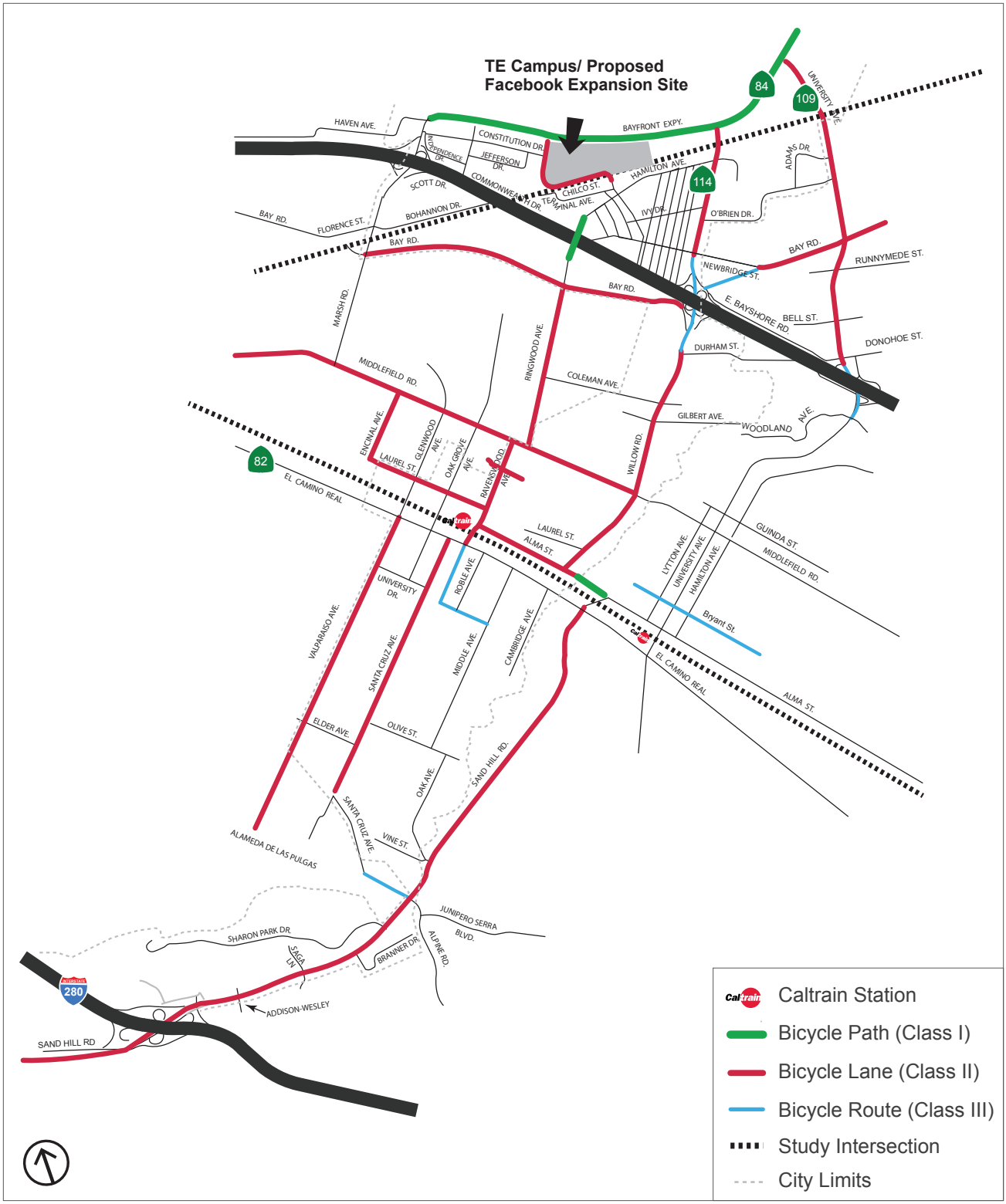
The City's existing bicycle facilities in the study area are identified on Figure 4.13-2. Menlo Park has an existing bicycle network with connections to neighboring city facilities. The bicycle network contains a variety of facilities and is labeled according to California's system of classification of bikeways:

- Class I Bikeway. Typically called a "bike path," a Class I bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway; these are sometimes shared with pedestrians.
- Class II Bikeway. Often referred to as a "bike lane" for bike use only, a Class II bikeway provides a striped and stenciled lane for one-way travel on a street or highway.
- Class III Bikeway. Generally referred to as a "bike route," a Class III bikeway provides for shared use with pedestrian or motor vehicle traffic and are identified only by signing. Class III bikeways may be defined by a wide curb lane and/or use of a shared use arrow stencil marking on the pavement known as a "sharrow."
- Class IV Bikeway. These bikeways include cycle tracks or separated bikeways that contain dedicated right of way with physical separation, such as grade separation, flexible posts, or on-street parking.



Source: TJKM, 2016.

Figure 4.13-1
Existing Roadway Network



Source: TJKM, 2016.

Figure 4.13-2
Existing Bicycle Network

As shown on Figure 4.13-2, the Bicycle facilities in the Bayfront Area are provided on Willow Road, University Avenue, and a short portion of Chilco Street between Bayfront Expressway and the Dumbarton rail tracks. The San Francisco Bay Trail borders Bayfront Expressway. However, the Marsh Road, Willow Road, and University Avenue interchanges contain no bicycle facilities, and the lack of such connections may discourage bicycle trips between the Bayfront Area and destinations west of US 101, including the Caltrain station and downtown Menlo Park. The only bicycle and pedestrian connection towards Caltrain and the retail center of Menlo Park is via a bridge crossing US 101 at Ringwood Avenue between the Belle Haven and Flood Triangle neighborhoods. Under California Law, bicyclists are allowed to use all roadways in California unless posted as closed. Therefore, even for the roadways that have no designated (or planned) bikeways identified, a majority are open for cycling.

Existing Pedestrian Facilities

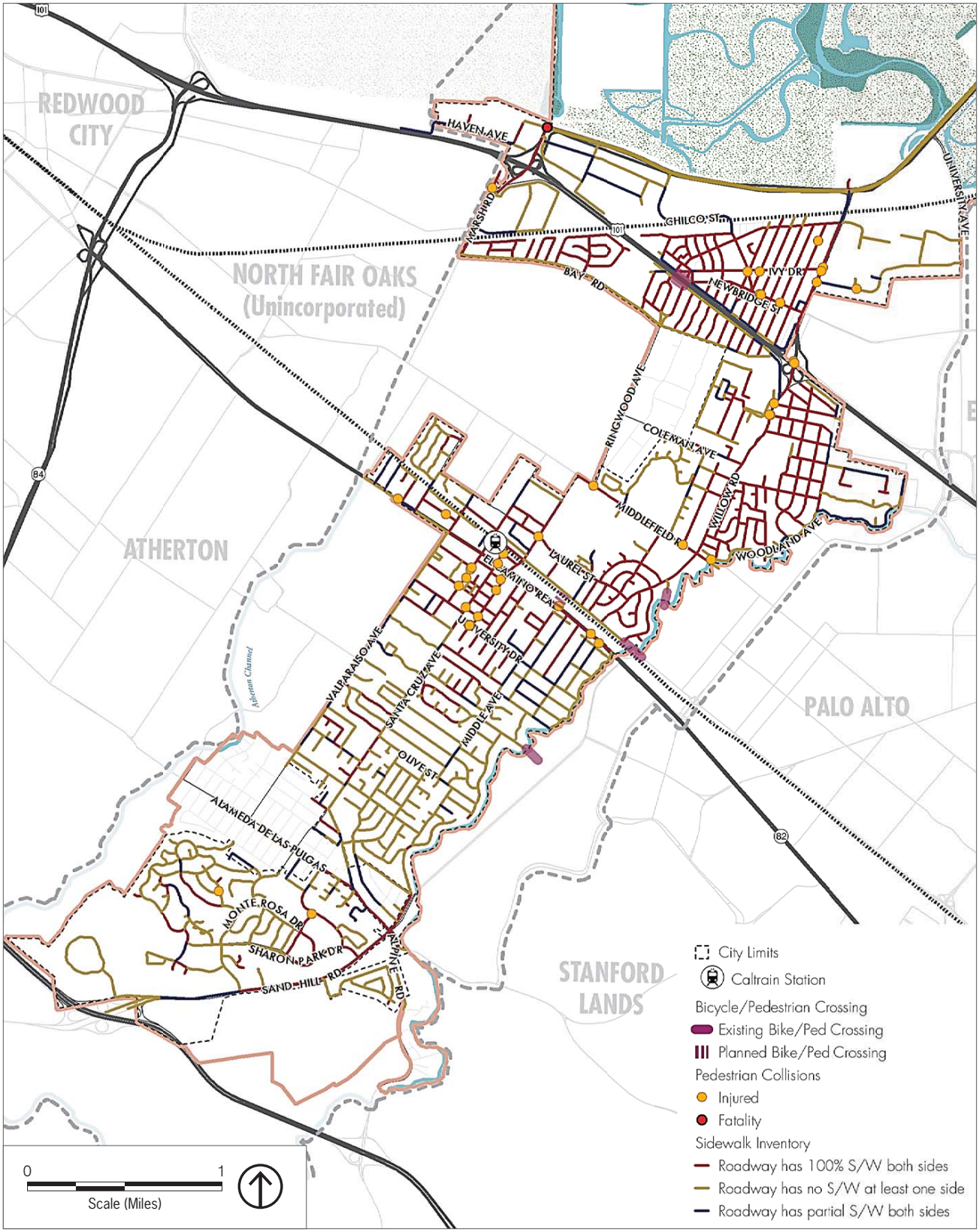
A survey of the existing pedestrian facilities was prepared as part of the City of Menlo Park's 2009 Sidewalk Plan. Existing pedestrian facilities within the study area are shown on Figure 4.13-3. The existing pedestrian facilities within the study area include off-street paths, sidewalks along roadways, pedestrian signals, and crosswalks. Specifically in the Bayfront Area, the existing pedestrian facilities are limited, with many streets in the area having partial or no sidewalks. The only street segment with sidewalks on both sides of the street is on the Marsh Road overpass at US 101. The Dumbarton Rail Corridor and US 101 also limit pedestrian access and isolate the project site and Belle Haven areas from the rest of the community.

Two main types of crosswalks exist: marked (striped) crosswalks and unmarked (no striping) crosswalks. Controlled, marked crosswalks include those striped and controlled by traffic/pedestrian signals or stop signs. Uncontrolled, marked crosswalks can exist mid-block or at intersections with side-street stop control only (or all-way yield control intersection with low volumes).

Existing Transit Facilities

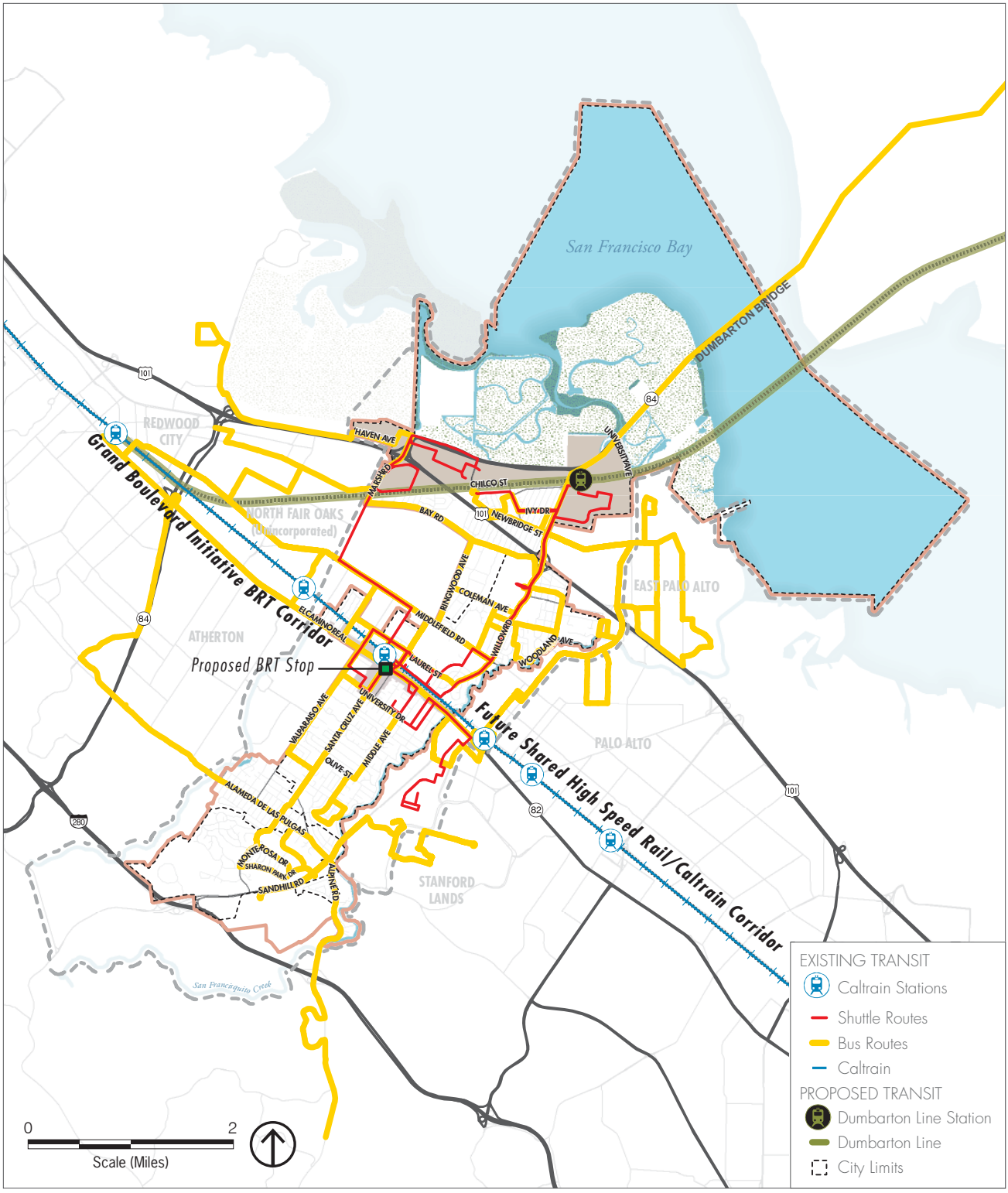
The study area is served by major transit providers and free shuttles services. San Mateo County Transit District (SamTrans) provides local and regional bus service, Caltrain provides commuter rail service and Alameda-Contra Costa County Transit District (AC Transit) provides service between Menlo Park from the Union City Bay Area Rapid Transit (BART) Station. Local shuttles are provided by Menlo Park to/from the Caltrain station during commute hours and during midday hours, and several local private agencies and employers provide private shuttles as well.

Transit service and facilities, including bus routes, major bus stops, Caltrain tracks, and the Caltrain station are shown on Figure 4.13-4 and listed in Table 4.13-1. A description of each major transit provider and the transit facilities in proximity to the Bayfront Area that have the potential to be affected by the proposed project's new development potential are described below.



Source: TJKM, 2016.

Figure 4.13-3
Existing Sidewalk Map



Source: TJKM, 2016.

Figure 4.13-4
Existing Transit Infrastructure Map

TRANSPORTATION AND CIRCULATION

TABLE 4.13-1 EXISTING PUBLIC TRANSIT SERVICE

Service Provider	Peak Headway	Service Hours
Caltrain	32 minutes (average)	5:04 a.m. to 12:56 a.m. (weekdays) 7:34 a.m. to 1:02 a.m. (weekends)
SamTrans 80	No peak service	1:40 p.m. to 3:30 p.m. (weekdays)
SamTrans 82	1 run (morning) 60 minutes (afternoon)	7:47 a.m. to 3:47 p.m. (weekdays)
SamTrans 83	5 minutes (morning)	7:38 a.m. to 3:52 p.m. (weekdays)
SamTrans 84	1 run (morning)	7:52 a.m. to 3:45 p.m. (weekdays)
SamTrans 85	1 run (morning)	7:09 a.m. to 3:45 p.m. (weekdays)
SamTrans 86	40 minutes	7:04 a.m. to 4:05 p.m. (weekdays)
SamTrans 87	55 minutes	7:10 a.m. to 4:01 p.m. (weekdays)
SamTrans 88		
SamTrans 89	1 run (afternoon)	1:33 p.m. to 3:39 p.m. (weekdays)
SamTrans 270[a]	60 minutes	6:30 a.m. to 7:12 p.m. (weekdays) 7:30 a.m. to 7:08 p.m. (weekends)
SamTrans 276[a]	60 minutes	6:00 a.m. to 6:46 p.m. (weekdays)
SamTrans 281[a]	15 minutes	6:00 a.m. to 10:32 p.m. (weekdays) 8:03 a.m. to 7:58 p.m. (weekends)
SamTrans 286[a]	65-74 minutes	7:16 a.m. to 5:59 p.m. (weekdays only)
SamTrans 296[a]	15 minutes	5:18 a.m. to 11:00 p.m. (weekdays) 8:45 a.m. to 7:59 p.m. (weekends)
SamTrans 297[a]	60 minutes	12:43 p.m. to 12:22 a.m. (weekdays) 12:43 p.m. to 12:22 a.m. (weekends)
SamTrans 397	60 minutes	12:48 p.m. to 6:22 pm (weekdays only)
SamTrans ECR	11-13 minutes	3:56 p.m. to 2:09 a.m. (weekdays) 4:47 p.m. to 2:21 a.m. (weekends)
AC Transit DB	16-34 minutes	5:22 a.m. to 8:51 p.m. (weekdays)
AC Transit DB1*Limited stop	15-26 minutes	5:26 a.m. to 7:39 p.m. (weekdays)
Caltrain Shuttle (Marsh and Willow Routes)	60 minutes	6:39 a.m. to 6:28 p.m. (weekdays)
Menlo Park Midday Shuttle	No peak hour service	9:30 a.m. to 3:30 p.m. (weekdays)
Menlo Park Shoppers Shuttle	No peak hour service	9:30 a.m. to 1:00 p.m. (Tuesday/Wednesday/Saturday)

Notes: a. SamTrans routes in proximity to the Bayfront Area.
Source: TJKM Transportation Consultants, 2016.

SamTrans

SamTrans operates bus service in San Mateo County. There are 54 routes in the county categorized as community, express, BART connection, Caltrain connection, and BART and Caltrain connection routes. These routes serve approximately 1.5 million annual riders. Most bus routes typically operate along major arterial corridors and operate from early morning into the late evening. SamTrans routes that serve the Bayfront Area and provide service to Caltrain Stations include the following:

- Route 270: Serves the area near Marsh Road and Haven Avenue, the Bayfront Expressway, and serves a connection to the Redwood City Transit Center and Caltrain.
- Route 276: Travels to Redwood City Transit Center, Kaiser Hospital, and Redwood City Hall via Marsh/Haven/Bayfront Expressway. Route 276 terminates at Marsh Road and also serves the Redwood City Caltrain Station.
- Route 281: Serves the Palo Alto Transit Center at Downtown Palo Alto Caltrain station, University Village Shopping Center, and Onetta Harris Community Center. This route terminates at the Onetta Harris Community Center located just south of the Dumbarton rail corridor. The route connects to Downtown Palo Alto and Stanford Shopping Center.
- Route 286: Connects to Menlo-Atherton High School, Menlo Park Caltrain Station, and La Entrada Middle School.
- Route 296: Serves Menlo Park Caltrain Station, VA Medical Center, Redwood City Caltrain Station, Sequoia High School, and East Palo Alto.
- Route 297: Connects to University Village Shopping Center, VA Medical Center, Palo Alto Transit Center, and Redwood City Transit Center.

SamTrans Short Range Transit Plan

Planned short-range improvements to SamTrans service focus on optimizing the current system's condition and performance.[14] These planned improvements include vehicle replacement, vehicle expansion, adding Clipper (formerly TransLink) and other fare collection equipment, installing information technology, and planning for transit-oriented development (TOD), defined as being within a reasonable walking distance of a transit station. SamTrans planning efforts are being curtailed by their current financial constraints.

Caltrain

Caltrain operates 50 miles of commuter rail between San Francisco and San Jose, and limited service trains to Morgan Hill and Gilroy during weekday commute periods. Caltrain is owned by the Peninsula Corridor Joint Powers Board, operated under contract with Amtrak, and managed under contract with SamTrans.

[14] San Mateo County Transit District (SamTrans), 2014. *Short Range Transit Plan 2014-2023*.

TRANSPORTATION AND CIRCULATION

On weekdays, Caltrain operates approximately 100 trains per day including local, limited stop, and express services in both directions. The Menlo Park Caltrain Station is located east of El Camino Real between Ravenswood Avenue and Santa Cruz Avenue. Lockable, sheltered bike parking is provided adjacent to the station platform, and bus and shuttle access is provided at the nearby bus transfer facility. Caltrain services the Menlo Park Station with three (3) types of commuter-rail service: Local, Limited Stop, and Baby Bullet. During peak hours, Caltrain runs Local and Limited Stop service every six (6) minutes to 54 minutes, with an average interval of 32 minutes. For northbound service, three (3) Baby Bullet trains operate in the evening peak, and southbound trains have Baby Bullet service in the morning peak. Caltrain allows residents to connect with job centers around the Silicon Valley, as well as San Francisco and San Jose.

Caltrain Short-Range Transit Plan

Planned short-range improvements to Caltrain focus on a strategy called the State of Good Repair which will concentrate on a systematic approach in optimizing the current system's condition and performance.[15] These planned improvements include upgrading signaling and communications systems, replacing old bridges, enhancing approach speeds and flexibility at the San Francisco terminus, and eliminating all of the remaining hold-out stations. Hold-out stations are areas where trains are required to wait while another train is in the main station and therefore increase service delays. Planned long-range improvements to Caltrain include electrification of the entire line to improve operating efficiency and provide environmental benefits. Caltrain planning efforts are being curtailed by their current financial constraints.

City of Menlo Park Shuttles

Two free employee shuttles are provided between the Menlo Park Caltrain station and Marsh Road/Willow Road office buildings during the commute hours. The Marsh Road Shuttle and Willow Road Shuttle, operated by the City of Menlo Park during the AM and PM peak hours, take passengers from Caltrain to their workplaces, schools, shopping, or appointments. These two shuttles are funded jointly by C/CAG, Peninsula Corridor Joint Powers Board, and the City of Menlo Park and local employers. The shuttles operate based on the Caltrain schedule.

The City provides a free Midday Shuttle during weekdays approximately every hour. The Midday Shuttle is a community service route open to the general public, focusing on the senior community. The major stops include Menlo Park Library, Belle Haven library, Menlo Park Senior Center, downtown Menlo Park, Caltrain, Menlo Medical Clinic, Safeway, Little House, Stanford Shopping Center, and Stanford Medical Center. The shuttle stops at all SamTrans stops. It is also a flag down service for the convenience of passengers.

For residents who do not live within an easy walking distance of a SamTrans stop or the Midday Shuttle stop, Menlo Park offers a shuttle service that picks up passengers at their homes and provides rides to specific shopping areas, the Shoppers Shuttle.[16] The Shoppers Shuttle is specifically designed to accommodate seniors, operating three days per week to Sharon Heights Safeway, downtown Menlo Park,

[15] Peninsula Corridor Joint Powers Board (Caltrain), 2008. *Short Range Transit Plan 2008-2017*.

[16] City/County Association of Governments of San Mateo (C/CAG), Final San Mateo County Congestion Management Program (CMP) 2015. http://ccag.ca.gov/programs/transportation-plans/congestion-management/, accessed on May 9, 2016.

and Stanford Shopping Center. The Shoppers Shuttle can accommodate two wheelchairs and multiple walkers, with operator assistance available for passengers with packages.

The City's shuttle program carried over 81,000 passengers in 2015, and service enhancements are being developed for 2016.

Other Transit Services

The Dumbarton Express Bus Service line DB and DB1, administered and governed by the AC Transit, serves commuters between Stanford University and the East Bay, via SR 84, Willow Road, and University Avenue. These bus routes cross the Dumbarton Bridge with stops near the project site on Willow Road. Both routes provide service between Menlo Park from Union City BART Station with different operational hours. The Marguerite Shuttle is Stanford's free public shuttle service, which travels around campus and connects to nearby transit, shopping, dining, and entertainment. The main shuttle lines traverse the campus Monday through Friday all year (except university holidays). Private developers (e.g., Facebook and Tarlton Properties) also provide shuttle services for their employees.

Airport Land Use Comprehensive Plans

The City of Menlo Park does not host any public or private airports or airstrips. Menlo Park is located approximately 6 miles to the northwest of Moffet Federal Airfield, 14 miles to the northwest of the San Jose International Airport, 15 miles to the southeast of San Francisco International Airport, and 18 miles to the south of Oakland International Airport. The study area is also located in close proximity to two smaller airports; with portions of Menlo Park as near as 2 miles from the Palo Alto Airport and other areas of the study area as near as approximately 4 miles from the San Carlos Airport. Additional small airports in the vicinity include the Hayward Executive Airport, at 11 miles away, and the Half Moon Bay airport, at 16 miles away.

The Comprehensive Land Use Plan (CLUP) for the Palo Alto Airport was adopted by the Santa Clara County Airport Land Use Commission in 2008. The CLUP is intended to safeguard the general welfare of the inhabitants within the vicinity of Palo Alto Airport and ensure that new surrounding uses do not affect continued safe airport operation. Specifically, the CLUP seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace.[17] Menlo Park does not fall within the Airport Influence Area of this facility, and none of the noise or safety zones for the Palo Alto airport fall within the boundaries of Menlo Park; however, extreme eastern portions of Menlo Park in the vicinity of O'Connor Street and Byers Avenue fall within the 354-foot FAR Part 77 Surfaces for the Palo Alto Airport.[18]

[17] Santa Clara County Airport Land Use Commission, 2008. *Comprehensive Land Use Plan Santa Clara County,* page 1-1, November 19, 2008.

[18] Santa Clara County Airport Land Use Commission, 2008. *Comprehensive Land Use Plan Santa Clara County,* Figures 4, 5, 6, 7, and 8, November 19.

4.13.1.3 TRAFFIC ANALYSIS OVERVIEW

This section presents the methods used to determine Existing (2014) and Cumulative (2040) traffic conditions, including descriptions of the data requirements and analysis methodologies.

Analysis Scenarios

The following traffic analysis scenarios are described in this chapter:

- 2014 Existing Conditions: This scenario evaluates the existing traffic demand volumes on local roads and freeway segments based on counts collected in Fall 2014 and existing lane configurations.
- 2040 No Project Conditions: This scenario evaluates the projected conditions in 2040 with the cumulative projects, including the Facebook Campus Expansion project, and the remaining General Plan buildout potential.
- 2040 Plus Project Conditions: This scenario evaluates the projected conditions in 2040 with the cumulative projects, including the Facebook Campus Expansion project, plus the ongoing development potential under the Current General Plan and the proposed new development potential in the Bayfront Area under the proposed project.

Travel Demand Modeling Methodology

Menlo Park City Model

A new Menlo Park City Travel Demand Model (MPM) was developed for the purposes of developing traffic forecasts for analysis of the proposed project. The MPM is based on the latest C/CAG Model developed by the VTA. The most current version of C/CAG Model, received on July 19, 2015, was still under development by VTA at that time. Three model years – namely, 2013, 2020, and 2040 – of the C/CAG model were obtained. The same land use data categories, modeling technical assumptions, time-of-day, and regional origin-destination travel patterns as in the current C/CAG Model were maintained in the MPM model to ensure consistency with the regional forecasts.

The C/CAG model incorporates regional housing and jobs data and future-year forecasts for 2040 – derived from the VTA and MTC models – to ensure that the MPM takes into account the regional nature of travel patterns affecting Menlo Park. The MPM outputs were utilized to determine the net change in VMT and traffic volumes that would occur under each analysis scenario.

The MPM model is suitable for forecasting realistic peak hour traffic volumes, travel speeds, and travel times on local roadways and intersections due to future congestion within the City sphere of influence. The MPM model also produces VMT information for the entire trip length required by SB 743 guidelines because the trip generation, distribution, and mode choice models were done at the regional scale. VMT methodology is discussed more under the subheading “Vehicles Miles Traveled” below.

The zonal details in the Menlo Park city area were enhanced by nesting within the C/CAG Model refined traffic analysis zones (TAZs) to guarantee interoperability between the new TAZ structure and the regional model TAZs. The City of Menlo Park provided refined TAZ boundary definitions and land use data. The number of TAZs within city boundaries increased from 24 in the C/CAG Model to 80 in the MPM. The new

TAZ structure provides the detailed information required to support the traffic analysis for the proposed project.

The network details of local streets in the study area were enhanced based on the latest MTC Travel Model Two (TM2) network. The key link attributes required for demand modeling such as facility type, area type, and link class were coded to be consistent with the C/CAG model.

Dynamic Traffic Assignment (DTA)

A well-known issue with the static traffic assignment in traditional travel demand models is the overestimation of link volumes because physical congestion was not represented in vehicle routing. It is not unusual to see unrealistic volume-to-capacity ratios, sometimes greater than 1.5, in future conditions. This overestimation issue is especially problematic during peak hour congestion because not all trips can reach their destinations during the peak hour. A new Dynamic Traffic Assignment (DTA) methodology, that simulates the progression of vehicles on the network with physical congestion explicitly considered was used to provide a more realistic forecast of vehicle routing under peak hour congestion. Vehicles will reroute when a link is blocked, the volume-to-capacity ratios will rarely exceed one.

Thus, in addition to the C/CAG time-of-day models, a DTA Model for AM/PM peak hour conditions was developed to enhance the modeling of vehicle speed and vehicle miles traveled of projects under congested conditions on local streets. A subarea extraction procedure was conducted to obtain a citywide trip table that contains origin-destination trips between MPM TAZs and external stations that is consistent with regional origin-destination travel patterns in the C/CAG Model. The citywide trip tables were then assigned using the DTA peak hour model to obtain peak hour link volumes.

The MPM model is suitable for forecasting realistic peak hour traffic volumes, travel speeds, and travel times on local roadways and intersections due to future congestion within the city sphere of influence.

Intersection Level-of-Service Analysis Methodology

The operational performance of a roadway network is commonly described with the term level of service (LOS). Level of service is a qualitative description of operating conditions, ranging from LOS A (free flow traffic conditions with little or no delay) to LOS F (oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). The level-of-service analysis methods outlined in the Highway Capacity Manual (HCM) (Transportation Research Board, 2010) were used in this study. This methodology provides for more reliable analysis of actual intersection operations by incorporating characteristics such as the signal timing plan, the effects of pedestrians on signal phase duration, traffic volume peaking characteristics, motorist behavioral characteristics, and others. The 2010 HCM is used for assessing intersection operations and defining impacts, and allows for the definition of vehicular mitigation measures, such as lengthening or adding turning lanes, modifying the signal phasing or timing, and other options. The HCM methods for calculating level of service for signalized and unsignalized intersections are described below.

Signalized Intersections

Traffic operations at signalized intersections are evaluated using the level-of-service method described in the 2010 Highway Capacity Manual. A signalized intersection's level of service is based on the weighted

average control delay measured in seconds per vehicle. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. Table 4.13-2 summarizes the relationship between the control delay and LOS for signalized intersections.

TABLE 4.13-2 LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS

Level of Service	Description
A	Very low control delay, up to 10 seconds per vehicle. Progression is extremely favorable, and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	Control delay greater than 10 and up to 20 seconds per vehicle. There is good progression or short cycle lengths or both. More vehicles stop causing higher levels of delay.
C	Control delay greater than 20 and up to 35 seconds per vehicle. Higher delays are caused by fair progression or longer cycle lengths or both. Individual cycle failures may begin to appear. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflow occurs. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	Control delay greater than 35 and up to 55 seconds per vehicle. The influence of congestions becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Control delay greater than 55 and up to 80 seconds per vehicle. The limit of acceptable delay. High delays usually indicate poor progression, long cycle lengths, and high volumes. Individual cycle failures are frequent.
F	Control delay in excess of 80 seconds per vehicle. Unacceptable to most drivers. Oversaturation, arrival flow rates exceed the capacity of the intersection. Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay.

Source: Highway Capacity Manual, 2010.

Unsignalized Intersections

The level of service for unsignalized intersections (side-street or all-way stop controlled intersections) is also defined by the average control delay per vehicle (measured in seconds). The control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, delay is calculated for each stop-controlled movement and for the uncontrolled left turns, if any, from the main street.

At side-street stop-controlled intersection, delay and level of service are reported for the worst movement. At all-way stop-controlled intersections, delay and level of service are reported based on the intersection average including all approaches. Table 4.13-3 summarizes the relationship between delay and level of service for unsignalized intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections as drivers expect less delay at unsignalized intersections.

TABLE 4.13-3 LEVEL OF SERVICE DEFINITIONS FOR STOP-CONTROLLED INTERSECTIONS

Level of Service	Description
A	Very low control delay less than 10 seconds per vehicle for each movement subject to delay.
B	Low control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay.
C	Acceptable control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay.
D	Tolerable control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay.
E	Limit of tolerable control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay.
F	Unacceptable control delay in excess of 50 seconds per vehicle for each movement subject to delay.

Source: Highway Capacity Manual, 2010.

Vehicle Miles Traveled

In anticipation of the expected implementation of SB 743 and the transition to VMT analysis to determine environmental impacts rather than level of service, this analysis includes a discussion of VMT per capita for each scenario. VMT is a measure of the amount of miles travelled for a proposed development or area.

As discussed above in Section 4.13.1.1, Regulatory Framework, SB 743 requires impacts to transportation network performance to be viewed through a filter that promotes the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. VMT per capita was identified as the preferred metric in the Draft CEQA Guidelines for Transportation Analysis[19] published in January 2016.

VMT refers to trips multiplied by the trip distances. For purposes of the proposed project, all trips that either start or end in Menlo Park are accounted for in the VMT analysis. Generally, trips have two ends, in that every trip has an origin and a destination. The VMT estimate is based on total vehicle for trips occurring wholly within the city, and one-half of all vehicle miles for trips that begin or end outside the city. The other one-half of trips that begin or end outside the city is attributed to the location of that trip. Trips that are only passing through the city are not accounted for in Menlo Park's VMT estimate. However, the location of the trip origin and destination accounts for the VMT attributable for that trip.

VMT per capita is the VMT of the development or the area divided by the population and the number of jobs in the development or area. VMT estimates are sensitive to changes in land use. Generally, land uses that reflect a more balanced jobs-housing ratio result in lower per capita VMT.

[19] Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA; Implementing Senate Bill 743 (Steinberg, 2013). Available: www.opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf

TRANSPORTATION AND CIRCULATION

As previously discussed in Section 4.13.1.1, Regulatory Framework, VMT is an important metric in the evaluation and management of travel and congestion on both a regional and local level. For example, VMT is a key factor that influences transportation GHG emissions because the level of travel activity is a determinant of fuel consumption. VMT is also used in noise and air quality analyses because it provides an indication of the overall performance of the automobile and truck transportation system within the city. A greater VMT means more noise and more air pollution. For a discussion of VMT as it relates to air quality, GHG emissions and noise, see Chapter 4.2, Air Quality, Chapter 4.6, Greenhouse Gas, and Chapter 4.10, Noise, of this Draft EIR.

Study Locations

This section evaluates the impacts of the proposed project on 64 intersections and 87 roadway segments. The study area for the traffic analysis was selected based on consultation with City staff to capture the roadway facilities likely to experience impacts due to buildout of the proposed project.

Study Intersections

The 64 study intersections are shown in Table 4.13-4 by intersection number, name, control type jurisdiction. The level-of-service threshold for each intersection is also listed.

Study Roadway Segments

The study segments, shown in Table 4.13-5, were selected for analysis of average daily traffic (ADT) based on 24-hour traffic count data provided by the City. Table 4.13-5 is organized by segment number and name, the streets the segment is between and the City's street classification – either primary arterial, minor arterial, collector or local.

TABLE 4.13-4 STUDY AREA INTERSECTIONS AND LEVEL OF SERVICE (LOS) STANDARDS

No.	Intersection	Control Type	Jurisdiction	LOS Threshold
1	Sand Hill Road and I-280 NB Off-Ramp	Signal	Caltrans	D
2	Sand Hill Road and I-280 NB On-Ramp	Signal	Caltrans	D
3	Sand Hill Road and Addison-Wesley	Signal	Menlo Park	D
4	Saga Lane and Sand Hill Road	Signal	Menlo Park	D
5	Branner Drive and Sand Hill Road	Signal	Menlo Park	D
6	Sharon Park Drive and Sand Hill Road	Signal	Menlo Park	D
7	Alpine Road/Santa Cruz Avenue and Junipero Serra Boulevard	Signal	Menlo Park	D
8	Santa Cruz Avenue and Sand Hill Road	Signal	Menlo Park	D
9	Oak Avenue/Vine Road and Sand Hill Road	Signal	Menlo Park	D
10	Santa Cruz Avenue and Elder Avenue	Signal	Menlo Park	D
11	Valparaiso Avenue and University Drive	Signal	Menlo Park	D

TABLE 4.13-4 STUDY AREA INTERSECTIONS AND LEVEL OF SERVICE (LOS) STANDARDS

No.	Intersection	Control Type	Jurisdiction	LOS Threshold
12	Santa Cruz Avenue and University Drive (S)	Signal	Menlo Park	D
13	Oak Grove Avenue and Laurel Street	Signal	Menlo Park	C
14	Ravenswood Avenue and Laurel Street	Signal	Menlo Park	D
15	Middlefield Road and Ravenswood Avenue	Signal	Menlo Park	D
16	Middlefield Road and Ringwood Avenue	Signal	Menlo Park	D
17	Middlefield Road and Willow Road	Signal	Menlo Park	D
18	Willow Road and Gilbert Avenue	Signal	Menlo Park	D
19	Willow Road and Coleman Avenue	Signal	Menlo Park	D
20	Willow Road and Durham Street	Signal	Menlo Park	D
21	Marsh Road and Bay Road	Signal	Menlo Park	D
22	Marsh Road and Bohannon Drive	Signal	Menlo Park	D
23	Marsh Road and Scott Drive	Signal	Menlo Park	D
24	El Camino Real and Encinal Avenue	Signal	Caltrans	D
25	El Camino Real and Glenwood Avenue	Signal	Caltrans	D
26	El Camino Real and Oak Grove Avenue	Signal	Caltrans	D
27	El Camino Real and Santa Cruz Avenue	Signal	Caltrans	D
28	El Camino Real and Ravenswood Avenue	Signal	Caltrans	D
29	El Camino Real and Roble Avenue	Signal	Caltrans	D
30	El Camino Real and Middle Avenue	Signal	Caltrans	D
31	El Camino Real and Cambridge Avenue	Signal	Caltrans	D
32	Willow Road and Bay Road	Signal	Menlo Park	D
33	Willow Road and Newbridge Street	Signal	Caltrans	D
34	Willow Road and O'Brien Drive	Signal	Caltrans	D
35	Willow Road and Ivy Drive	Signal	Caltrans	D
36	Willow Road and Hamilton Avenue	Signal	Caltrans	D
37	Willow Road and Bayfront Expressway	Signal	Caltrans (CMP)	D
38	Bayfront Expressway and University Avenue	Signal	Caltrans (CMP)	D
39	University Avenue and O'Brien Drive	Signal	Caltrans	D
40	Bayfront Expressway (SR 84) and Chilco Street	Signal	Caltrans	D
41	Bayfront Expressway (SR 84) and Chrysler Drive	Signal	Caltrans	D
42	Bayfront Expressway and Marsh Road	Signal	Caltrans (CMP)	D
43	Marsh Road and US 101 SB	Signal	Caltrans	D
44	Marsh Road and US 101 NB	Signal	Caltrans	D

TABLE 4.13-4 STUDY AREA INTERSECTIONS AND LEVEL OF SERVICE (LOS) STANDARDS

No.	Intersection	Control Type	Jurisdiction	LOS Threshold
45	Chilco Street and Constitution Drive	All Way Stop	Menlo Park	C
46	Chrysler Drive and Constitution Drive	All Way Stop	Menlo Park	C
47	University Avenue and Adams Drive	Side-street Stop	Caltrans	D
48	Chrysler Drive and Jefferson Drive	Side-street Stop	Menlo Park	C
49	Chrysler Drive and Independence Drive	Side-street Stop	Menlo Park	C
50	Jefferson Drive and Constitution Drive	Side-street Stop	Menlo Park	C
51	University Avenue and Bay Road	Signal	East Palo Alto	D
52	University Avenue and Runnymede Street	Signal	East Palo Alto	D
53	University Avenue and Bell Street	Signal	East Palo Alto	D
54	University Avenue and Donohoe Street	Signal	Caltrans	D
55	US 101 NB Ramps and Donohoe Street	Signal	Caltrans	D
56	University Avenue and US 101 SB Ramps	Signal	Caltrans	D
57	University Avenue and Woodland Avenue	Signal	East Palo Alto	D
58	University Avenue and Middlefield Road	Signal	Palo Alto	D
59	Middlefield Road and Lytton Avenue	Signal	Palo Alto	D
60	Chilco Street and Hamilton Avenue	All-way Stop	Menlo Park	C
61	Chilco Street and Terminal Avenue	All-way Stop	Menlo Park	C
62	Chilco Street and Ivy Drive	All-way Stop	Menlo Park	C
63	Chilco Street and Newbridge Street	All-way Stop	Menlo Park	C
64	Marsh Road and Middlefield Road	Signal	Menlo Park	D

Notes: CMP = C/CAG Congestion Management Plan
Source: TJKM Transportation Consultants May 2016.

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
1	Alameda de las Pulgas	Avy Avenue	Santa Cruz Avenue	Minor Arterial	12,450
2[a]	Alameda de las Pulgas	Valparaiso Avenue	Avy Avenue	Minor Arterial	15,330
3[a]	Alameda de las Pulgas	City Limit	Valparaiso Avenue	Minor Arterial	16,140
4	Alma Street	Ravenswood Avenue	Oak Grove Avenue	Collector	1,640
5	Alma Street	Willow Road	Ravenswood Avenue	Collector	3,240
6	Alpine Road	City Limit	Junipero Serra Boulevard	Minor Arterial	23,310
7[b]	Avy Avenue	City Limit	Alameda de las Pulgas	Collector	4,610
8	Avy Avenue	Alameda de las Pulgas	Santa Cruz Avenue	Collector	5,940
9	Bay Road	Greenwood Drive	Marsh Road	Collector	5,550
10	Bay Road	Ringwood Avenue	Greenwood Drive	Collector	5,660
11	Bay Road	Willow Road	Ringwood Avenue	Collector	7,580
12	Bohannon Drive	Campbell Avenue	Marsh Road	Collector	3,910
13	Chilco Street	Constitution Drive	Bayfront Expressway	Collector	7,000
14	Chrysler Drive	Constitution Drive	Bayfront Expressway	Collector	4,070
15	Constitution Drive	Chilco Street	Chrysler Drive	Collector	2,360
16	Crane Street	Oak Grove Avenue	Santa Cruz Avenue	Collector	2,660
17	Crane Street	Santa Cruz Avenue	Menlo Avenue	Collector	2,420
18	Encinal Avenue	El Camino Real	Laurel Street	Collector	5,600
19	Encinal Avenue	Laurel Street	Middlefield Road	Collector	4,950
20	Glenwood Avenue	El Camino Real	Laurel Street	Collector	5,980
21	Hamilton Avenue	Willow Road	Chilco Street	Collector	2,770
22	Haven Avenue	Bayfront Expressway/Marsh Road	City Limit	Collector	7,400
23	Junipero Serra Boulevard	City Limit	Alpine Road	Primary Arterial	16,010
24	Laurel Street	Oak Grove Avenue	Glenwood Avenue	Collector	4,060
25	Laurel Street	Ravenswood Avenue	Oak Grove Avenue	Collector	4,410

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
26	Laurel Street	Willow Road	Ravenswood Avenue	Collector	4,470
27	Marsh Road	City Limit	Bay Road	Minor Arterial	22,850
28	Marsh Road	Bay Road	Bohannon Drive	Primary Arterial	25,830
29	Marsh Road	Bohannon Drive	Scott Drive	Primary Arterial	32,410
30	Menlo Avenue	University Avenue	Crane Street	Collector	7,360
31	Menlo Avenue	Crane Street	El Camino Real	Collector	8,650
32	Middle Avenue	Olive Street	University Drive	Collector	7,250
33	Middle Avenue	University Drive	El Camino Real	Collector	8,920
34[b]	Middlefield Road	Ravenswood Avenue	Oak Grove Avenue	Minor Arterial	14,760
35	Middlefield Road	Willow Road	Ravenswood Avenue	Minor Arterial	19,690
36	Middlefield Road	City Limit	Willow Road	Minor Arterial	18,420
37	Newbridge Street	Willow Road	Chilco Street	Collector	7,070
38	Oak Grove Avenue	University Drive	Crane Street	Collector	6,360
39	Oak Grove Avenue	Crane Street	El Camino Real	Collector	7,700
40	Oak Grove Avenue	El Camino Real	Laurel Street	Collector	9,570
41	Oak Grove Avenue	Laurel Street	Middlefield Road	Collector	8,650
42	O'Brien Drive	Kavanaugh Drive	Willow Road	Collector	6,370
43	O'Brien Drive	University Avenue	Kavanaugh Drive	Collector	3,280
44	Ravenswood Avenue	El Camino Real	Alma Street	Minor Arterial	23,980
45	Ravenswood Avenue	Alma Street	Laurel Street	Minor Arterial	18,760
46	Ravenswood Avenue	Laurel Street	Middlefield Road	Minor Arterial	16,550
47[a]	Ringwood Avenue	Middlefield Road	Bay Road	Collector	7,300
48	Sand Hill Road	I-280	Sharon Park Drive	Primary Arterial	28,050
49	Sand Hill Road	Santa Cruz Avenue	Sharon Park Drive	Primary Arterial	30,790
50	Sand Hill Road	Santa Cruz Avenue	City Limit	Minor Arterial	32,740

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
51	Santa Cruz Avenue	Junipero Serra Blvd.	Sand Hill Road	Minor Arterial	26,480
52[a]	Santa Cruz Avenue	Sand Hill Road	Alameda de las Pulgas	Minor Arterial	23,230
53	Santa Cruz Avenue	Alameda de las Pulgas	Avy Avenue/Orange Avenue	Minor Arterial	10,900
54	Santa Cruz Avenue	Avy Avenue/Orange Avenue	Olive Street	Minor Arterial	14,520
55	Santa Cruz Avenue	Olive Street	University Drive	Minor Arterial	15,320
56	Santa Cruz Avenue	University Drive	Crane Street	Minor Arterial	7,620
57	Santa Cruz Avenue	Crane Street	El Camino Real	Minor Arterial	7,370
58	Scott Drive	Marsh Road	Campbell Avenue	Collector	4,820
59	Sharon Park Drive	Sand Hill Road	Sharon Road	Collector	9,970
60	Sharon Road	Sharon Park Drive	Alameda de las Pulgas	Collector	3,780
61	University Drive	Middle Avenue	Menlo Avenue	Collector	5,840
62	University Drive	Menlo Avenue	Santa Cruz Avenue	Collector	9,310
63	University Drive	Santa Cruz Avenue	Oak Grove Avenue	Collector	7,160
64	University Drive	Oak Grove Avenue	Valparaiso Avenue	Collector	5,110
65	Valparaiso Avenue	Alameda de las Pulgas	Cotton Street	Minor Arterial	12,050
66	Valparaiso Avenue	Cotton Street	University Avenue	Minor Arterial	14,440
67	Valparaiso Avenue	University Drive	El Camino Real	Minor Arterial	13,010
68	Willow Road	Alma Street	Laurel Street	Collector	3,360
69	Willow Road	Laurel Street	Middlefield Road	Collector	5,250
70	Willow Road	Middlefield Road	Gilbert Avenue	Collector	24,330
71	Chilco Street	Hamilton Avenue	Terminal Avenue	Collector	4,780
72	Chilco Street	Ivy Drive	Hamilton Avenue	Collector	2,650
73	Chilco Street	Newbridge Street	Ivy Drive	Collector	2,110
74	Hamilton Avenue	Willow Road	Hamilton Court	Collector	2,640
75	Willow Road	Gilbert Avenue	Coleman Avenue	Minor Arterial	24,350

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
76	Willow Road	Coleman Avenue	Durham Street	Minor Arterial	41,190
77	Willow Road	Durham Street	Bay Road	Minor Arterial	34,150
78	Chilco Street	Terminal Avenue	Constitution Drive	Collector	5,100
79	Chrysler Drive	Constitution Drive	Independence Drive	Collector	3,270
80	Chrysler Drive	Independence Drive	Commonwealth Drive	Collector	1,110
81	Adams Drive	University Drive	Adams Court	Local	1,260
82	Olive Street	Santa Cruz Avenue	Middle Avenue	Local	2,450
83	Olive Street	Middle Avenue	Oak Avenue	Local	3,050
84	Cambridge Avenue	University Drive	El Camino Real	Local	1,600
85	Linfield Drive	Middlefield Road	Waverley Street	Local	1,760
86	Waverley Street	Laurel Street	Linfield Drive	Local	1,650
87	Ivy Drive	Chilco Street	Willow Road	Local	3,200

a. San Mateo County jurisdiction
b. Town of Atherton jurisdiction
Source: TJKM Transportation Consultants, January 2016.

4.13.1.4 2014 EXISTING CONDITIONS

This scenario evaluates each of the study locations based on existing traffic volumes, controls, and lane geometries. As previously described under Section 4.13.1.3, Traffic Analysis Overview, this scenario evaluates the existing traffic demand volumes on local roads and freeway segments based on counts collected in Fall 2014 and existing lane configurations. Buildout under 2014 Existing conditions is shown in Table 3-2 in Chapter 3, Project Description, of this Draft EIR.

Vehicle Miles Traveled

The MPM model was utilized to provide an estimate of VMT for vehicle trips beginning and/or ending in Menlo Park. The VMT estimate is based on total vehicle for trips within the city, and one-half of all vehicle miles for trips that begin or end outside the city. Per capita VMT is based on VMT divided by the population (both residents and number of jobs within the city). Table 4.13-6 summarizes the estimated daily VMT per capita under 2014 Existing conditions. As shown, the VMT per capita under 2014 Existing conditions is 15 miles per person. In comparison to the regional average, VMT per person described in the 2013 *Plan Bay Area* EIR is 20.8 miles per person.

TABLE 4.13-6 2014 EXISTING DAILY VEHICLE MILES TRAVELED (VMT) PER CAPITA

Analysis Scenarios	VMT	Residents	Jobs	VMT Per Capita
Existing Conditions	934,722	32,900	30,900	15

Source: TJKM Transportation Consultants, January 2016.

Roadway Segments Daily Traffic Volumes

The 2014 Existing daily traffic volumes on all study segments are shown in Table 4.13-5 above. Key findings, as applicable by street classification, are as follow:

- City Arterials:
  City arterial streets that carry more than 18,000 daily vehicles include:
  - Willow Road (41,200 daily vehicles between Coleman Avenue and Durham Street).
  - Marsh Street (32,700 daily vehicles between Bohannon and Scott Drive).
  - Sand Hill Road (30,800 daily vehicles between Sharon Park Drive and Santa Cruz Avenue).
  - Ravenswood Avenue (24,600 daily vehicles between El Camino Real and Alma Street).
  - Middlefield Road (19,700 daily vehicles between Willow Road and Ravenswood Avenue).

  City arterial streets that carry fewer than 18,000 daily vehicles include:
  - Segments of Santa Cruz Avenue (volumes range from 7,000 to just over 15,000 daily vehicles).
  - Alameda de las Pulgas, which carries 12,500 vehicles near Santa Cruz Avenue.
- City Collectors: Four out of 50 collector study segments exceed 9,000 daily vehicles under existing conditions. The majority of collector study segments carry between 3,000 and 9,000 daily vehicles.

- Local Streets: Six out of the seven local street study segments carry more than 1,350 daily vehicles under existing conditions, with volumes ranging from 1,600 daily vehicles on Cambridge Avenue to 3,200 daily vehicles on Ivy Drive; the seventh local street segment, Adams Drive, currently carries just under 1,300 daily vehicles.

Peak Hour Traffic Operations

The 2014 Existing operations of the study intersections were evaluated for the highest one-hour volume during the weekday morning and evening peak periods. Turning movement counts for vehicles, bicycles, and pedestrians were conducted during typical weekday AM and PM peak periods (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m., respectively) at the study intersections in Fall 2014.

Appendix K of this Draft EIR includes all data sheets for the collected vehicle, bicycle, and pedestrian counts.

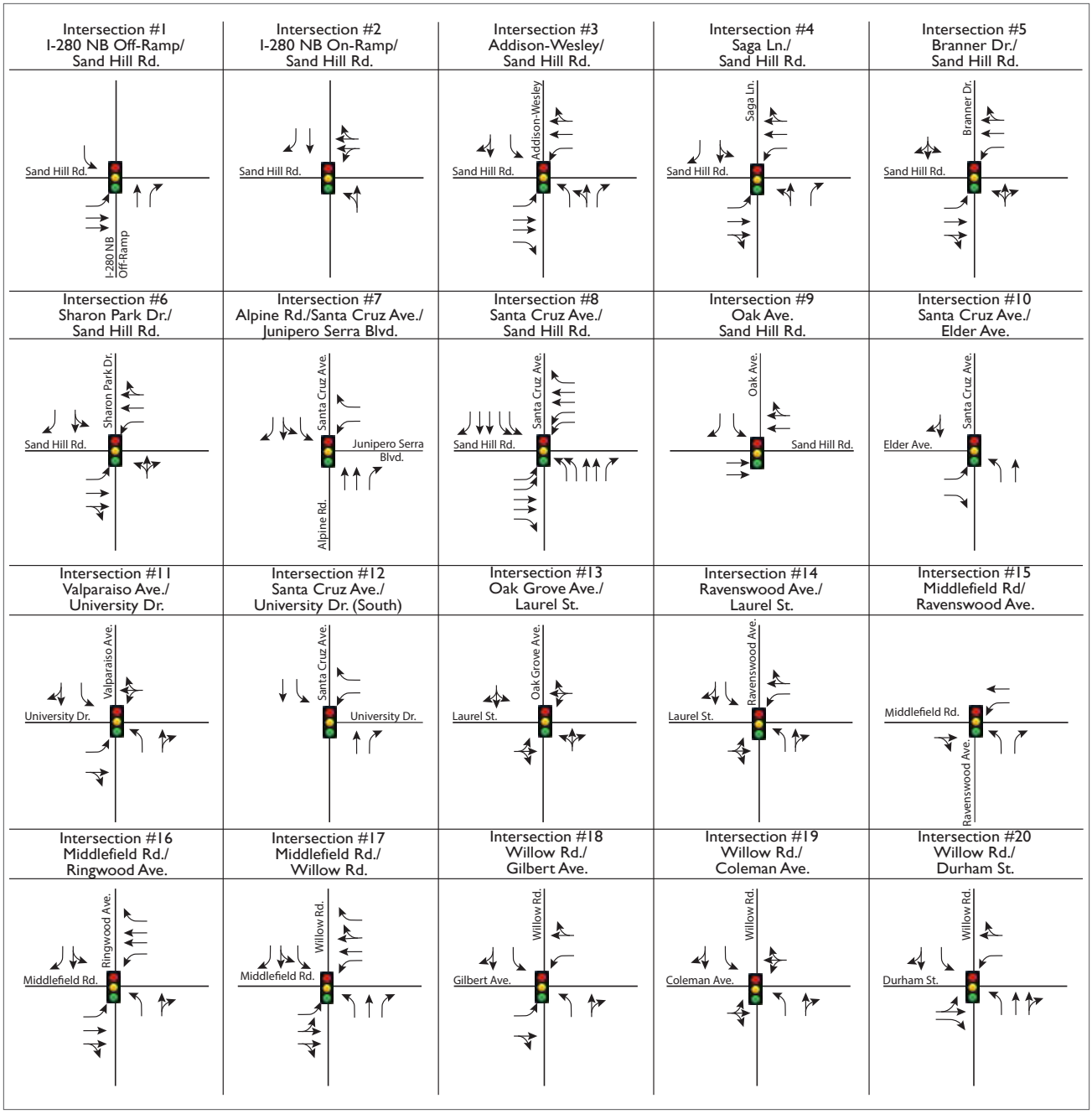
Traffic operations for the study intersections were evaluated under 2014 Existing for the weekday AM and PM peak hours based on the turn movement count data. 2014 Existing lane configurations, signal timings, and peak hour turning movement volumes were used to calculate the levels of service for the study intersections during each peak hour.

Figures 4.13-5a, 4.13-5b and 4.13-5c illustrate the existing lane configurations and traffic control at each study intersection. Figures 4.13-6a, 4.13-6b and 4.13-6c illustrate the existing peak hour vehicle turning movement volumes, lane geometry, and traffic controls at each study intersections. City of Menlo Park staff provided the signal timing sheets for each signalized intersection. Observed peak hour factors were used for all intersections for the existing conditions analysis.

Detailed LOS calculations are contained in Appendix K of this Draft EIR.

Along the Willow Road corridor – from Bayfront Expressway to Middlefield Road – City staff indicated that that counted traffic volumes do not appropriately reflect demand, and isolated intersection operations limit the ability of the Vistro program to capture these results. Therefore, instead of calculated level of service, the level of service results are based on level of service as identified by the City to reflect "unserved demand."[20] Specifically, this pertains to study intersections #s 17 through 20, and 32 through 38 during one or both peak hours, as described in the references to unserved demand summarized below. The 2014 Existing peak hour level of service for each study intersection is illustrated on Figure 4.13-7 and summarized in Appendix K of this Draft EIR. All study intersections currently operate at acceptable levels with the exception of 18 intersections. Table 4.13-7 includes a list of the 18 intersections that are currently operating at unacceptable levels under 2014 Existing conditions.

[20] Unserved demand refers to the upstream and downstream congestion results in delay that are not captured by VISTRO analysis.



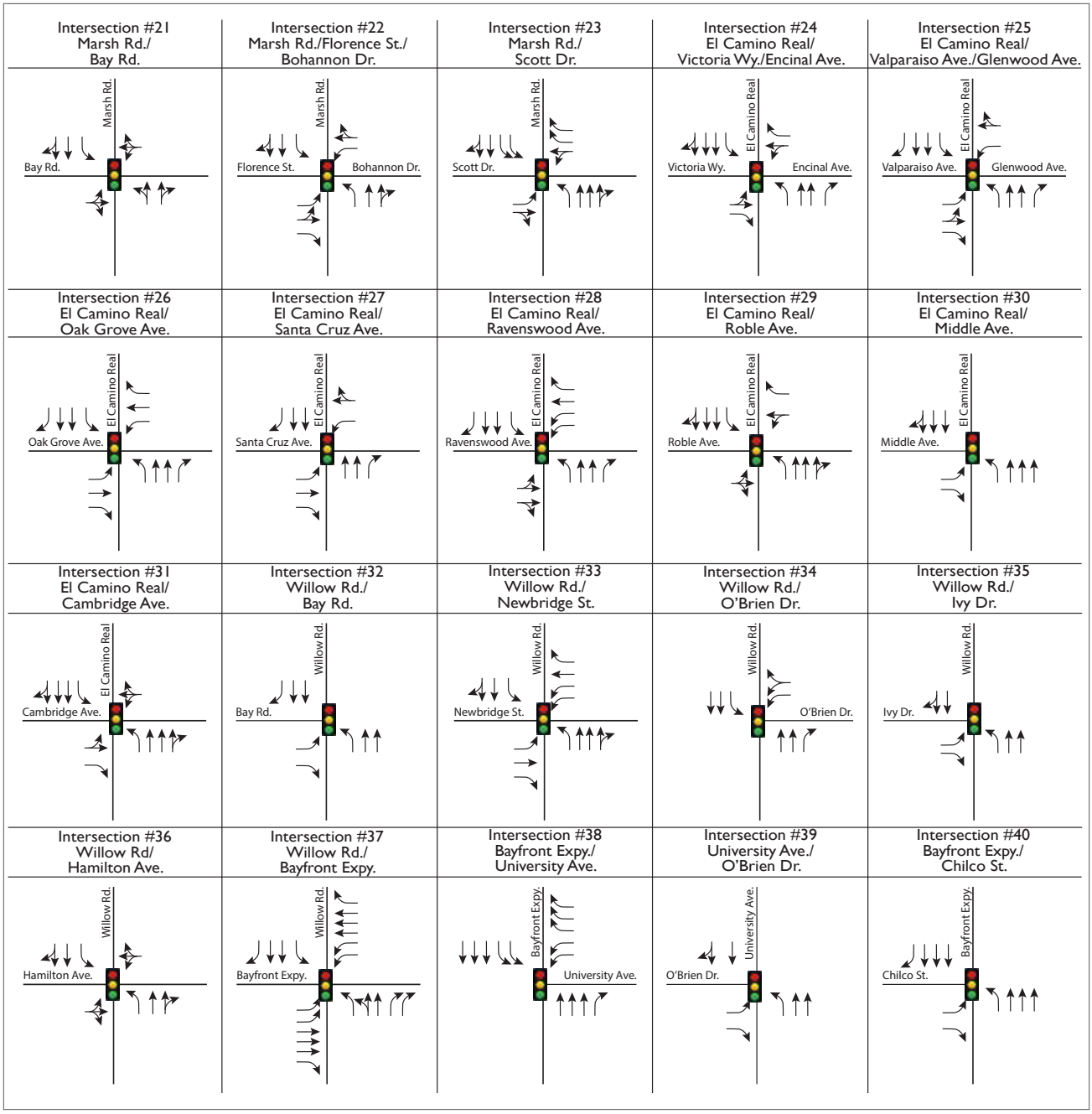
Source: TJKM, 2016.

Traffic Signal

Stop Sign

Figure 4.13-5a

2014 Existing Lane Geometry and Signal Controls



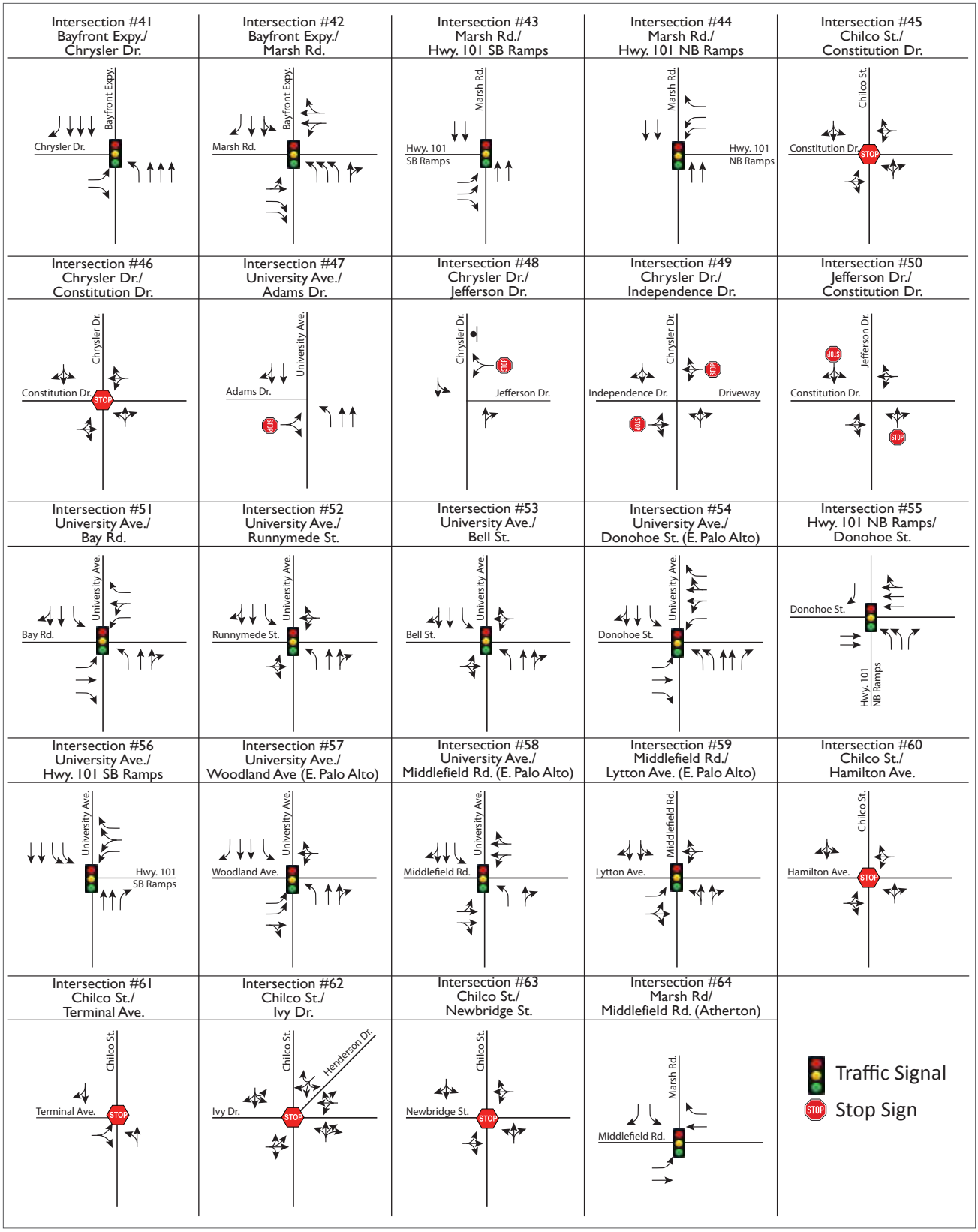
Source: TJKM, 2016.

Traffic Signal

Stop Sign

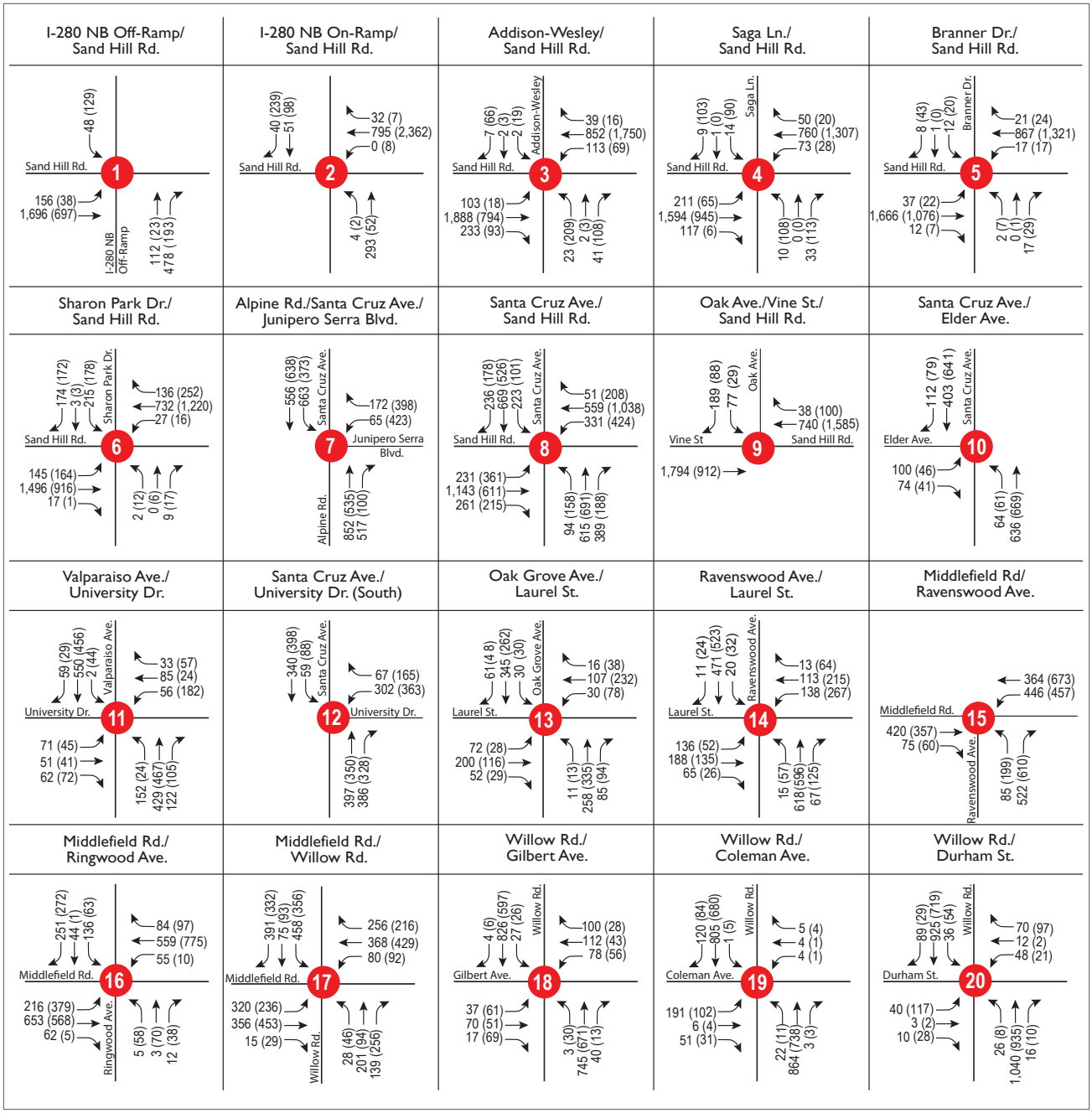
Figure 4.13-5b

2014 Existing Lane Geometry and Signal Controls



Source: TJKM, 2016.

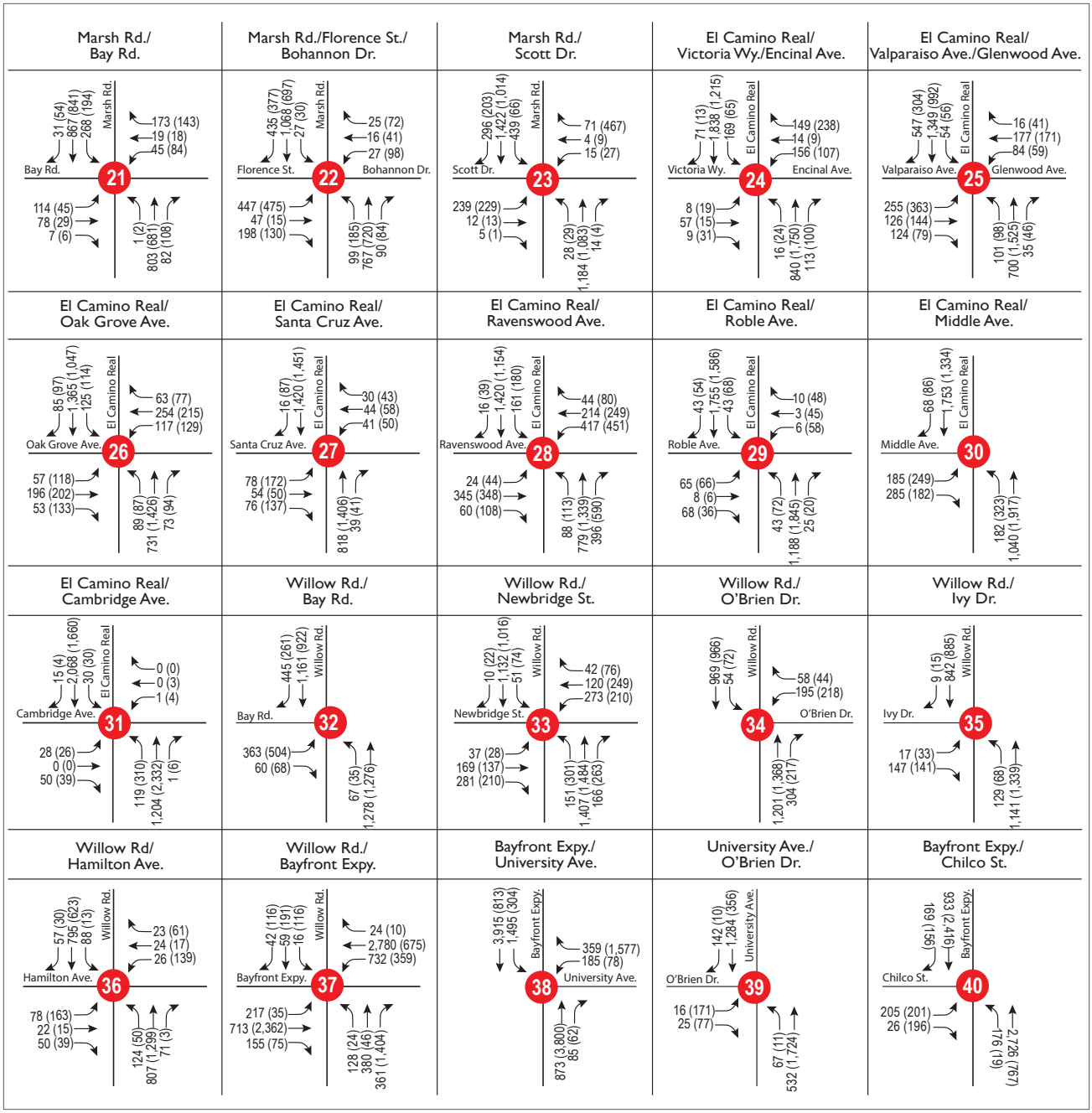
Figure 4.13-5c
2014 Existing Lane Geometry and Signal Controls



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

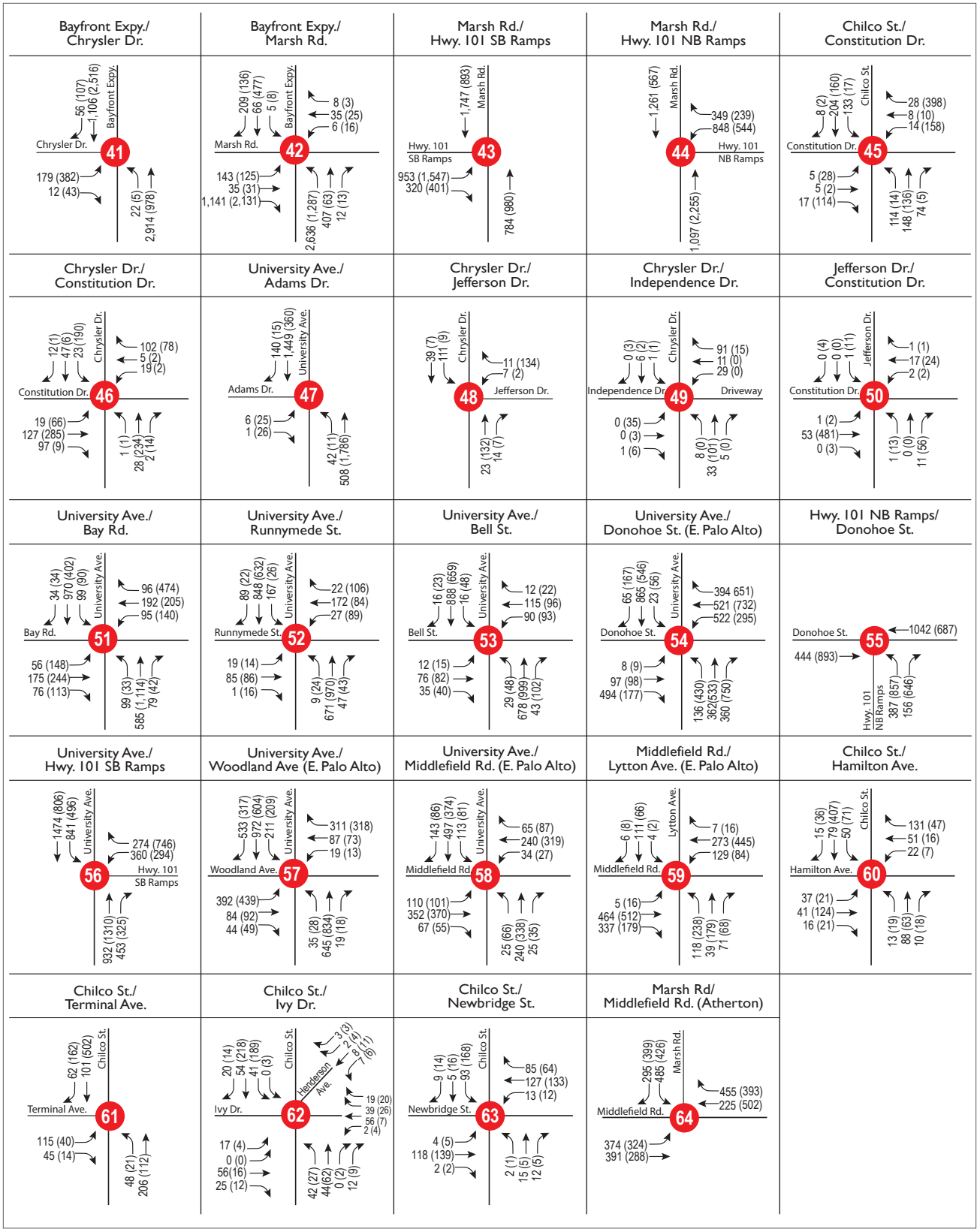
Figure 4.13-6a
2014 Existing Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

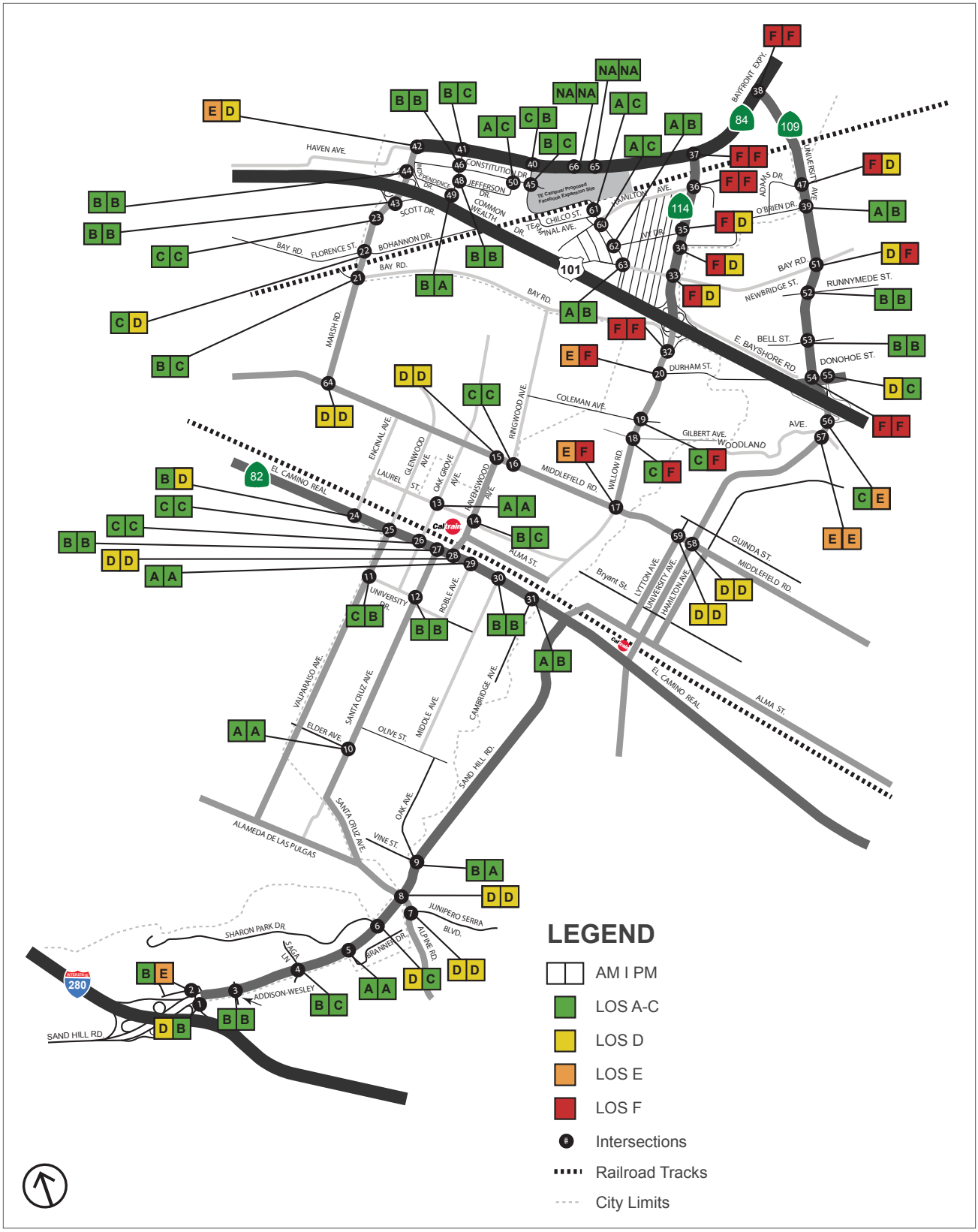
Figure 4.13-6b
2014 Existing Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

Figure 4.13-6c
2014 Existing Traffic Volumes



Source: TJKM, 2016.

Figure 4.13-7
2014 Existing Intersection LOS

TABLE 4.13-7 UNACCEPTABLE PEAK HOUR INTERSECTION LEVEL OF SERVICE OPERATIONS UNDER 2014 EXISTING CONDITIONS

			AM		PM		
No.	Intersection	LOS Threshold	LOS	Delay (sec)	LOS	Delay (sec)	Notes
2	Sand Hill Rd. and Hwy 280 NB On-Ramp	D	B	14.5	**E**	**74.0**	n/a
17	Middlefield Rd. and Willow Rd.	D	**E**	**61.9**	**F**	**>80***	During the PM peak hour, this finding reflects unserved demand due to delay approaching the intersection that are not measured by the VISTRO delay calculations
18	Willow Rd. and Gilbert Ave.	D	C	20.7	**F**	**>80***	During the PM peak hour, this finding reflects unserved demand
19	Willow Rd. and Coleman Ave.	D	C	21.1	**F**	**>80***	During the PM peak hour, this finding reflects unserved demand
20	Willow Rd. and Durham St.	D	**E**	**>55***	**F**	**>80***	During both the AM and PM peak hour, this finding reflects unserved demand
32	Willow Rd. and Bay Rd.	D	**F**	**>80***	**F**	**>80***	During both the AM and PM peak hour, this finding reflects unserved demand
33	Willow Rd. and Newbridge St.	D	**F**	**>80***	D	38.0	During the AM peak hour, this finding reflects unserved demand due to upstream and downstream queues (southbound approaching the US 101 ramps)
34	Willow Rd. and O'Brien Dr.	D	**F**	**>80***	D	>35*	During the AM peak hour, this finding reflects unserved demand due to upstream and downstream queues (southbound approaching the US 101 ramps)
35	Willow Rd. and Ivy Dr.	D	**F**	**>80***	D	>35*	During the AM peak hour, this finding reflects unserved demand due to upstream and downstream queues (southbound approaching the US 101 ramps)
36	Willow Rd. and Hamilton Ave.	D	**F**	**>80***	**F**	**>80***	During both the AM and PM peak hour, this finding reflects unserved demand
37	Willow Rd. and Bayfront Expwy.	D	**F**	**>80***	**F**	**>80***	During the PM peak hour, this finding reflects unserved demand affecting the northbound right-turn movements
38	Bayfront Expwy. and University Ave.	D	**F**	**>80***	**F**	**>128.3**	During the AM peak hour, this finding reflects unserved demand affecting the westbound left-turn movement
42	Bayfront Expwy. and Marsh Rd.	D	**E**	**65.0**	D	44.0	n/a
47	University Ave. and Adams Dr.	D	**F**	**>50**	D	33.2	Level of service at this side-street controlled intersection reflects delay to the low-volume side-street on Adams Drive approaching the stop-sign
51	University Ave. and Bay Rd.	D	D	38.0	**F**	**100.6**	n/a
54	University Ave. and Donohoe St.	D	**F**	**115.5**	**F**	**128.8**	n/a
56	University Ave. and US 101 SB Ramps	D	C	30.9	**E**	**59.3**	n/a
57	University Ave. and Woodland Ave.	D	**E**	**58.6**	**F**	**71.2**	n/a

Notes: Bold and highlighted indicates unacceptable LOS. LOS=Level of Service. Delay=average control delay per vehicle. (Delay at side-street stop-controlled intersections is shown for worst movement.)
*Indicates LOS based on "unserved demand." At these locations, upstream & downstream congestion results in delay not captured by VISTRO analysis.
Source: TJKM Transportation Consultants, May 2016.

4.13.1.5 2040 NO PROJECT CONDITIONS

This section describes traffic conditions that would occur in 2040 without the adoption of the proposed project, as described in Chapter 3, Project Description, of this Draft EIR. Therefore, this scenario is called the "2040 No Project" scenario. As previously described under Section 4.13.1.3, Traffic Analysis Overview, this scenario evaluates the projected conditions in 2040 with the cumulative projects, including the Facebook Campus Expansion project, and the remaining General Plan buildout potential. Buildout under the No Project conditions is shown in Table 3-2 in Chapter 3, Project Description, of this Draft EIR.

A significant transportation project scheduled for Menlo Park under the 2040 No Project conditions is the reconstruction of the Willow Road and US 101 interchange, including future signalized intersections at the junction of the ramps and Willow Road. The project is anticipated to be completed by 2018.

Existing lane configurations, signal timings, and peak hour turning movement volumes would remain at most study intersections. However, improvement projects that are planned and funded are assumed to be in place under the 2040 No Project conditions, including those that would expand approach capacity at the following study intersection locations:

- Bayfront Expressway and Chilco Street (#40): planned installation of a second northbound left-turn lane and a longer right-lane in conjunction with bicycle lane modifications and installation of a crosswalk across the south leg of the intersection.
- Bayfront Expressway and Chrysler Drive (#41): planned installation of a second northbound left-turn lane and a longer right-lane in conjunction with installation of a crosswalk across the south leg of the intersection.
- Bayfront Expressway and Marsh Road (#40): planned installation of a third eastbound right-turn lane.
- Chrysler Drive and Constitution Drive (#46): installation of a traffic signal.

Additional improvements that have been identified as mitigation measures necessary for the Facebook Campus Expansion Project, that is currently undergoing separate environmental review, are not assumed to be in place in this analysis, since the Facebook Campus Expansion Project has not been approved at the time of the preparation of this Draft EIR.

Vehicle Miles Traveled

The MPM model was utilized to provide an estimate of VMT for vehicle trips beginning and/or ending in Menlo Park. The VMT estimate is based on total vehicle trips within the city, and one-half of all vehicle miles for trips that begin or end outside the city. Per capita VMT is based on VMT divided by the population (both residents and number of jobs within the city). Table 4.13-8 compares the estimated daily VMT per capita under 2014 Existing scenario and the 2040 No Project scenario. As shown, the VMT per capita under 2040 No Project increases to 19 miles per person as compared to 2014 Existing conditions with 15 miles per person. This is due to the growth in jobs outpacing planned residential growth, exacerbating the jobs-to-housing ratio within the city.

TABLE 4.13-8 DAILY VEHICLE MILES TRAVELED (VMT) PER CAPITA COMPARISON: 2014 EXISTING AND 2040 NO PROJECT

Analysis Scenarios	VMT	Residents	Jobs	VMT Per Capita
2014 Existing	934,722	32,900	30,900	15
2040 No Project	1,655,624	38,780	47,750	19

Source: TJKM Transportation Consultants, January 2016.

Roadway Segment Daily Traffic Volumes

The 2040 No Project scenario compares projected traffic growth with 2014 Existing conditions using the Impact Criteria described in the Section 4.13.2, Standards of Significance, of this chapter. The criteria require evaluation of each roadway classification according to the ADT level of the segment in question.

Daily traffic volumes with the 2040 No Project conditions for all study roadway segments are shown in the Appendix K of this Draft EIR. The forecasted net change in average daily traffic (ADT) between 2014 Existing conditions and 2040 No Project conditions exceeds the significance threshold at the majority of study segments, as summarized in Table 4.13-9 below.

Peak Hour Traffic Operations

Peak-hour traffic volumes under 2040 No Project conditions at each study intersection were forecasted based on anticipated changes to peak-hour traffic volumes that will result from buildout under the 2040 No Project scenario. By utilizing the MPM model, this forecast also incorporates anticipated changes to the jobs/housing balance in adjacent cities and throughout the region by 2040 that will affect peak-hour traffic patterns.

Figures 4-14-8a, 4.14-8b and 4.14-8c illustrate the forecasted peak hour vehicle turning movement volumes at each study intersection under 2040 No Project conditions. The forecasted peak-hour traffic volumes reflect the anticipated net change that would result from the 2040 No Project conditions.

The peak hour level of service for each study intersection under the 2040 No Project conditions is illustrated on Figure 4.13-9, and summarized in Appendix K of this Draft EIR. A majority of study intersections currently operate at acceptable levels, but 23 intersections do not. Table 4.13-10 includes a list of the 23 intersections that would operate at unacceptable levels of service under 2040 No Project conditions.

Same as the 2014 Existing conditions scenario, the level of service results are based on level of service as identified by the City to reflect unserved demand. Specifically, this pertains to study intersections numbers 17 through 20, and 32 through 36, during one or both peak hours, as described in the references to unserved demand summarized in Table 4.13-10 below.

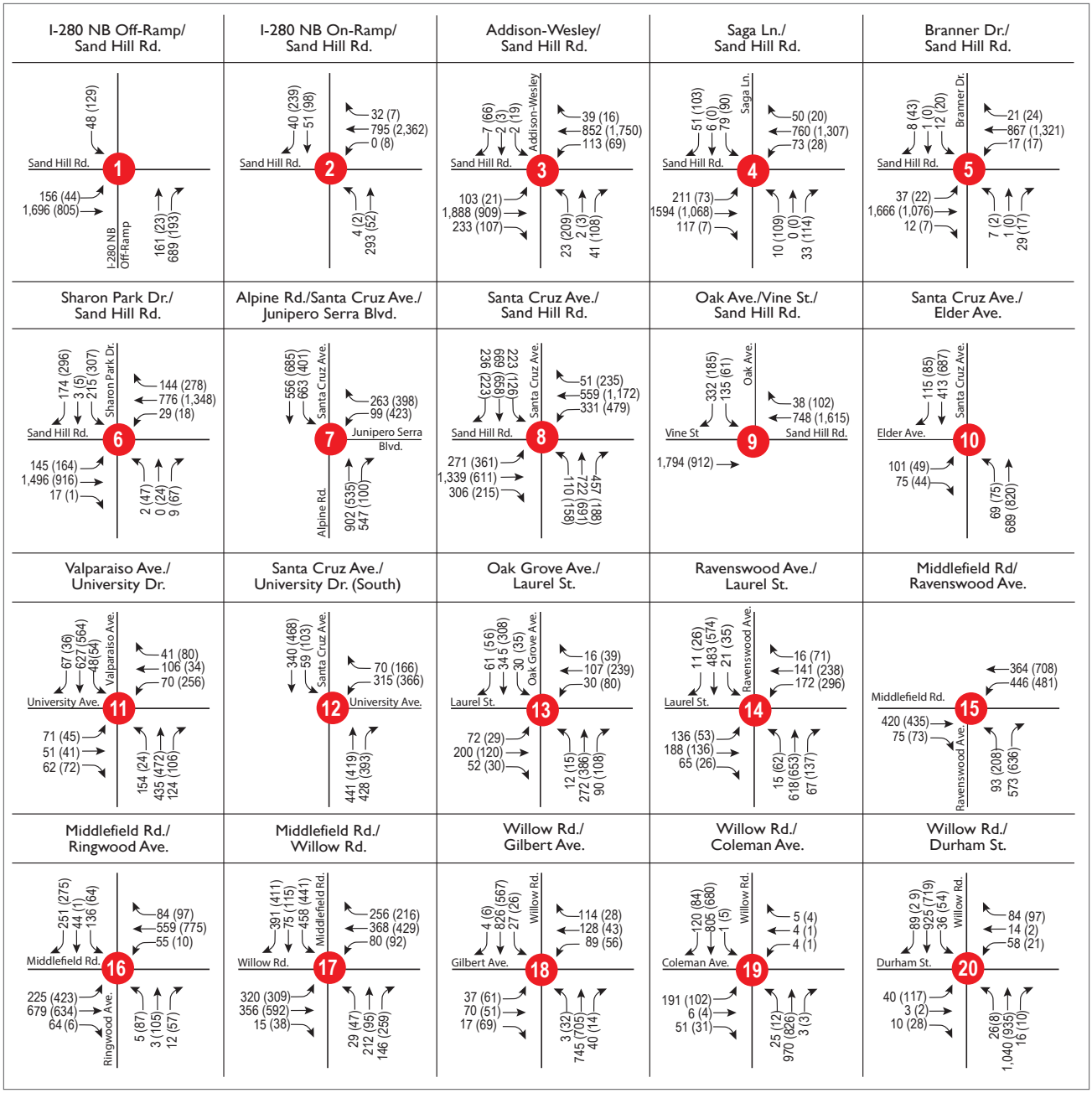
TABLE 4.13-9 ROADWAY SEGMENTS THAT EXCEED AVERAGE DAILY TRAFFIC (ADT) STANDARDS UNDER 2040 NO PROJECT CONDITIONS

No.	Street	From	To	Classification	2014 Existing	2040 No Project
1	Alameda De Las Pulgas	Avy Ave.	Santa Cruz Ave.	Minor Arterial	12,450	14,710
2	Alameda De Las Pulgas	Valparaiso Ave.	Avy Ave.	Minor Arterial	15,330	18,250
3	Alameda De Las Pulgas	City Limit	Valparaiso Ave.	Minor Arterial	16,140	19,330
5	Alma St.	Willow Rd.	Ravenswood Ave.	Collector	3,240	4,910
6	Alpine Rd.	City Limit	Junipero Serra Blvd.	Minor Arterial	23,310	26,330
9	Bay Rd.	Greenwood Dr.	Marsh Rd.	Collector	5,550	10,190
10	Bay Rd.	Ringwood Ave.	Greenwood Dr.	Collector	5,660	10,100
11	Bay Rd.	Willow Rd.	Ringwood Ave.	Collector	7,580	9,580
13	Chilco St.	Constitution Dr.	Bayfront Expwy.	Collector	7,000	17,380
15	Constitution Dr.	Chilco St.	Chrysler Dr.	Collector	2,360	6,680
18	Encinal Ave.	El Camino Real	Laurel St.	Collector	5,600	6,050
19	Encinal Ave.	Laurel St.	Middlefield Rd.	Collector	4,950	5,840
21	Hamilton Ave.	Willow Rd.	Chilco St.	Collector	2,770	3,480
22	Haven Ave.	Bayfront Expwy./Marsh Rd.	City Limit	Collector	7,400	15,120
23	Junipero Serra Blvd.	City Limit	Alpine Rd.	Primary Arterial	16,010	18,530
24	Laurel St.	Oak Grove Ave.	Glenwood Ave.	Collector	4,060	5,520
25	Laurel St.	Ravenswood Ave.	Oak Grove Ave.	Collector	4,410	6,190
26	Laurel St.	Willow Rd.	Ravenswood Ave.	Collector	4,470	5,590
27	Marsh Rd.	City Limit	Bay Rd.	Minor Arterial	22,850	25,180
28	Marsh Rd.	Bay Rd.	Bohannon Dr.	Primary Arterial	25,830	33,040
29	Marsh Rd.	Bohannon Dr.	Scott Dr.	Primary Arterial	32,410	42,390
35	Middlefield Rd.	Willow Rd.	Ravenswood Ave.	Minor Arterial	19,680	21,920
36	Middlefield Rd.	City Limit	Willow Rd.	Minor Arterial	18,420	21,810
37	Newbridge St.	Willow Rd.	Chilco St.	Collector	7,070	12,160
38	Oak Grove Ave.	University Dr.	Crane St.	Collector	6,350	7,670
39	Oak Grove Ave.	Crane St.	El Camino Real	Collector	7,700	10,940
40	Oak Grove Ave.	El Camino Real	Laurel St.	Collector	9,570	11,760

TABLE 4.13-9 ROADWAY SEGMENTS THAT EXCEED AVERAGE DAILY TRAFFIC (ADT) STANDARDS UNDER 2040 NO PROJECT CONDITIONS

No.	Street	From	To	Classification	2014 Existing	2040 No Project
42	O'Brien Dr.	Kavanaugh Dr.	Willow Rd.	Collector	6,370	7,880
43	O'Brien Dr.	University Ave.	Kavanaugh Dr.	Collector	3,280	3,600
44	Ravenswood Ave.	El Camino Real	Alma St.	Minor Arterial	23,980	25,690
47	Ringwood Ave.	Middlefield Rd.	Bay Rd.	Collector	7,300	9,500
48	Sand Hill Rd.	I-280	Sharon Park Dr.	Primary Arterial	28,050	30,120
49	Sand Hill Rd.	Santa Cruz Ave.	Sharon Park Dr.	Primary Arterial	30,790	33,870
50	Sand Hill Rd.	Santa Cruz Ave.	City Limit	Minor Arterial	32,740	35,010
51	Santa Cruz Ave.	Junipero Serra Blvd.	Sand Hill Rd.	Minor Arterial	26,480	30,860
52	Santa Cruz Ave.	Sand Hill Rd.	Alameda de las Pulgas	Minor Arterial	23,230	26,730
54	Santa Cruz Ave.	Avy Ave./Orange Ave.	Olive St.	Minor Arterial	14,520	16,160
59	Sharon Park Dr.	Sand Hill Rd.	Sharon Rd.	Collector	9,970	10,610
68	Willow Rd.	Alma St.	Laurel St.	Collector	3,360	5,010
69	Willow Rd.	Laurel St.	Middlefield Rd.	Collector	5,250	7,620
70	Willow Rd.	Middlefield Rd.	Gilbert Ave.	Collector	24,330	23,610
71	Chilco St.	Hamilton Ave.	Terminal Ave.	Collector	4,780	10,990
72	Chilco St.	Ivy Dr.	Hamilton Ave.	Collector	2,650	8,280
73	Chilco St.	Newbridge St.	Ivy Dr.	Collector	2,110	7,210
75	Willow Rd.	Gilbert Ave.	Coleman Ave.	Minor Arterial	24,350	24,520
76	Willow Rd.	Coleman Ave.	Durham St.	Minor Arterial	41,190	41,290
77	Willow Rd.	Durham St.	Bay Rd.	Minor Arterial	34,150	35,850
78	Chilco St.	Terminal Ave.	Constitution Dr.	Collector	5,100	11,250
81	Adams Dr.	University Dr.	Adams Ct.	Local	1,260	3,490
82	Olive St.	Santa Cruz Ave.	Middle Ave.	Local	2,450	2,560
83	Olive St.	Middle Ave.	Oak Ave.	Local	3,050	3,280
86	Waverley St.	Laurel St.	Linfield Dr.	Local	1,650	1,860
87	Ivy Dr.	Chilco St.	Willow Rd.	Local	3,200	3,910

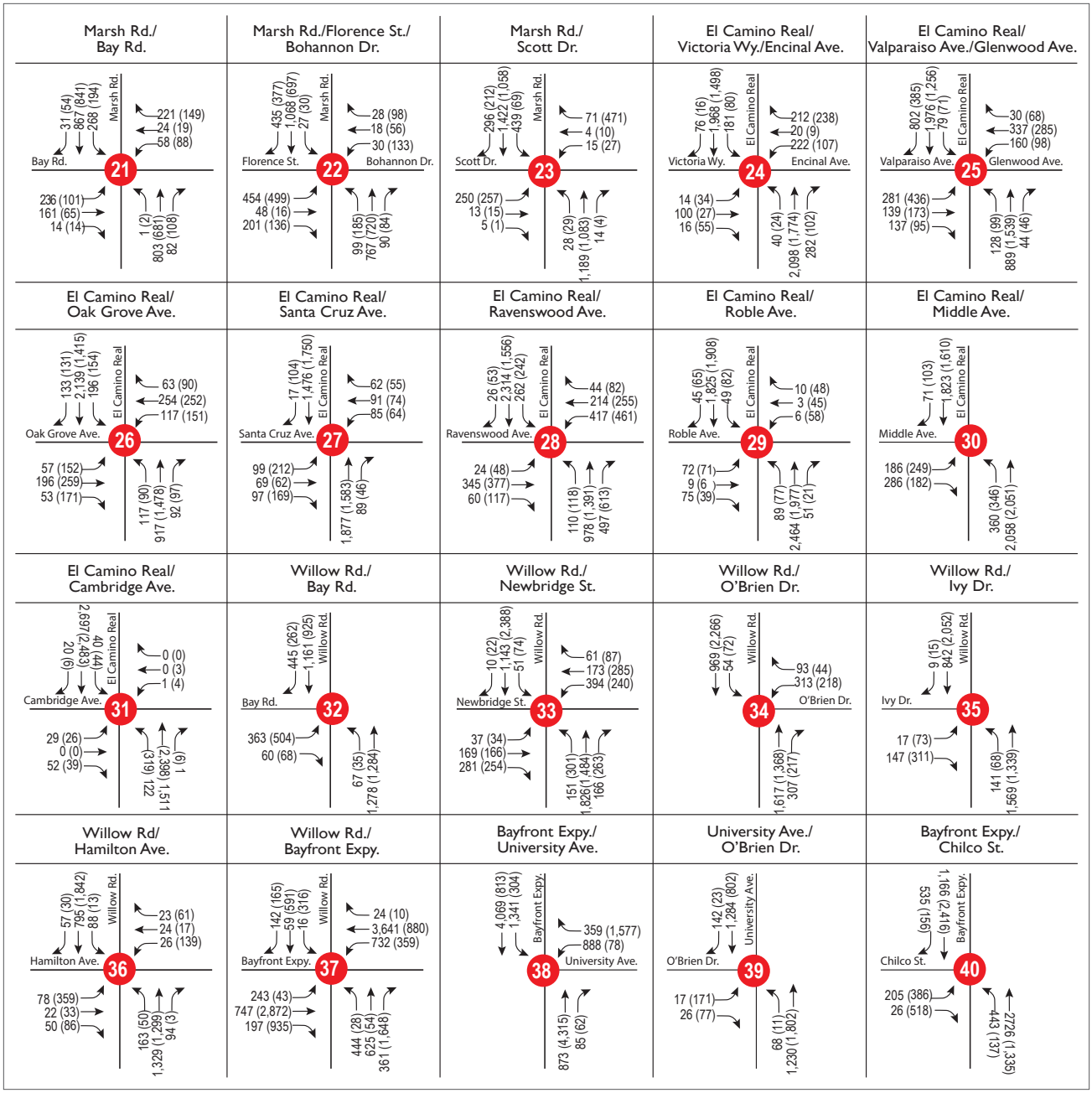
Source: TJKM Transportation Consultants, 2016



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

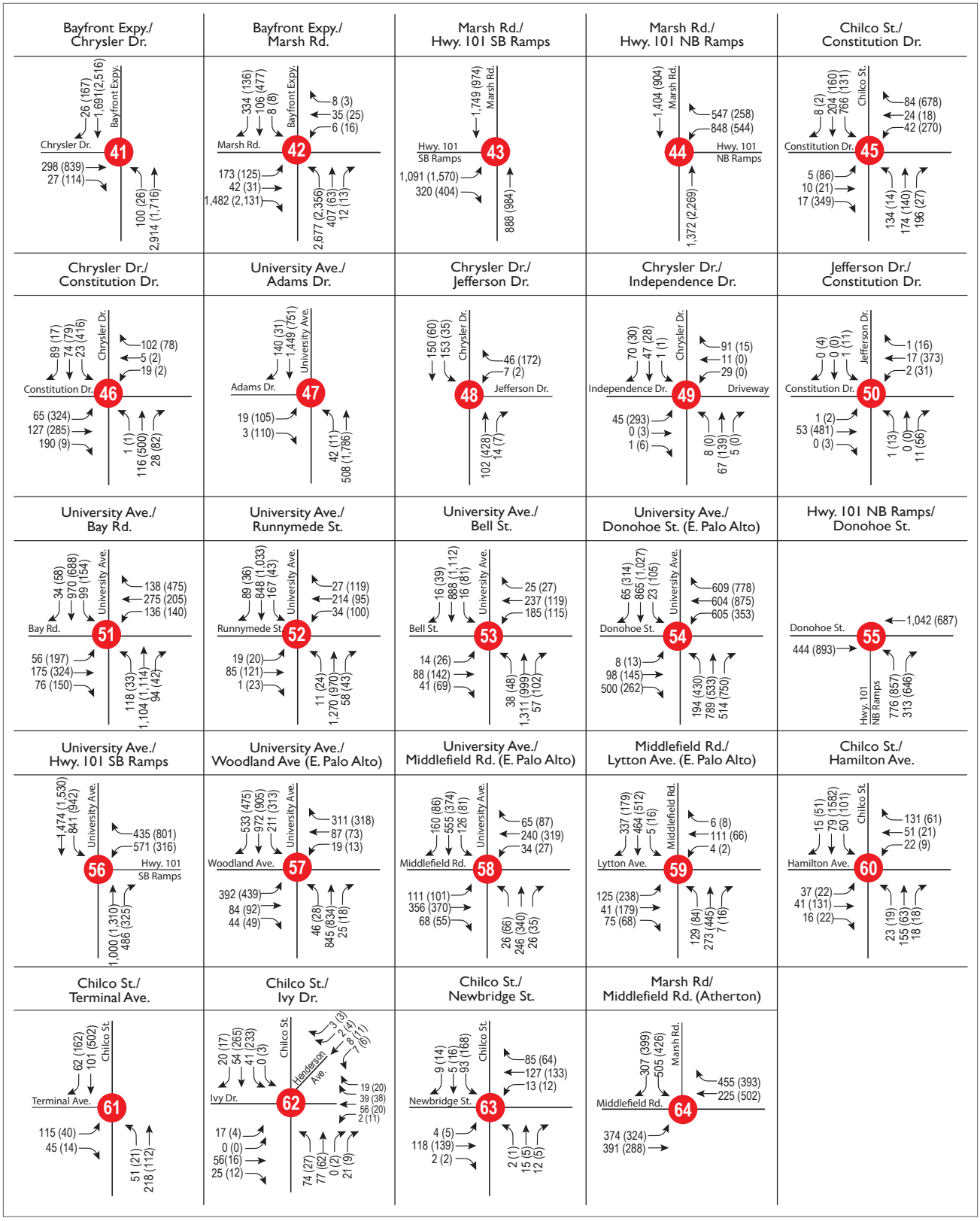
Figure 4.13-8a
2040 No Project Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

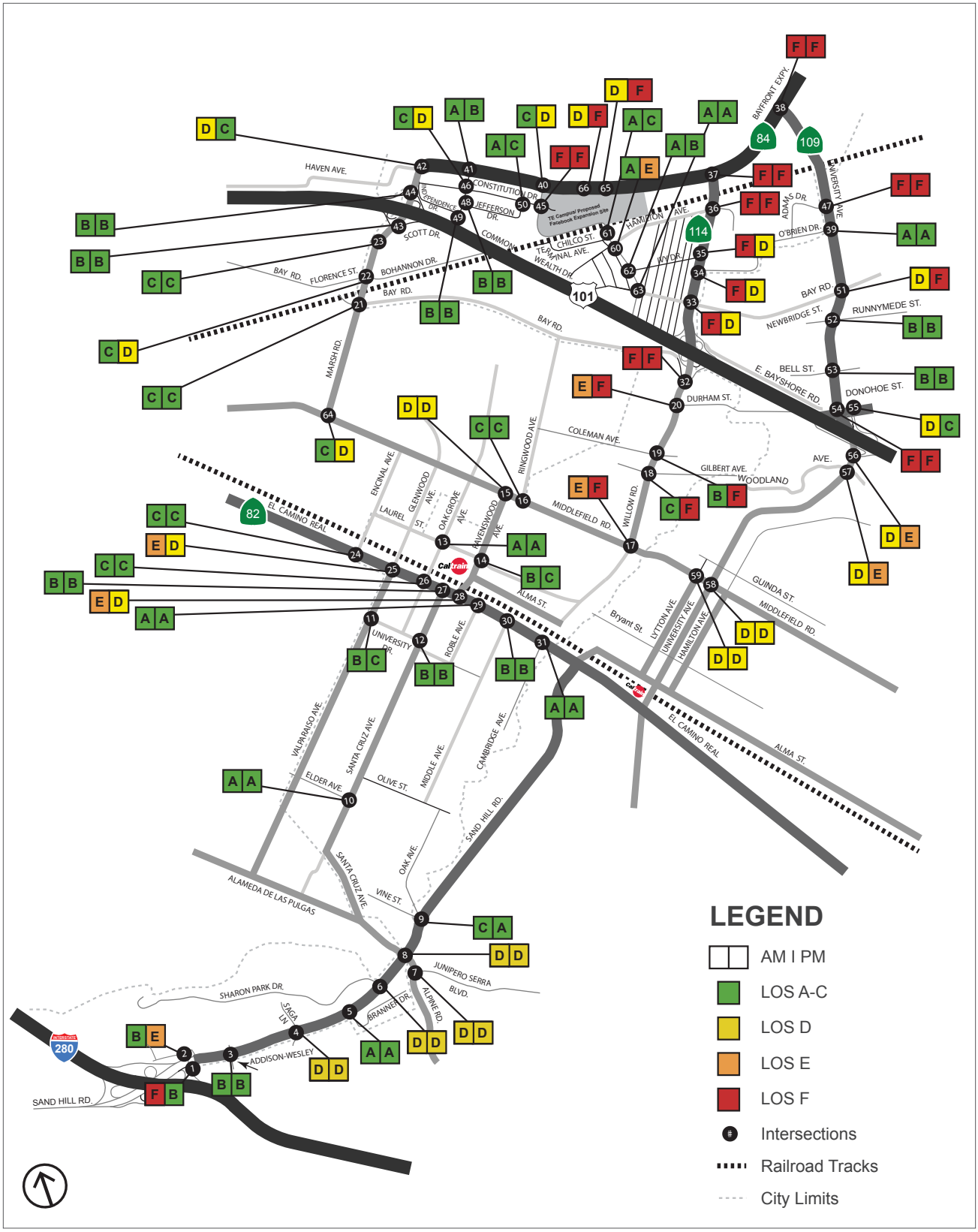
Figure 4.13-8b
2040 No Project Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

Figure 4.13-8c
2040 No Project Traffic Volumes



Source: TJKM, 2016.

Figure 4.13-9
2040 No Project Intersection LOS

TABLE 4.13-10 UNACCEPTABLE PEAK HOUR INTERSECTION LEVEL OF SERVICE OPERATIONS UNDER 2040 NO PROJECT CONDITIONS

			AM		PM		
No.	Intersection	LOS Threshold	LOS	Delay (sec)	LOS	Delay (sec)	Notes
1	Sand Hill Rd. and I-280 NB Off-Ramp	D	**F**	**85.6**	B	10.5	n/a
2	Sand Hill Rd. and I-280 NB On-Ramp	D	B	14.5	**E**	**74.0**	n/a
17	Middlefield Rd. and Willow Rd.	D	**E**	**58.9**	**F**	**>80 ***	During the PM peak hour, this finding reflects unserved demand due to upstream delay
18	Willow Rd. and Gilbert Ave.	D	C	21.3	**F**	**>80 ***	During the PM peak hour, this finding reflects unserved demand.
19	Willow Rd. and Coleman Ave.	D	B	19.4	**F**	**>80 ***	During the PM peak hour, this finding reflects unserved demand.
20	Willow Rd. and Durham St.	D	**E**	**>55 ***	**F**	**>80 ***	During both the AM and PM peak hour, this finding reflects unserved demand.
25	El Camino Real and Glenwood Ave.	D	**E**	**64.9**	D	49.0	n/a
28	El Camino Real and Ravenswood Ave.	D	**E**	**73.0**	D	48.1	n/a
32	Willow Rd. and Bay Rd.	D	**F**	**>80 ***	**F**	**>80 ***	During both peak hours, this finding reflects delay due to unserved demand and downstream queues (southbound approaching the US 101 ramps during the AM peak hour, and northbound approaching the Willow/Bayfront intersection during the PM peak hour).
33	Willow Rd. and Newbridge St.	D	**F**	**>80 ***	D	50.2	During the AM peak hour, this finding reflects delay from downstream queues (southbound approaching the US 101 ramps)
34	Willow Rd. and O'Brien Dr.	D	**F**	**>80 ***	D	>35	During the AM peak hour, the LOS finding reflects unserved demand due to upstream and downstream congestion during AM peak hour
35	Willow Rd. and Ivy Dr.	D	**F**	**>80 ***	D	>35	During the AM peak hour, the LOS finding reflects unserved demand due to upstream and downstream congestion during AM peak hour
36	Willow Rd. and Hamilton Ave.	D	**F**	**>80 ***	**F**	**98.5**	During the AM peak hour, the LOS finding reflects unserved demand due to upstream and downstream congestion during a.m. peak hour
37	Willow Rd. and Bayfront Expwy.	D	**F**	**141.9**	**F**	**123.9**	n/a
38	Bayfront Expwy. and University Ave.	D	**F**	**97.6**	**F**	**151.4**	During the AM peak hour, this finding reflects unserved demand

TABLE 4.13-10 UNACCEPTABLE PEAK HOUR INTERSECTION LEVEL OF SERVICE OPERATIONS UNDER 2040 NO PROJECT CONDITIONS

			AM		PM		
No.	Intersection	LOS Threshold	LOS	Delay (sec)	LOS	Delay (sec)	Notes
							affecting the westbound left-turn movement
45	Chilco St. and Constitution Dr.	C	**F**	**>50**	**F**	**>50**	n/a
46	Chrysler Dr. and Constitution Dr.	C	C	26.1	**D**	**51.6**	n/a
47	University Ave. and Adams Dr.	D	**F**	**>50**	**F**	**>50**	n/a
51	University Ave. and Bay Rd.	D	D	37.2	**F**	**107.5**	n/a
54	University Ave. and Donohoe St.	D	**F**	**120.2**	**F**	**>160**	n/a
56	University Ave. and US 101 SB Ramps	D	D	39.8	**E**	**69.7**	n/a
57	University Ave. and Woodland Ave.	D	D	49.0	**E**	**58.1**	n/a
60	Chilco St. and Hamilton Ave.	C	A	9.2	**E**	**41.6**	n/a

Notes: Bold and highlighted indicates unacceptable LOS.
LOS=Level of Service. Delay=average control delay per vehicle.
* Indicates LOS based on unserved demand. At these locations, upstream and downstream congestion results in delay not captured by VISTRO analysis.
Source: TJKM Transportation Consultants, 2016.

4.13.2 STANDARDS OF SIGNIFICANCE

Per the Appendix G, Environmental Checklist, of the CEQA Guidelines, implementation of the proposed project would result in a significant impact if it would:

1. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit, non-motorized travel, and relevant components of the circulation system, including, but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
2. Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
5. Result in inadequate emergency access.
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

This Draft EIR applies the significance criteria as discussed below to evaluate the impacts of the proposed project per the standards of significance listed above.

Significant Impact Criteria

The City of Menlo Park, Town of Atherton, City of East Palo Alto, City of Palo Alto, Caltrans, and the County of San Mateo each have transportation impact guidelines and standards of significance. The transportation items of the CEQA checklist are addressed through these local, regional and state guidelines. The proposed project analysis includes the City of Menlo Park, Town of Atherton, City of East Palo Alto, City of Palo Alto, and Caltrans facilities. As such, the appropriate standard of significance is applied to respective intersections, roadway segments, or Routes of Regional Significance.

The following standards of significance are prescribed by the City of Menlo Park, Town of Atherton, City of East Palo Alto, City of Palo Alto, and Caltrans.

Level of Service Standards

Peak hour traffic impacts would be potentially significant if:

- City Arterial Intersections. Project traffic increment causes an intersection operating at LOS D or better to reach LOS E or F; or to have an increase greater than 23 seconds in average vehicle delay; or an increase of more than 0.8 seconds of delay to vehicles on the most critical movements of an arterial intersections operating at LOS E or F prior to the addition of project traffic.

TRANSPORTATION AND CIRCULATION

- Local Approaches to State-Controlled Intersections. Project traffic increment causes an intersection operating at LOS D or better to reach LOS E or F; or to have an increase greater than 23 seconds in average vehicle delay; or an increase of more than 0.8 seconds of delay to vehicles on the most critical movements of an arterial intersections operating at LOS E or F prior to the addition of project traffic.
- Other City Intersections (Collector and Local streets). Project traffic increment causes an intersection operating at LOS C or better to reach LOS D, E, or F; or to have an increase greater than 23 seconds in average vehicle delay; or an increase of more than 0.8 seconds of delay to vehicles on the most critical movements of a collector or local street intersection operating at LOS D, E, or F prior to the addition of project traffic.
- State (Caltrans) Controlled Intersections. At State-controlled intersections currently operating at LOS D or better, the project would have an impact if the cumulative analysis indicates that the combination of the project and future cumulative traffic demand would result in the intersection operating at a LOS that violates the standard adopted and the project increases control delay at the intersection by four (4) seconds or more. For intersections operating at LOS E or F, the project would have an impact if the cumulative analysis indicates that the combination of the project and future cumulative traffic demand would result in increasing the average control delay at the intersection by four (4) seconds or more.
- Atherton Intersections. At Town of Atherton-controlled intersections currently, operating at LOS D or better, the project would have an impact if the project traffic increment results in an intersection LOS of E or F or increases the critical worst approach delay by four (4) seconds or more if the LOS is E or F.
- Palo Alto and East Palo Alto Intersections. At City of Palo Alto and East Palo Alto-controlled intersections currently operating at LOS D or better, the project would have an impact if the LOS becomes E or F or the average control delay for the critical movements deteriorates by four (4) seconds or more and the critical volume-to-capacity ratio (v/c) value increases by 0.01 or more if the LOS is currently E or F.
- Routes of Regional Significance. LOS for freeway segments is based on the C/CAG impact criteria from the 2013 CMP. According to the 2013 CMP, for freeway segments currently in compliance with the adopted LOS standard, a project is considered to have an impact if the project will cause the freeway segments to operate at an LOS that violates the standard adopted. Additionally, a project would have an impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand would result in the freeway segment to operate at an LOS that violates the adopted standard. An impact could also occur if the project increased traffic demand on the freeway segment by an amount equal to one (1) percent or more of the segment capacity, or would cause the freeway segment v/c ratio to increase by one (1) percent. If the freeway segment is not in compliance with the adopted LOS standard, the project is considered to have an impact if the project will add traffic demand equal to one (1) percent or more of the segment capacity of causes the freeway segment v/c ratio to increase by one (1) percent.

The following facilities are designated as Routes of Regional Significance by the San Mateo County CMP. The applicable standards for those CMP facilities are summarized below.

- LOS Standards for CMP Roadway Segments (based on hourly lane capacity and peak-hour volumes):
  - State Route (SR) 84 (Bayfront Expressway) from US 101 to Willow Road, LOS D.

- SR 84 (Bayfront Expressway) from Willow Road to University Avenue, LOS E.
- SR 84 (Bayfront Expressway) from University Avenue to the Alameda County line, LOS F.
- SR 109 (University Avenue) from SR 84 to Kavanaugh Drive, LOS E.
- SR 114 (Willow Road) from US 101 to SR 84, LOS E.
- US 101, from Whipple Avenue to Santa Clara County Line, LOS F.

- LOS Standards for CMP Intersections:
  - Willow Road (SR 114) and Bayfront Expressway (SR 84) (#37), LOS F for AM and PM Peak Hours.
  - Bayfront Expressway (SR 84) and University Avenue (SR 109) (#38), LOS F for AM and PM Peak Hours.
  - Bayfront Expressway (SR 84) and Marsh Road (#42), LOS F for AM and PM Peak Hours.

Roadway Segment Daily Traffic Volume Standards

As part of the proposed project, the street classifications would be changed. These are described in Table 3-1 in Chapter 3, Project Description, of this Draft EIR. However, for the purposes of this Draft EIR, the adopted standards are applied in order to assess impacts of land use changes on existing standards. Therefore, by applying the City's existing standards, the impacts to study segments, which are based on average daily traffic (ADT), would be potentially significant if:

- City Arterials. The existing ADT is: (1) greater than 18,000 (90 percent of capacity) and there is a net increase of 100 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 10,000 (50 percent of capacity) but less than 18,000, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 18,000 or more; or (3) the ADT is less than 10,000 and the project-related traffic increases the ADT by 25 percent.
- City Collectors. The existing ADT is: (1) greater than 9,000 (90 percent of capacity) and there is a net increase of 50 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 5,000 (50 percent of capacity) but less than 9,000, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 9,000 or more; or (3) the ADT is less than 5,000 and the project-related traffic increases the ADT by 25 percent.
- Local Streets. The existing ADT is: (1) greater than 1,350 (90 percent of capacity) and there is a net increase of 25 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 750 (50 percent of capacity) but less than 1,350, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 1,350; or (3) the ADT is less than 750 and the project-related traffic increases the ADT by 25 percent.

Pedestrian and Bicycle Standards

Impacts to pedestrian and/or bicycle facilities would be potentially significant if:

- The project would not provide adequate pedestrian or bicycle facilities to connect to the area circulation system, or vehicles would cross pedestrian facilities on a regular basis without adequate design and/or warning systems, causing safety hazards, or project design would cause increased potential for bicycle/vehicle conflicts. The project would include elements that conflict with applicable pedestrian and bicycle polices.

Transit Standards

Impacts to transit facilities would be potentially significant if:

- The project would generate a substantial increase in transit riders that cannot be adequately serviced by the existing transit services; or the project would generate demand for transit services in an area that is more than one-quarter mile from existing transit routes. The project would include elements that conflict with applicable transit polices.

Vehicle Miles Traveled Standards

For purposes of this analysis, impacts on VMT are considered potentially significant if:

- The proposed project results in citywide VMT per capita that would exceed 15 percent below VMT per capita for the region. For purposes of this analysis, data from the 2013 *Plan Bay Area* EIR was used to determine the regional average VMT per capita at 20.8 miles per person. The threshold is therefore 15 percent of 20.8 miles, or 17.7 miles per person.

4.13.3 IMPACT DISCUSSION

This section analyzes potential project-specific and cumulative impacts to the transportation and circulation network in the study area.

TRANS-1	**Implementation of the proposed project would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit, non-motorized travel, and relevant components of the circulation system, including, but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.**

As discussed in Chapter 3, Project Description, of this Draft EIR, the proposed project includes an update to the General Plan Circulation Element. The proposed Circulation Element includes a new emphasis on complete streets, multi-modal transportation, and community circulation benefits from private development, transportation system safety and efficiency, and community transit services. The proposed Circulation Element includes new street classifications that adopt a multi-modal approach that establishes and promotes the suitability of streets for various travel modes and adjacent land uses. The goals, policies, and programs of the proposed Circulation Element address the topics of safe transportation system, complete streets, sustainable transportation, health and wellness (through transportation enhancements), transit opportunities, transportation demand management, and parking, and also apply citywide.

As described in the threshold statement above, a significant impact could occur if the proposed project would conflict with the applicable regulation taking into account all modes of transportation. The following impact discussion focuses on vehicular transportation, while impacts related to other modes of transportation, including consistency with applicable regulations, are discussed under TRANS-5 below.

As previously described under Section 4.13.1.3, Traffic Analysis Overview, this chapter includes an evaluation of three scenarios: 2014 Existing, 2040 No Project, and 2040 Plus Project. This section focuses on 2040 Plus Project, which evaluates the projected conditions in 2040 with the cumulative projects, including the Facebook Campus Expansion project, plus the ongoing development potential under the Current General Plan and the proposed new development potential in the Bayfront Area under the proposed project. The 2040 Plus Project scenario compares projected traffic growth with 2014 Existing conditions. Additionally, the 2040 No Project scenario results are shown for information and comparison purposes only. The roadway network is assumed to be the same as under the 2040 No Project scenario as described above in Section 4.13.1.5, 2040 No Project Conditions.

Roadway Segment Daily Traffic Volumes

The 2040 Plus Project scenario compares projected traffic growth with 2014 Existing conditions using Impact Criteria described in the Section 4.13.2, Standards of Significance of this chapter. The criteria require evaluation of each roadway classification according to the ADT level of the segment in question.

Daily traffic volumes with the 2040 Plus Project conditions for all study roadway segments are shown in Appendix K of this Draft EIR.

Table 4.13-11 below shows the roadway segments that would exceed the City's impact thresholds under 2040 Plus Project conditions on study area roadway segments compared to 2014 Existing conditions. Table 4.13-11 is organized by roadway segment number and name, the streets the roadway segment is between, and the City's street classification – either primary arterial, minor arterial, collector or local. All impacted segments are under Menlo Park's jurisdiction with the exception of Segment #52, which is under San Mateo County's jurisdiction.

As discussed under the 2040 No Project scenario, the Dynamic Traffic Assignment (DTA) procedures result in some traffic being rerouted to avoid congested locations within the region. While the 2040 Plus Project scenario actually increases traffic volumes overall compared to 2014 Existing conditions, sometimes the volumes occur on streets whose background traffic has been shifted to different locations, resulting in apparent decreases in traffic. Because the 2040 Plus Project scenario introduces new housing to the currently jobs-rich area, significant changes in traffic patterns are seen under this scenario, especially compared to 2040 No Project conditions.

The proposed Circulation (CIRC) Element contains general goals, policies and programs that would be adopted as part of the proposed project. Instead of applying solely capacity-enhancing strategies to reduce the potential impacts, the Circulation Element incorporates strategies to reduce or manage travel demand. These would require local planning and development decisions to consider circulation-related impacts.

TABLE 4.13-11 ROADWAY SEGMENTS THAT EXCEED AVERAGE DAILY TRAFFIC (ADT) STANDARDS UNDER 2040 PLUS PROJECT CONDITIONS

No.	Street	From	To	Classification	2014 Existing	2040 No Project	2040 Plus Project	Net Change 2040 Plus Project and 2014 Existing Conditions[b]
1	Alameda De Las Pulgas	Avy Ave.	Santa Cruz Ave.	Minor Arterial	12,450	14,710	14,810	2,360
2	Alameda De Las Pulgas	Valparaiso Ave.	Avy Ave.	Minor Arterial	15,330	18,250	18,130	2,800
3	Alameda De Las Pulgas	City Limit	Valparaiso Ave.	Minor Arterial	16,140	19,330	19,280	3,140
5	Alma St.	Willow Rd.	Ravenswood Ave.	Collector	3,240	4,910	5,070	1,830
6	Alpine Rd.	City Limit	Junipero Serra Blvd.	Minor Arterial	23,310	26,330	26,170	2,860
9	Bay Rd.	Greenwood Dr.	Marsh Rd.	Collector	5,550	10,190	10,190	4,640
10	Bay Rd.	Ringwood Ave.	Greenwood Dr.	Collector	5,660	10,100	10,110	4,450
11	Bay Rd.	Willow Rd.	Ringwood Ave.	Collector	7,580	9,580	9,670	2,090
13	Chilco St.	Constitution Dr.	Bayfront Expwy.	Collector	7,000	17,380	9,320	2,320
15	Constitution Dr.	Chilco St.	Chrysler Dr.	Collector	2,360	6,680	5,300	2,940
18	Encinal Ave.	El Camino Real	Laurel St.	Collector	5,600	6,050	6,420	820
19	Encinal Ave.	Laurel St.	Middlefield Rd.	Collector	4,950	5,840	6,280	1,330
21	Hamilton Ave.	Willow Rd.	Chilco St.	Collector	2,770	3,480	3,470	700
22	Haven Ave.	Bayfront Expwy./Marsh Rd.	City Limit	Collector	7,400	15,120	17,490	10,090
23	Junipero Serra Blvd.	City Limit	Alpine Rd.	Primary Arterial	16,010	18,530	18,370	2,360
24	Laurel St.	Oak Grove Ave.	Glenwood Ave.	Collector	4,060	5,520	5,570	1,510
25	Laurel St.	Ravenswood Ave.	Oak Grove Ave.	Collector	4,410	6,190	5,800	1,390
26	Laurel St.	Willow Rd.	Ravenswood Ave.	Collector	4,470	5,590	5,640	1,170
27	Marsh Rd.	City Limit	Bay Rd.	Minor Arterial	22,850	25,180	26,080	3,230
28	Marsh Rd.	Bay Rd.	Bohannon Dr.	Primary Arterial	25,830	33,040	33,930	8,100
29	Marsh Rd.	Bohannon Dr.	Scott Dr.	Primary Arterial	32,410	42,390	43,410	11,000
35	Middlefield Rd.	Willow Rd.	Ravenswood Ave.	Minor Arterial	19,680	21,920	21,790	2,110
36	Middlefield Rd.	City Limit	Willow Rd.	Minor Arterial	18,420	21,810	22,310	3,890
37	Newbridge St.	Willow Rd.	Chilco St.	Collector	7,070	12,160	8,000	930
38	Oak Grove Ave.	University Dr.	Crane St.	Collector	6,350	7,670	7,430	1,080
39	Oak Grove Ave.	Crane St.	El Camino Real	Collector	7,700	10,940	10,540	2,840
40	Oak Grove Ave.	El Camino Real	Laurel St.	Collector	9,570	11,760	11,490	1,920
42	O'Brien Dr.	Kavanaugh Dr.	Willow Rd.	Collector	6,370	7,880	13,750	7,380

TABLE 4.13-11 ROADWAY SEGMENTS THAT EXCEED AVERAGE DAILY TRAFFIC (ADT) STANDARDS UNDER 2040 PLUS PROJECT CONDITIONS

No.	Street	From	To	Classification	2014 Existing	2040 No Project	2040 Plus Project	Net Change 2040 Plus Project and 2014 Existing Conditions[b]
43	O'Brien Dr.	University Ave.	Kavanaugh Dr.	Collector	3,280	3,600	5,610	2,330
44	Ravenswood Ave.	El Camino Real	Alma St.	Minor Arterial	23,980	25,690	25,910	1,930
47	Ringwood Ave.	Middlefield Rd.	Bay Rd.	Collector	7,300	9,500	8,660	1,360
48	Sand Hill Rd.	I-280	Sharon Park Dr.	Primary Arterial	28,050	30,120	29,900	1,850
49	Sand Hill Rd.	Santa Cruz Ave.	Sharon Park Dr.	Primary Arterial	30,790	33,870	33,570	2,780
50	Sand Hill Rd.	Santa Cruz Ave.	City Limit	Minor Arterial	32,740	35,010	35,170	2,430
51	Santa Cruz Ave.	Junipero Serra Blvd.	Sand Hill Rd.	Minor Arterial	26,480	30,860	30,810	4,330
52[a]	Santa Cruz Ave.	Sand Hill Rd.	Alameda de las Pulgas	Minor Arterial	23,230	26,730	26,850	3,620
59	Sharon Park Dr.	Sand Hill Rd.	Sharon Rd.	Collector	9,970	10,610	10,470	500
68	Willow Rd.	Alma St.	Laurel St.	Collector	3,360	5,010	5,180	1,820
69	Willow Rd.	Laurel St.	Middlefield Rd.	Collector	5,250	7,620	7,820	2,570
70	Willow Rd.	Middlefield Rd.	Gilbert Ave.	Collector	24,330	23,610	24,460	130
71	Chilco St.	Hamilton Ave.	Terminal Ave.	Collector	4,780	10,990	8,280	3,500
72	Chilco St.	Ivy Dr.	Hamilton Ave.	Collector	2,650	8,280	5,990	3,340
73	Chilco St.	Newbridge St.	Ivy Dr.	Collector	2,110	7,210	4,030	1,920
75	Willow Rd.	Gilbert Ave.	Coleman Ave.	Minor Arterial	24,350	24,520	25,920	1,570
76	Willow Rd.	Coleman Ave.	Durham St.	Minor Arterial	41,190	41,290	42,640	1,450
77	Willow Rd.	Durham St.	Bay Rd.	Minor Arterial	34,150	35,850	37,720	3,570
78	Chilco St.	Terminal Ave.	Constitution Dr.	Collector	5,100	11,250	8,490	3,390
81	Adams Dr.	University Dr.	Adams Ct.	Local	1,260	3,490	7,760	6,500
82	Olive St.	Santa Cruz Ave.	Middle Ave.	Local	2,450	2,560	2,560	110
83	Olive St.	Middle Ave.	Oak Ave.	Local	3,050	3,280	3,270	220
85	Linfield Dr.	Middlefield Rd.	Waverley St.	Local	1,760	1,770	1,790	30
86	Waverley St.	Laurel St.	Linfield Dr.	Local	1,650	1,860	1,900	250
87	Ivy Dr.	Chilco St.	Willow Rd.	Local	3,200	3,910	4,980	1,780

a. San Mateo County jurisdiction.
b. Represents the difference between the 2040 Plus Project and 2014 Existing Conditions.
Source: TJKM Transportation Consultants,

TRANSPORTATION AND CIRCULATION

The following General Plan goals, policies and programs, would serve to minimize potential adverse impacts on the circulation network in the study area:

- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
    - Program CIRC-1.C: Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes.
    - Program CIRC-1.D: Travel Pattern Data. Bi-annually update data regarding travel patterns for all modes to measure circulation system efficiency (e.g., vehicle miles traveled per capita, traffic volumes) and safety (e.g., collision rates) standards. Coordinate with Caltrans to monitor and/or collect data on state routes within Menlo Park.
- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
    - Policy CIRC-2.1: Accommodating All Modes. Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.
    - Policy CIRC-2.3: Street Classification. Utilize measurements of safety and efficiency for all travel modes to guide the classification and design of the circulation system, with an emphasis on providing "complete streets" sensitive to neighborhood context.
    - Policy CIRC-2.5: Neighborhood Streets. Support a street classification system with target design speeds that promotes safe, multimodal streets, and minimizes cut-through and high-speed traffic that diminishes the quality of life in Menlo Park's residential neighborhoods.
    - Policy CIRC-2.6: Local Streets as Alternate Routes. Work with appropriate agencies to discourage use of city streets as alternatives to, or connectors of, State and federal highways; to encourage improvement of the operation of US 101; and to explore improvements to Bayfront Expressway (State Route 84) and Marsh Road (and its connection to US 101), with environmental protection for adjacent marsh and wetland areas, to reduce traffic on Willow Road (State Route 114).
    - Policy CIRC-2.13: County Congestion Management. Work with the County Congestion Management Agency to implement the Countywide Congestion Management Program and Deficiency Plans for City and State facilities, and avoid adding any Menlo Park streets or intersections to the Countywide Congestion Management Program.
    - Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system. New development should minimize cut-through and high-speed vehicle traffic on residential streets; minimize the number of vehicle trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitate appropriate or adequate response times and access for emergency vehicles.
    - Policy CIRC-2.15: Regional Transportation Improvements. Work with neighboring jurisdictions and appropriate agencies to coordinate transportation planning efforts and to identify and secure

adequate funding for regional transportation improvements to improve transportation options and reduce congestion in Menlo Park and adjacent communities.

- Program CIRC-2.A: Manage Neighborhood Traffic. Following the adoption of a street classification system with target design speeds, establish design guidelines for each street classification. Periodically review streets for adherence to these guidelines, with priority given to preserve the quality of life in Menlo Park's residential neighborhoods and areas with community requests. Utilize a consensus-oriented process of engagement to develop an appropriate set of modifications when needed to meet the street classification guidelines.
- Program CIRC-2.C: Transportation Master Plan. Prepare a citywide Transportation Master Plan that includes roadway system improvements and combines and updates the existing Bicycle Plan, includes provisions for overcoming barriers and identifying safe multi-modal routes to key destinations in the City, and replaces the existing Sidewalk Master Plan with a section that identifies areas in Menlo Park where the community and neighborhood have expressed a desire for sidewalk improvements. Update the Transportation Master Plan at least every five years, or as necessary.
- Program CIRC-2.L: Transportation Impact Analysis Guidelines. Review and update the City's Transportation Impact Analysis (TIA) Guidelines, as needed. Consider factors such as preserving quality of life, appropriate accounting for mixed land uses, use of multiple transportation modes and induced travel demand.
- Program CIRC-2.M: Transportation Management Program. Establish goals and metrics for the City's Transportation Management Program, and annually assess progress toward meeting those objectives.
- Program CIRC-2.P: Plan Lines. Review all "plan lines" indicating where City owned rights-of-way exist but have not been constructed to determine whether those alignments should be maintained, modified, or abandoned, and identify locations where additional right-of-way is needed to accommodate roadway or bicycle/pedestrian improvements.
- Program CIRC-2.Q: Caltrans. Collaborate with Caltrans to achieve and maintain travel efficiency along Caltrans rights-of-way in Menlo Park consistent with the San Mateo County Congestion Management Plan.
- Program CIRC-2.R: Caltrans Relinquishment. Investigate the potential for relinquishment by Caltrans of State Route 114 (the portion of Willow Road between Bayfront Expressway and US 101 near Bay Road).

- Goal CIRC-6: Provide a range of transportation choices for the Menlo Park community.
  - Program CIRC-6.A: Transportation Demand Management Guidelines. Update the City's Transportation Demand Management Guidelines to require new nonresidential, mixed use and multiple-dwelling development to provide facilities and programs that ensure a majority of associated travel can occur by walking, bicycling, and/or transit, and that include vehicle trip reduction reporting goals, requirements, and monitoring and enforcement mechanisms.
  - Program CIRC-6.B: Transportation Management Association. Participate in the formation of a Transportation Management Association (TMA) to assist local residents, employees, students, and other community members in identifying and taking advantage of travel options between

employment centers and rail connections, Downtown, and nearby cities. Require new, large commercial and residential development to participate in the TMA. Establish goals for the TMA, such as those for mode share, vehicle trips, or VMT by geographic areas in the City. Collaborate or partner with adjacent cities' TMAs to ensure regional consistency. [Program CIRC-3.B]

- Program CIRC-6.C: Transportation Impact Fee. Require new and expanded development to pay a transportation impact fee, and update the fee periodically to ensure that development is paying its fair share of circulation system improvement costs for all modes of transportation. [Program CIRC-1.E]

Additionally, the proposed project includes an update to the City's Zoning Ordinance for the Bayfront Area, resulting in three new zoning districts that would promote a live/work/play environment with travel patterns that are oriented toward pedestrian, transit, and bicycle use. As part of the Zoning update, the project includes minimum short-term and long-term bicycle parking standards. Furthermore, new construction and building additions of 10,000 square feet or more are required to develop a Transportation Demand Management (TDM) Plan to reduce trip generation by 20 percent. The TDM Plan may include participation in a Transportation Management Association, preferred parking for carpools/vanpools, public and/or private bike-share programs, subsidy for alternative transportation (e.g., carpool/vanpool, shuttles, and bus service including transit passes), alternative work schedules, car-share membership, emergency ride home, and other measures to reduce trip generation.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with General Plan policies and Zoning regulations listed above that have been prepared to minimize vehicular trips and increase use of alternative forms of transportation. The City, throughout the 2040 buildout horizon, would also implement the General Plan programs that support and implement the General Plan policies that are aimed at reduce vehicular trips. Furthermore, the proposed project would introduce development incrementally over the 24-year buildout horizon of the project, which would allow for the implementation of the strategies to reduce trips while future development occurs. However, even with these mitigating regulations, the adoption of the proposed project would result in *significant* impacts with respect to roadway segment traffic volumes from increased automobile trips.

Impact TRANS-1a: Implementation of the proposed project would exceed the City's current impact thresholds under the 2040 Plus Project conditions at some roadway segments in the study area.

Mitigation Measure TRANS-1a: Widen impacted roadway segments to add travel lanes and capacity to accommodate the increase in net daily trips.

Significance With Mitigation: Significant and unavoidable. Mitigation Measure TRANS-1a is a typical improvement strategy to manage increased net daily trips. However, adding travel lanes to accommodate increased capacity of the roadway could require additional right-of-way that is not under the jurisdiction of the City, which would affect local property owners and is considered infeasible in most locations. Also, the widening of roadways can lead to other secondary impacts, such as induced travel demand (e.g., more vehicles on the roadway due to increased capacity on a particular route), air quality degradation, increases in noise associated with motor vehicles, and reductions in transit use (less congestion or reduced driving time may make driving more attractive than transit travel). Wider roadways also result in a degradation of pedestrian and bicycle facilities,

including increased intersection crossing times. Thus, while traffic may increase on certain roadways by varying percentages, it should be viewed as more than a level-of-service or traffic-operation issue. For these reasons, these types of measures are considered infeasible to reduce ADT on the impacted roadway segments. Furthermore, while implementation of the proposed Zoning regulations would reduce impacts at some roadways segments, it would not necessarily reduce all the impacted segments. For example, the proposed Zoning regulations that require a 20 percent trip reduction is anticipated to eliminate impacts on eight roadway segments, including segments of Alma Street, Encinal Avenue, Hamilton Avenue, Junipero Serra Boulevard, Laurel Street, Newbridge Street, and Linfield Drive. The trip reduction requirement would reduce traffic volumes at all other locations between 1 and 17 percent, resulting in reduced impacts. Additionally, the proposed street classification system would reclassify some street segments in the Bayfront Area, including segments of Chrysler Drive, Constitution Drive, Chilco Street, Adams Drive, and others, from local streets to Mixed-Use Collectors. These reclassifications would change the street design standards and eliminate or reduce impacts as streets are rebuilt to new standards over time. Furthermore, the net growth in 2040 Plus Project conditions daily traffic volumes, which represents the net change from existing conditions, includes growth that will occur without the project under 2040 No Project Conditions. Fully mitigating the impact to less than significant levels is infeasible because it would require eliminating most of the year 2040 traffic growth on impacted segments, including background traffic growth, regional traffic growth outside the control of the City and/or not part of the project. For these reasons, impacts to roadway segments are considered significant and unavoidable. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance. However, due to the programmatic nature of the proposed project, no additional mitigating policies are available.

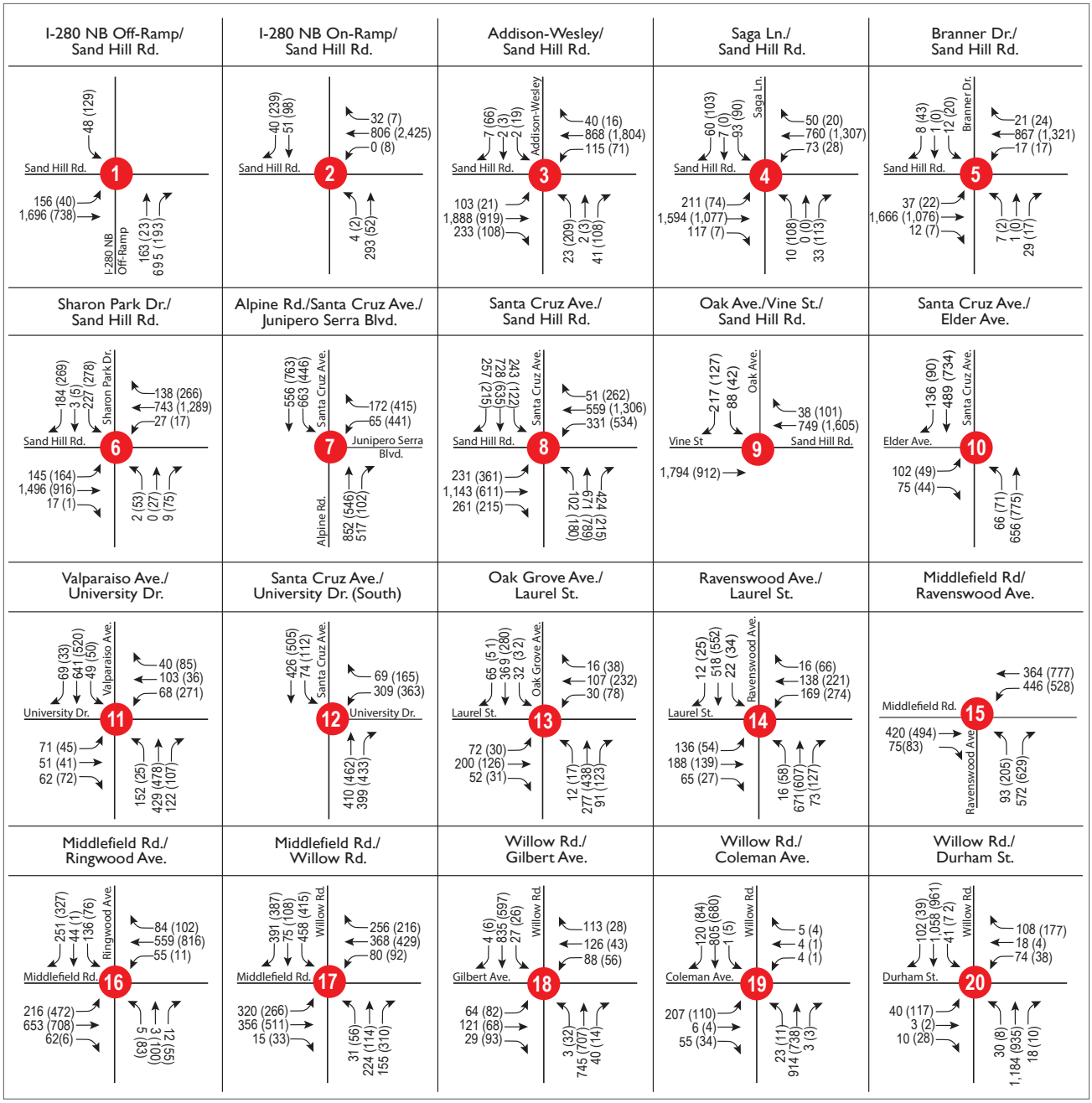
Peak Hour Traffic Operations

Peak-hour traffic volumes under 2040 Plus Project conditions at each study intersection were forecasted based on anticipated changes to peak-hour traffic volumes that will result from buildout under the 2040 Plus Project scenario. Peak-hour traffic volumes at each study intersection were forecasted based on the MPM Model. Lane configurations, signal timings, and peak hour turning movement volumes would remain consistent with 2040 No Project conditions.

Figures 4.13-10a, 4.13-10b, and 4.13-10c illustrate the forecasted peak hour vehicle turning movement volumes at each study intersection under 2040 Plus Project. The forecasted peak-hour traffic volumes reflect the anticipated net change that would result from the proposed project.

The peak hour level of service for each study intersection under 2040 Plus Project conditions is illustrated on Figure 4.13-11, and included as Appendix K of this Draft EIR. While the majority of study intersections would continue to operate at acceptable levels, some intersections would not. Table 4.13-12 includes a list of the intersections that would experience increased vehicular delay exceeding the impact thresholds during at least one peak hour under 2040 Plus Project conditions.

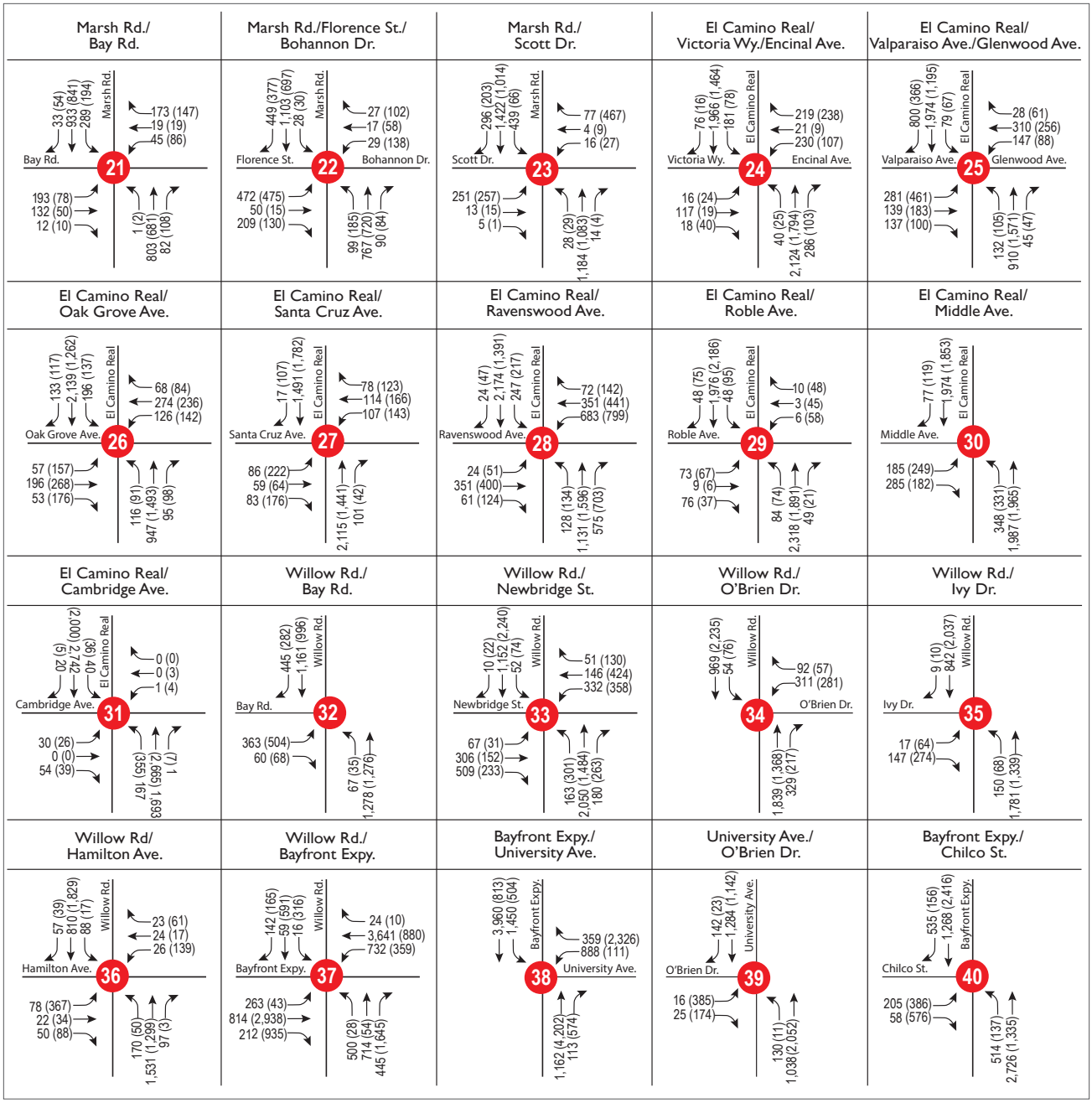
Same as the 2014 Existing scenario, the level of service results are based on level of service as observed by the City to reflect unserved demand. Specifically, this pertains to study intersections on Willow Road (#17 through #20, and #32 through #36) during one or both peak hours as shown in Table 4.13-12 below.



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

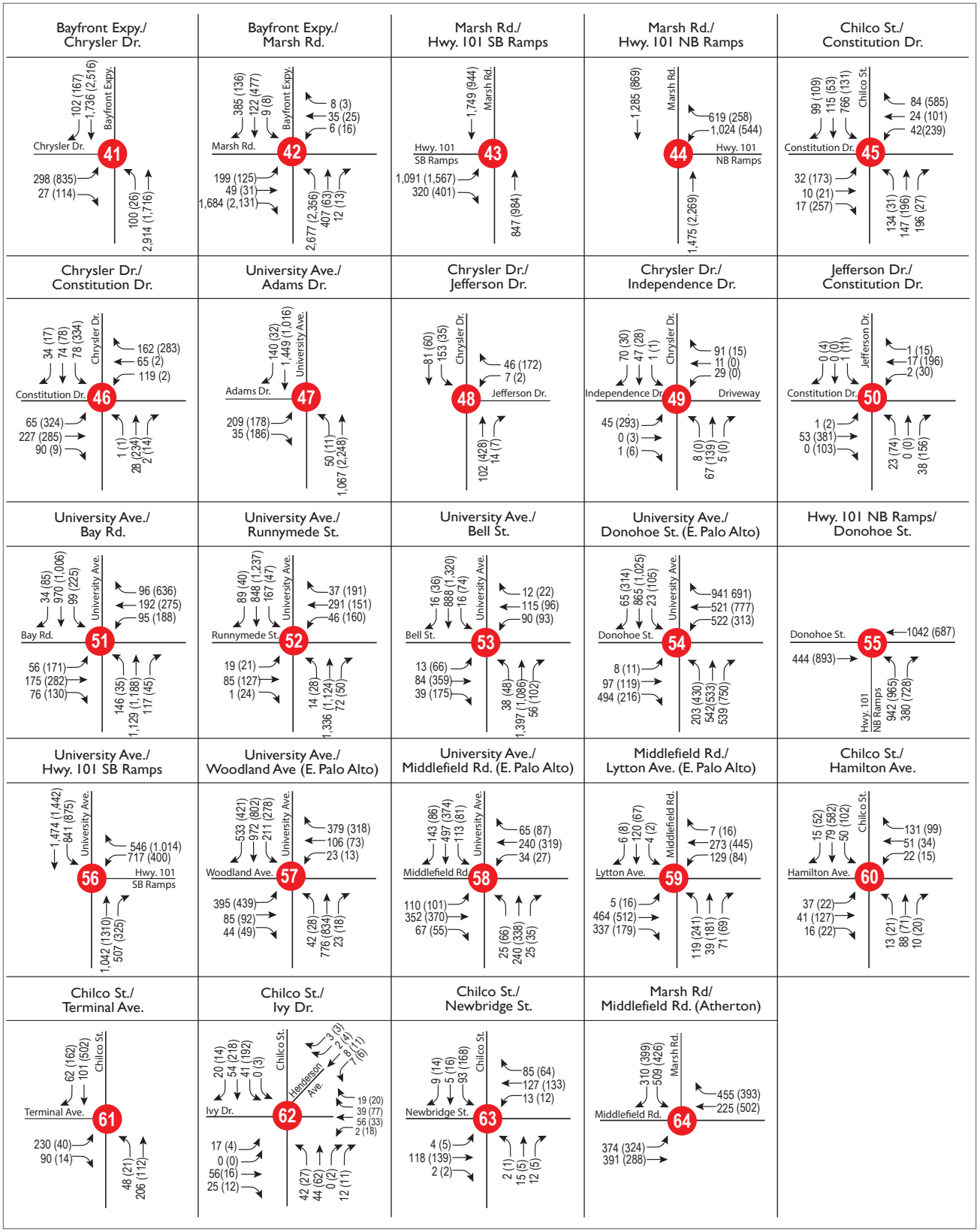
Figure 4.13-10a
2040 Plus Project Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

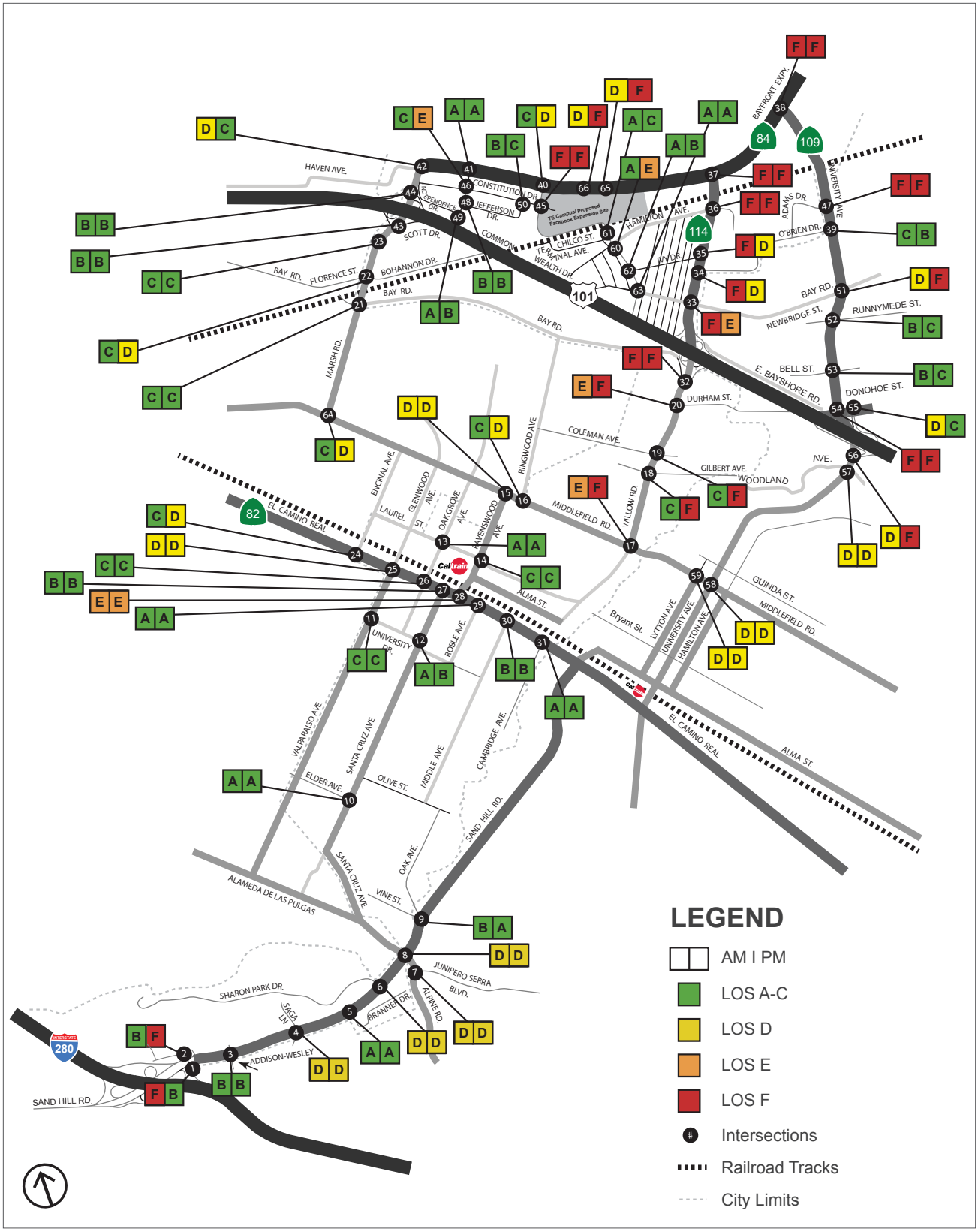
Figure 4.13-10b
2040 Plus Project Traffic Volumes



Source: TJKM, 2016.

Study Intersection
AM (PM) Peak Hour Traffic Volumes

Figure 4.13-10c
2040 Plus Project Traffic Volumes



Source: TJKM, 2016.

Figure 4.13-11
2040 Plus Project Intersection LOS

TABLE 4.13-12 UNACCEPTABLE PEAK HOUR INTERSECTION LEVEL OF SERVICE OPERATIONS UNDER 2040 PLUS PROJECT CONDITIONS

			2014 Existing Conditions				2040 No Project				2040 Plus Project			
			AM		PM		AM		PM		AM		PM	
No.	Intersection	LOS Threshold	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
1	Sand Hill Rd. and Hwy 280 NB Off-Ramp	D	D	43.9	B	11.0	**F**	**85.6**	B	10.5	**F**	**86.0**	B	10.3
2	Sand Hill Rd. and Hwy 280 NB On-Ramp	D	B	14.5	**E**	**74.0**	B	14.5	**E**	**74.0**	B	14.4	**F**	**84.9**
17	Middlefield Rd. and Willow Rd.	D	**E**	**61.9**	**F**	**>80 ***	**E**	**58.9**	**F**	**>80 ***	**E**	**59.0**	**F**	**>80 ***
18	Willow Rd. and Gilbert Ave.	D	C	20.7	**F**	**>80 ***	C	21.3	**F**	**>80 ***	C	23.5	**F**	**>80 ***
19	Willow Rd. and Coleman Ave.	D	C	21.1	**F**	**>80 ***	B	19.4	**F**	**>80 ***	C	20.4	**F**	**>80 ***
20	Willow Rd. and Durham St.	D	**E**	**>55 ***	**F**	**>80 ***	**E**	**>55 ***	**F**	**>80 ***	**E**	**>55 ***	**F**	**>80 ***
28	El Camino Real and Ravenswood Ave.	D	D	37.0	D	45.8	**E**	**73.0**	D	48.1	**E**	**79.2**	**E**	**75.9**
32	Willow Rd. and Bay Rd.	D	**F**	**>80 ***	**F**	**>80 ***	**F**	**>80 ***	**F**	**>80 ***	**F**	**>80 ***	**F**	**>80 ***
33	Willow Rd. and Newbridge St.	D	**F**	**>80 ***	D	38.0	**F**	**>80 ***	D	50.2	**F**	**>80 ***	**E**	**58.8**
34	Willow Rd. and O'Brien Dr.	D	**F**	**>80 ***	D	>35 *	**F**	**>80 ***	D	>35	**F**	**>80 ***	D	>35
35	Willow Rd. and Ivy Dr.	D	**F**	**>80 ***	D	>35 *	**F**	**>80 ***	D	>35	**F**	**>80 ***	D	>35
36	Willow Rd. and Hamilton Ave.	D	**F**	**>80 ***	**F**	**>80 ***	**F**	**>80 ***	**F**	**98.5**	**F**	**>80 ***	**F**	**103.3**
37	Willow Rd. and Bayfront Expwy.	D	**F**	**>80 ***	**F**	**>80 ***	**F**	**141.9**	**F**	**123.9**	**F**	**155.7**	**F**	**113.4**
38	Bayfront Expwy. and University Ave.	D	**F**	**>80 ***	**F**	**128.3**	**F**	**97.6**	**F**	**151.4**	**F**	**82.1**	**F**	**>160**
45	Chilco St. and Constitution Dr.	C	B	11.6	C	23.7	**F**	**>50**	**F**	**>50**	**F**	**>50**	**F**	**>50**
46	Chrysler Dr. and Constitution Dr.	C	A	8.9	B	14.4	C	26.1	**D**	**51.6**	C	32.4	**E**	**68.1**
47	University Ave. and Adams Dr.	D	**F**	**>50**	D	33.2	**F**	**>50**	**F**	**>50**	**F**	**>50**	**F**	**>50**
51	University Ave. and Bay Rd.	D	D	38.0	**F**	**100.6**	D	37.2	**F**	**107.5**	D	41.1	**F**	**143.4**

TABLE 4.13-12 UNACCEPTABLE PEAK HOUR INTERSECTION LEVEL OF SERVICE OPERATIONS UNDER 2040 PLUS PROJECT CONDITIONS

			2014 Existing Conditions				2040 No Project				2040 Plus Project			
			AM		PM		AM		PM		AM		PM	
No.	Intersection	LOS Threshold	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
54	University Ave. and Donohoe St.	D	**F**	**115.5**	**F**	**128.8**	**F**	**120.2**	**F**	**>160**	**F**	**136.4**	**F**	**149.0**
56	University Ave. and US 101 SB Ramps	D	C	30.9	**E**	**59.3**	D	39.8	**E**	**69.7**	D	52.9	**F**	**87.1**
60	Chilco St. and Hamilton Ave.	C	A	9.2	C	16.8	A	9.2	**E**	**41.6**	A	8.7	**E**	**48.7**

Notes: **Bold** and highlighted indicates unacceptable LOS. LOS=Level of Service. Delay=average control delay per vehicle.
*Indicates LOS based on unserved demand. At these locations, upstream & downstream congestion results in delay not captured by VISTRO analysis.
Source: TJKM Transportation Consultants, 2016.

TRANSPORTATION AND CIRCULATION

As described above, the proposed Circulation Element contains general goals, policies and programs that would be adopted as part of the proposed project and would require local planning and development decisions to consider circulation-related impacts. The General Plan goals, policies and programs, would serve to minimize potential adverse impacts on the circulation network in the study area through reducing vehicular trips and increasing alternative modes of transportation.

Specifically, the proposed project includes Policy CIRC-6.2 that requires the City to leverage potential funding sources to supplement City and private money to support transportation demand management and Program CIRC-6.C requires the City to require new and expanded development to pay a transportation impact fee and update the fee periodically to ensure that development is paying its fair share of circulation system improvement costs for all modes of transportation. However, as shown in Table 4.13-12, the proposed project at buildout would continue to result in intersections that would experience increased delay exceeding the impact thresholds, which is considered a *significant* impact.

Impact TRANS-1b: Implementation of the proposed project would result in increased delay to peak hour motor vehicle traffic exceeding the significance threshold at some of the study intersections.

Mitigation Measure TRANS-1b: The City of Menlo Park shall update the existing Transportation Impact Fee (TIF) program to guarantee funding for roadway and infrastructure improvements that are necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward circulation improvements. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Transportation Impact fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the Transportation Impact Fees to fund construction (or to recoup fees advanced to fund construction) of the transportation improvements identified below, among other things that at the time of potential future development may be warranted to mitigate traffic impacts. It should be noted that any project proposed prior to the adoption of an updated TIF will be required to conduct a project-specific Transportation Impact Assessment to determine the impacts and necessary transportation mitigations that are to be funded by that project.

As part of the update to the TIF program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the improvements and facilities required to mitigate the impacts of new development pursuant to the proposed project. The following examples of improvements and facilities would reduce impacts to acceptable level of service standards and these, among other improvements, could be included in the TIF program impact fees nexus study:

- Sand Hill Road (westbound) and I-280 Northbound On-ramp (#1): Modify the signal-timing plan during the PM peak hour to increase the maximum allocation of green time to the westbound approach during the PM peak hour.

- Sand Hill Road (eastbound) and I-280 Northbound Off-ramp (#2): Add an additional northbound right-turn lane on the off-ramp to improve operations to acceptable LOS D during the AM peak hour.

- El Camino Real and Ravenswood Avenue (#28): One eastbound right-turn lane on Menlo Avenue to improve conditions.

- Willow Road and Newbridge Street (#33): Implement measures on Chilco Street south of Constitution Drive to reduce or prevent cut-through traffic through the Belle Haven neighborhood, such as peak-hour turn restrictions from Constitution Drive to southbound Chilco Street, and measures to enhance east/west circulation from Willow Road via O'Brien Drive and the proposed mixed-use collector street opposite Ivy Drive, extending east to University Avenue, to discourage use of Newbridge Street.

- Willow Road and Hamilton Avenue (#36): Provide primary access to potential future development sites east of Willow Road via O'Brien Drive and/or the proposed Mixed-Use Collector that would intersect Willow Road between Hamilton Avenue and O'Brien Drive. Implement measures on Chilco Street south of Constitution Drive to prevent cut-through traffic through the Belle Haven neighborhood, such as peak-hour turn restrictions from Constitution Drive to southbound Chilco Street. Although the provision of an eastbound left-turn lane on Hamilton Avenue where it approaches Willow Road would reduce the delay, this potential mitigation is not recommend because it would encourage cut-through traffic via Chilco Street and Hamilton Avenue, potentially affecting the Belle Haven neighborhood. Therefore, to avoid facilitating the use of Chilco Street and Hamilton Avenue as cut-through routes in the adjacent residential neighborhood, mitigating this traffic impact is not recommended at this time, consistent with City policies that discourage cut-through traffic in residential neighborhoods. The improvements should be incorporated into the updated fee program for ongoing consideration.

- Bayfront Expressway and Willow Road (#37): Evaluate the potential for grade separation to allow conflicting movements to occur simultaneously. The evaluation must consider traffic improvements, along with potential secondary impacts caused by potential right-of-way acquisition, impacts to adjacent wetlands and the Dumbarton Rail corridor, as well as potential impacts or benefits for multi-modal accommodation. If found feasible, the updated fee program should incorporate fair-share contributions from future development towards grade separation.

- Bayfront Expressway and University Avenue (#38): Evaluate the potential for grade separation to allow conflicting movements to occur simultaneously. The evaluation must consider traffic improvements, along with potential secondary impacts caused by potential right-of-way acquisition, impacts to adjacent wetlands and the Dumbarton Rail corridor, as well as potential impacts or benefits for multi-modal accommodation. If found feasible, the updated fee program should incorporate fair-share contributions from future development towards grade separation.

- Chilco Street and Constitution Drive (#45): Install a traffic signal and signalized crosswalks at the intersection. Construct three southbound lanes on the one-block segment of Chilco Street, between Bayfront Expressway and Chilco Street, to include two southbound left-turn lanes to

accommodate the volume of left-turning vehicles entering the project site. In addition, during the AM peak hour, provide a "split-phase" signal operation on Chilco Street. Construct a northbound left-turn lane on Chilco Street approaching Constitution Drive. Construct two outbound lanes on Chilco Street between Constitution Drive and Bayfront Expressway. If the Facebook Campus Expansion Project is approved, this mitigation measure would be required to be constructed as a requirement of that project.

- Chrysler Drive and Constitution Drive (#46): Construct a southbound left-turn on Chrysler Drive, approaching Constitution Drive.

- University Avenue and Adams Drive (#47): Install a traffic signal at this intersection.

- University Avenue and Bay Road (#51): Realign the eastbound and westbound approaches to allow replacement of the east/west "split-phase" signal on Bay Street with standard protected signal phases in order to allow eastbound and westbound pedestrian crossings to occur simultaneously, which would allow for an increase in green time allocated to northbound/southbound movements on University Avenue and reduce peak-hour delay at this intersection. This intersection is located in the City of East Palo Alto and under the control of Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements.

- University Avenue and Donohoe Street (#54): Mitigating this impact would require providing additional westbound lane capacity on Donohoe Street, including an extended dual left-turn pocket, dedicated through lane, and dual right-turn lanes; providing a southbound right-turn lane on University Avenue and lengthening the northbound turn pockets. However, this mitigation is likely to be infeasible given right-of-way limitations, proximity to existing US 101 on- and off-ramps, and adjacent properties. In addition, this intersection is located in the City of East Palo Alto and under the control of Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements.

- University Avenue and US 101 Southbound Ramps (#56): Mitigating this impact would require modifications to the US 101 Southbound On/Off Ramps and at this location This intersection is located in the City of East Palo Alto and under the control of Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements.

- Chilco Street and Hamilton Avenue (#60): Installation of a traffic signal would mitigate this impact to less than significant levels, but would have the undesirable secondary effect of encouraging the use of Chilco Street as a cut-through route, which conflicts with City goals that aim to reduce cut-through traffic in residential neighborhoods. Therefore, to avoid facilitating cut-through traffic, mitigating this traffic impact by increasing capacity is not recommended at this time, but should be incorporated into the updated fee program for ongoing consideration.

Significance With Mitigation: Significant and Unavoidable. While implementation of Mitigation Measure TRANS-1b would secure a funding mechanism for future roadway and infrastructure improvements that are determined to be necessary to mitigate impacts from future projects based on then current standards, impacts would remain significant and unavoidable, because the City cannot guarantee improvements at these intersections at this time. Additionally, several mitigation measures have potential secondary environmental impacts that will need to be addressed before construction could occur. This is in part because the nexus study has yet to be prepared and because some of the impacted intersections are under the jurisdiction of Caltrans or the City of East Palo Alto. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance. However, due to the programmatic nature of the proposed project, no additional mitigating policies are available.

Vehicle Miles Traveled

The MPM model was utilized to provide a comparison of estimated VMT for trips beginning or ending in Menlo Park. Table 4.13-13 compares the VMT forecast for the 2014 Existing scenario to the 2040 Plus Project scenario, and shows the resulting change in VMT per person based on the anticipated total number of Menlo Park residents and jobs under each scenario. VMT is also shown under 2040 No Project conditions for informational purposes.

TABLE 4.13-13 DAILY VEHICLE MILES TRAVELED (VMT) PER CAPITA COMPARISON: 2014 EXISTING AND 2040 PLUS PROJECT

Analysis Scenarios	VMT	Residents	Jobs	VMT Per Capita
2014 Existing	934,722	32,900	30,900	15
2040 No Project	1,655,624	38,780	47,750	19
2040 Plus Project	1,449,337	50,350	53,250	14

Source: TJKM Transportation Consultants, 2016.

As previously stated in Section 4.13.2, Standards of Significance, VMT related impacts will be considered potentially significant if the proposed project results in citywide VMT per capita that would exceed 15 percent below VMT per capita for the region. As discussed under Section 4.13.1.3, Traffic Analysis Scenarios, the VMT estimates in the MPM are sensitive to changes in land use and in general, land uses that reflect a more balanced jobs-housing ratio in the MPM result in lower per capita VMT. Therefore, while the proposed project would introduce new development potential in Menlo Park, as shown in Table 4.13-13, VMT under the 2040 Plus Project condition would be less than VMT under the 2040 No Project condition and 2014 Existing conditions, as well as exceeding 15 percent below the 2013 *Plan Bay Area EIR* regional average of 17.7 miles per person. The reduction in VMT per capita under the 2040 Plus Project scenario is due to the planned addition of housing in a jobs-rich area, which results in changes in trip-making behavior, travel characteristics and resulting trip lengths.

Furthermore, the proposed Circulation (CIRC) Element contains general goals, policies and programs that would be affirmed as part of the proposed project. These would require local planning and development decisions to consider circulation-related impacts. The following General Plan goals, policies and programs,

would serve to continue to minimize potential adverse impacts on the circulation network in the study area and reduce VMT:

- Goal CIRC-3: Increase mobility options to reduce traffic congestion, greenhouse gas emissions, and commute travel time.
  - Policy CIRC-3.1: Vehicle-Miles Traveled. Support development and transportation improvements that help reduce per capita vehicle miles traveled.
  - Policy CIRC-3.2: Greenhouse Gas Emissions. Support development, transportation improvements, and emerging vehicle technology that help reduce per capita greenhouse gas emissions.
  - Policy CIRC-3.3: Emerging Transportation Technology. Support efforts to fund emerging technological transportation advancements, including connected and autonomous vehicles, emergency vehicle pre-emption, sharing technology, electric vehicle technology, electric bikes and scooters, and innovative transit options.
    - Program CIRC-3.A: Transportation Impact Metrics. Supplement Level Vehicle Miles Traveled (VMT) and greenhouse gas emissions per capita metrics with Level of Service (LOS) in the transportation impact review process, and utilize LOS for identification of potential operational improvements, such as traffic signal upgrades and coordination, as part of the Transportation Master Plan.

Additionally, as described above, the proposed Zoning update includes regulations to reduce vehicular trips and increase travel patterns that are oriented toward pedestrian, transit, and bicycle use.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with General Plan policies and Zoning regulations listed above that have been prepared to minimize vehicular trips and increase alternate forms of transportation, and the City, throughout the 2040 buildout horizon, would implement the General Plan programs that support and implement the General Plan policies that are aimed at reducing vehicular trips. For these reasons, and because the proposed project would not exceed existing VMT the threshold of significance, the adoption of the proposed project would result in *less-than-significant* impacts with respect to VMT.

Significance Without Mitigation: Less than significant.

TRANS-2	**Implementation of the proposed project would conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.**

The following facilities are designated as Routes of Regional Significance by the San Mateo County Congestion Management Program (CMP). The applicable standards for those CMP facilities are summarized in Section 4.13.2 Standards of Significance.

- State Route (SR) 84 (Bayfront Expressway) from US 101 to Willow Road
- SR 84 (Bayfront Expressway) from Willow Road to University Avenue
- SR 84 (Bayfront Expressway) from University Avenue to the Alameda County Line

- SR 109 (University Avenue) from SR 84 to Kavanaugh Drive
- SR 114 (Willow Road) from US 101 to SR 84
- US 101, from Whipple Avenue to Santa Clara County Line

Of the 87 roadway segments studied, none are CMP segments. Of the 64 study intersections studied, three are CMP intersections, each with an identified CMP standard of LOS F for peak hour conditions. Based on the CMP standard, Project impacts to CMP intersections would be less than significant. The impact discussion under TRANS-1 addresses the impacts to these CMP intersections further, by applying the City of Menlo Park's applicable impact standards to these locations.

The following Routes of Regional Significance would continue to operate at or below their level-of-service threshold under 2040 Plus Project conditions, and project traffic would be anticipated to exceed the allowable 1 percent threshold for triggering significant impacts. The following Routes of Regional Significance operate at or below their level-of-service threshold under 2040 Plus Project conditions, and the contribution of project traffic is anticipated to exceed the allowable 1 percent threshold:

- State Route (SR) 84 (Bayfront Expressway) from US 101 to Willow Road
- SR 84 (Bayfront Expressway) from Willow Road to University Avenue
- SR 84 (Bayfront Expressway) from University Avenue to the Alameda County line
- SR 109 (University Avenue) from SR 84 to Kavanaugh Drive
- SR 114 (Willow Road) from US 101 to SR 84
- US 101, from Whipple Avenue to Santa Clara County Line

The proposed Circulation (CIRC) Element contains general goals, policies and programs that would be adopted as part of the proposed project. These would require local planning and development decisions to consider circulation-related impacts. The following General Plan goals, policies and programs would serve to reduce impacts to Routes of Regional Significance:

- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.13: County Congestion Management. Work with the County Congestion Management Agency to implement the Countywide Congestion Management Program and Deficiency Plans for City and State facilities, and avoid adding any Menlo Park streets or intersections to the Countywide Congestion Management Program.
  - Policy CIRC-2.15: Regional Transportation Improvements. Work with neighboring jurisdictions and appropriate agencies to coordinate transportation planning efforts and to identify and secure adequate funding for regional transportation improvements to improve transportation options and reduce congestion in Menlo Park and adjacent communities.
    - Program CIRC-2.C: Transportation Master Plan. Prepare a citywide Transportation Master Plan that includes roadway system improvements and combines and updates the existing Bicycle Plan, includes provisions for overcoming barriers and identifying safe multi-modal routes to key destinations in the City, and replaces the existing Sidewalk Master Plan with a section that identifies areas in Menlo Park where the community and neighborhood have expressed a desire for sidewalk improvements. Update the Transportation Master Plan at least every five years, or as necessary.

- Program CIRC-2.M: Transportation Management Program. Establish goals and metrics for the City's Transportation Management Program, and annually assess progress toward meeting those objectives.
- Program CIRC-2.Q: Caltrans. Collaborate with Caltrans to achieve and maintain travel efficiency along Caltrans rights-of-way in Menlo Park consistent with the San Mateo County Congestion Management Plan.

Impact TRANS-2: Implementation of the proposed project would result in impacts to Routes of Regional Significance.

Mitigation Measure TRANS-2: Implement Mitigation Measure TRANS-1a.

Significance With Mitigation: Significant and unavoidable. As discussed under TRANS-1, Mitigation Measure TRANS-1a is a typical improvement strategy to manage increased net daily trips. However, providing additional travel lanes would increase segment capacity but would not be feasible segments given available right-of-way and both downstream and downstream capacity limitations on facilities such as US 101 and the Dumbarton Bridge. In addition, the routes are under the control of Caltrans, and the City cannot guarantee implementation of mitigation. While some of the mitigation measures identified in TRANS-1 together with the General Plan goals, policies and programs listed above, could help reduce these impacts, the Routes of Regional Significance listed above are expected to remain congested during peak-hour conditions. Therefore the impact to regional routes of significance would remain significant and unavoidable.

TRANS-3 Implementation of the proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

The study area is located approximately two miles from Palo Alto Airport, but no portions of the city are within the airport safety zones identified in the CLUP for the airport. Menlo Park is located more than two miles from the San Francisco International and San Carlos Airports to the north and Moffett Federal Airfield to the south. The proposed project would be accessed by the existing roadway infrastructure as discussed under TRANS-1 and TRANS-2. Although traffic levels would increase in the area as a result of the proposed project, these increases would not result in changes to existing roadway configurations that could interfere with flight operations. Furthermore, the proposed project does not propose any land uses which could disrupt air traffic patterns; therefore, *no impact* would occur and no mitigation measures are required.

Significance Without Mitigation: No impact.

TRANS-4 Implementation of the proposed project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Because the proposed project is a program-level planning effort, it does not directly address project-level design features or building specifications. The proposed project would result in an increase of commercial, residential and mixed-use land uses. As these land uses develop, construction of several new or realigned roadways are proposed and modifications to existing roadways may be necessary to support the growth. As with current practice, the improvements would be designed and reviewed in accordance with the City's Public Works Department Transportation Program. Future development under the proposed project would be concentrated on sites that are already developed where impacts related to incompatible traffic related land uses would not likely occur.

The proposed Land Use (LU) Element and Circulation (CIRC) Element contain general goals, policies and programs that would be adopted as part of the proposed project. These would require local planning and development decisions to consider circulation-related impacts. The following General Plan goals, policies and programs, would serve to continue to minimize potential hazards due to roadway design or incompatible uses through promoting safety, accessibility and land use compatibility:

- Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.
  - Policy LU-1.1: Land Use Patterns. Cooperate with the appropriate agencies to help assure a coordinated land use pattern in Menlo Park and the surrounding area.
- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
  - Policy LU-2.6: Underground Utilities. Require all electric and communications lines serving new development to be placed underground.
  - Policy LU-2.9: Compatible Uses. Promote residential uses in mixed-use arrangements and the clustering of compatible uses such as employment center, shopping areas, open space and parks, within easy walking and bicycling distance of each other and transit stops.
- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
  - Policy CIRC-1.1: Vision Zero. Eliminate traffic fatalities and reduce the number of injury collisions by 50% by 2040.
  - Policy CIRC-1.2: Capital Project Prioritization. Maintain and upgrade existing rights-of-way before incurring the cost of constructing new infrastructure, and ensure that the needs of non-motorized travelers are considered in planning, programming, design, reconstruction, retrofit, maintenance, construction, operations, and project development activities and products.
  - Policy CIRC-1.3: Engineering. Use data-driven findings to focus engineering efforts on the most critical safety projects.
  - Policy CIRC-1.4: Education and Encouragement. Introduce and promote effective safety programs for adults and youths to educate all road users as to their responsibilities.

TRANSPORTATION AND CIRCULATION

- Policy CIRC-1.5: Enforcement Program. Develop and implement an enforcement program to encourage safe travel behavior and to reduce aggressive and/or negligent behavior among drivers, bicyclists, and pedestrians.
- Policy CIRC-1.6: Emergency Response Routes. Identify and prioritize emergency response routes in the citywide circulation system.
- Policy CIRC-1.7: Bicycle Safety. Support and improve bicyclist safety through roadway maintenance and design efforts.
- Policy CIRC-1.8: Pedestrian Safety. Maintain and create a connected network of safe sidewalks and walkways within the public right of way ensure that appropriate facilities, traffic control, and street lighting are provided for pedestrian safety and convenience, including for sensitive populations.
- Policy CIRC-1.9: Safe Routes to Schools. Support Safe Routes to School programs to enhance the safety of school children who walk and bike to school.
  - Program CIRC-1.A: Pedestrian and Bicyclist Safety. Consider pedestrian and bicyclist safety in the design of streets, intersections, and traffic control devices.
  - Program CIRC-1.B: Safe Routes to Schools. Work with schools and neighboring jurisdictions to develop, implement and periodically update Safe Routes to School programs. Schools that have not completed a Safe Routes to Schools plan should be prioritized before previously completed plans are updated.
  - Program CIRC-1.C: Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes.
  - Program CIRC-1.D: Travel Pattern Data. Bi-annually update data regarding travel patterns for all modes to measure circulation system efficiency (e.g., vehicle miles traveled per capita, traffic volumes) and safety (e.g., collision rates) standards. Coordinate with Caltrans to monitor and/or collect data on state routes within Menlo Park.

- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.1: Accommodating All Modes. Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.
  - Policy CIRC-2.3: Street Classification. Utilize measurements of safety and efficiency for all travel modes to guide the classification and design of the circulation system, with an emphasis on providing "complete streets" sensitive to neighborhood context.
  - Policy CIRC-2.11: Design of New Development. Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.
    - Program CIRC-2.C: Transportation Master Plan. Prepare a citywide Transportation Master Plan that includes roadway system improvements and combines and updates the existing Bicycle Plan, includes provisions for overcoming barriers and identifying safe multi-modal routes to

key destinations in the City, and replaces the existing Sidewalk Master Plan with a section that identifies areas in Menlo Park where the community and neighborhood have expressed a desire for sidewalk improvements. Update the Transportation Master Plan at least every five years, or as necessary.

- Program CIRC-2.H: Zoning Requirements for Shared-Use Pathways. Establish Zoning Ordinance requirements for new development to include public easements for shared-use pathways.
- Program CIRC-2.K: Municipal Code Requirements. Establish Municipal Code requirements for all new development to incorporate safe and attractive pedestrian and bicycle facilities, including continuous shaded sidewalks, pedestrian lighting, and other amenities.

Additionally, the proposed Zoning update includes design standards that require street improvements, including the provision of sidewalks. Because future developments and roadway improvements would be designed in accordance to City standards and would be subject to existing regulations, including the General Plan policies and Zoning regulations, and because City, throughout the 2040 buildout horizon, would implement the General Plan programs that support and implement the General Plan policies that are aimed at reducing hazardous conditions with respect circulation design, the adoption of the proposed project would result in *less-than-significant* impacts with respect to hazards due to design features or incompatible uses.

Significance Without Mitigation: Less than significant.

TRANS-5 Implementation of the proposed project would not result in inadequate emergency access.

Because the proposed project is a program-level planning effort, it does not directly address project-level design features or building specifications; however, the General Plan includes polices that would ensure efficient circulation and adequate access are provided in the city, which would help facilitate emergency response.

The proposed project includes policies and programs that facilitate emergency response in the Circulation (CIRC) Element. These include Policy CIRC-1.6, which requires the identification and prioritization of emergency response routes in the citywide circulation system. This policy would be implemented through Program CIRC-1.E, which requires the City to collaborate with the Menlo Park Fire Protection District (MPFPD) and Menlo Park Police Department (MPPD), to adopt a map of emergency response routes that considers alternative options, such as the Dumbarton Corridor, for emergency vehicle access. Modifications to emergency response routes should not prevent or impede emergency vehicle travel, ingress, and/or egress. Also, Program CIRC-1.F requires the City to coordinate and consult with the MPFPD in establishing circulation standards to assure the provision of high quality fire protection and emergency medical services within the city. Policy CIRC-3.3 requires the City to support efforts to fund emerging technological transportation advancements, including connected and autonomous vehicles, emergency vehicle pre-emption, sharing technology, electric vehicle technology, electric bikes and scooters, and innovative transit options. This policy is implemented by Program CIRC-3.B, which requires the City to equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Existing traffic signals without existing pre-emptive devices will be upgraded as major signal modifications are

completed. Within Section IV, Safety (S), of the Open Space/Conservation, Noise and Safety Elements, the proposed project includes Policy S-1.30, which requires the City to encourage City-Fire District coordination in the planning process and require all development applications to be reviewed and approved by the MPFPD prior to project approval, and Policy S-1.38, which requires that all private roads be designed to allow access for emergency vehicles as a prerequisite to the granting of permits and approvals for construction.

As discussed under TRANS-1, the implementation of the proposed project would result in increased traffic congestion and delay at some study intersections that could be used for emergency vehicle access routes. This additional traffic congestion could potentially slow emergency response and evacuation. However, future development permitted under the proposed project would be concentrated on sites that are already developed where impacts related to inadequate emergency access would not likely occur. The proposed project does not propose any new major roadways or other physical features through existing neighborhoods that would obstruct emergency access to evacuation routes. Substantial land use changes would occur to the land use map in the Bayfront Area where substantial new development potential would be permitted. However, future development in the Bayfront Area would rely on existing roadway infrastructure and would not obstruct existing emergency access to evacuation routes.

Buildings and site design for individual projects would be designed and built according to local Fire District standards and State Building Code standards, further ensuring that emergency access by fire or emergency services personnel would not be impaired. Furthermore, as discussed under TRANS-1 and TRANS-4, the proposed project includes goals, policies and programs in the Land Use (LU) and Circulation (CIRC) Elements that would reduce potential vehicular trips reducing congestion, and reduce potential roadway design hazards and promote safe design practices for vehicular, bicycle and pedestrian modes of transportation and land use compatibility to reduce potential obstructions to emergency access. Specifically, Policy LU-1.1 requires the City to coordinate with appropriate agencies to help assure coordinated land use pattern, Policy LU-2.9 requires the development of compatible land uses within mixed-use development, and Policy CIRC-3.1 requires the development of transportation improvements to reduce per capita vehicle miles.

Additionally, as part of the Zoning update, the project includes transportation demand management (TDM) standards for development in the Bayfront Area. These TDM standards require future development to reduce associated vehicle trips to at least 20 percent below standard generation rates. Each individual applicant will be required to prepare a TDM and provide an impact analysis to the satisfaction of the City's Transportation Manager. The proposed Zoning update also includes development regulations that include the provision of community amenities or the payment of impact fees by developers seeking an increase in floor area ratio and/or height, which could include support for fire protection services.

Future development under the proposed project would be reviewed by City Planning, Engineering and Building Departments as well as the MPFPD for compliance with the Zoning and Building Code and Engineering Standards, and the Fire Code to ensure adequate emergency vehicle access.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to emergency access. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the City's continued

coordination with MPPD and MPFPD to establish circulation standards, adopt an emergency response routes map, and equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Furthermore, the implementation of proposed Zoning would help to minimize traffic congestion that could impact emergency access and provide additional funding to support adequate emergency services. Adherence to the State and City requirements combined with compliance the City's General Plan and Zoning regulations would ensure that the adoption of the proposed project would result in *less-than-significant* impacts with respect to inadequate emergency access.

Significance Without Mitigation: Less than significant.

TRANS-6	**Implementation of the proposed project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.**

The new development potential under the proposed project is anticipated to generate new transit riders, bicyclists, and pedestrians. The proposed project includes goals, policies, and programs that provide for an integrated network of bicycle and pedestrian facilities as well as for the needs of transit users.

The proposed project contains goals and policies in the Land Use (LU) and Circulation (CIRC) Elements that, once adopted, would provide for an integrated network of bicycle and pedestrian facilities as well as for the needs of transit users as follows:

- Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.
  - Policy LU-2.9: Compatible Uses. Promote residential uses in mixed-use arrangements and the clustering of compatible uses such as employment center, shopping areas, open space and parks, within easy walking and bicycling distance of each other and transit stops.
- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
  - Policy CIRC-1.4: Education and Encouragement. Introduce and promote effective safety programs for adults and youths to educate all road users as to their responsibilities.
  - Policy CIRC-1.5: Enforcement Program. Develop and implement an enforcement program to encourage safe travel behavior and to reduce aggressive and/or negligent behavior among drivers, bicyclists, and pedestrians.
  - Policy CIRC-1.6: Emergency Response Routes. Identify and prioritize emergency response routes in the citywide circulation system.
  - Policy CIRC-1.7: Bicycle Safety. Support and improve bicyclist safety through roadway maintenance and design efforts.
  - Policy CIRC-1.8: Pedestrian Safety. Maintain and create a connected network of safe sidewalks and walkways within the public right of way ensure that appropriate facilities, traffic control, and

street lighting are provided for pedestrian safety and convenience, including for sensitive populations.

- Policy CIRC-1.9: Safe Routes to Schools. Support Safe Routes to School programs to enhance the safety of school children who walk and bike to school.
  - Program CIRC-1.C: Capital Improvement Program. Annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes.
  - Program CIRC-1.D: Travel Pattern Data. Bi-annually update data regarding travel patterns for all modes to measure circulation system efficiency (e.g., vehicle miles traveled per capita, traffic volumes) and safety (e.g., collision rates) standards. Coordinate with Caltrans to monitor and/or collect data on state routes within Menlo Park.

- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.1: Accommodating All Modes. Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.
  - Policy CIRC-2.3: Street Classification. Utilize measurements of safety and efficiency for all travel modes to guide the classification and design of the circulation system, with an emphasis on providing "complete streets" sensitive to neighborhood context.
  - Policy CIRC-2.4: Equity. Identify low-income and transit-dependent districts that require pedestrian and bicycle access to, from, and within their neighborhoods.
  - Policy CIRC-2.5: Neighborhood Streets. Support a street classification system with target design speeds that promotes safe, multimodal streets, and minimizes cut-through and high-speed traffic that diminishes the quality of life in Menlo Park's residential neighborhoods.
  - Policy CIRC-2.6: Local Streets as Alternate Routes. Work with appropriate agencies to discourage use of city streets as alternatives to, or connectors of, State and federal highways; to encourage improvement of the operation of US 101; and to explore improvements to Bayfront Expressway (State Route 84) and Marsh Road (and its connection to US 101), with environmental protection for adjacent marsh and wetland areas, to reduce traffic on Willow Road (State Route 114).
  - Policy CIRC-2.7: Walking and Biking. Provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate roadway design and maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan and the El Camino Real/Downtown Specific Plan.
  - Policy CIRC-2.8: Pedestrian Access at Intersections. Support full pedestrian access across all legs of signalized intersections.
  - Policy CIRC-2.9: Bikeway System Expansion. Expand the citywide bikeway system through appropriate roadway design, maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan, and the El Camino Real/Downtown Specific Plan.

- Policy CIRC-2.11: Design of New Development. Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.
- Policy CIRC-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per capita) of the circulation system. New development should minimize cut-through and high-speed vehicle traffic on residential streets; minimize the number of vehicle trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of proposed projects; and facilitate appropriate or adequate response times and access for emergency vehicles.
- Program CIRC-2.C: Transportation Master Plan. Prepare a citywide Transportation Master Plan that includes roadway system improvements and combines and updates the existing Bicycle Plan, includes provisions for overcoming barriers and identifying safe multi-modal routes to key destinations in the City, and replaces the existing Sidewalk Master Plan with a section that identifies areas in Menlo Park where the community and neighborhood have expressed a desire for sidewalk improvements. Update the Transportation Master Plan at least every five years, or as necessary.
- Program CIRC-2.D: Pedestrian and Bicycle Facility Maintenance. Remove debris on roadways and pedestrian/bike facilities, monitor intersection sight clearance, and repair pavement along all roadways and sidewalks; prioritize improvements along bicycle routes.
- Program CIRC-2.E: Bikeway System Planning. Review the citywide bikeway system pursuant to the Comprehensive Bicycle Development Plan and El Camino Real/Downtown Specific Plan, and other recent planning efforts every five years and update as necessary.
- Program CIRC-2.F: Bicycle Improvement Funding. Pursue funding for improvements identified in the Comprehensive Bicycle Development Plan and El Camino Real/Downtown Specific Plan.
- Program CIRC-2.G: Zoning Requirements for Bicycle Storage. Establish Zoning Ordinance requirements for new development to provide secure bicycle and convenient storage and/or bike-sharing facilities.
- Program CIRC-2.H: Zoning Requirements for Shared-Use Pathways. Establish Zoning Ordinance requirements for new development to include public easements for shared-use pathways.
- Program CIRC-2.I: Bike Sharing Program. Work with local and regional organizations to develop and implement a citywide bike sharing program.
- Program CIRC-2.J: Multi-modal Stormwater Management. Identify funding opportunities for stormwater management that can be used to support implementation of multimodal improvements to Menlo Park's streets.
- Program CIRC-2.K: Municipal Code Requirements. Establish Municipal Code requirements for all new development to incorporate safe and attractive pedestrian and bicycle facilities, including continuous shaded sidewalks, pedestrian lighting, and other amenities.

- Goal CIRC-5: Support local and regional transit that is efficient, frequent, convenient, and safe.

TRANSPORTATION AND CIRCULATION

- Policy CIRC-5.1: Transit Service and Ridership. Promote improved public transit service and increased transit ridership, especially to employment centers, commercial destinations, schools, and public facilities.
- Policy CIRC-5.2: Transit Proximity to Activity Centers. Promote the clustering of as many activities as possible within easy walking distance of transit stops, and locate any new transit stops as close as possible to housing, jobs, shopping areas, open space, and parks.
- Policy CIRC-5.3: Rail Service. Promote increasing the capacity and frequency of commuter rail service, including Caltrain; protect rail rights-of-way for future transit service; and support efforts to reactivate the Dumbarton Corridor for transit, pedestrian, bicycle, and emergency vehicle use.
- Policy CIRC-5.4: Caltrain Enhancements. Support Caltrain safety and efficiency improvements, such as positive train control, grade separation (with priority at Ravenswood Avenue), electrification, and extension to Downtown San Francisco (Transbay Terminal), provided that Caltrain service to Menlo Park increases and use of the rail right-of-way is consistent with the City's Rail Policy.
- Policy CIRC-5.5: Dumbarton Corridor. Work with Caltrain and appropriate agencies to reactivate the rail spur on the Dumbarton Corridor with appropriate transit service from Downtown Redwood City to Willow Road with future extension across the San Francisco Bay.
- Policy CIRC-5.6: Bicycle Amenities and Transit. Encourage transit providers to improve bicycle amenities to enhance convenience, including access to transit including bike share programs, secure storage at transit stations and on-board storage where feasible.
- Policy CIRC-5.7: New Development. Ensure that new nonresidential, mixed-use, and multiple-dwelling residential development provides associated needed transit service, improvements and amenities in proportion with demand attributable to the type and scale of the proposed development.
    - Program CIRC-5.A: Long-Term Transit Planning. Work with appropriate agencies to agree on long-term peninsula transit service that reflects Menlo Park's desires and is not disruptive to the city.
    - Program CIRC-5.B: SamTrans. Work with SamTrans to provide appropriate community-serving transit service and coordination of schedules and services with other transit agencies.

- Goal CIRC-6: Provide a range of transportation choices for the Menlo Park community.
    - Policy CIRC-6.1: Transportation Demand Management. Coordinate Menlo Park's transportation demand management efforts with other agencies providing similar services within San Mateo and Santa Clara Counties.
    - Policy CIRC-6.2: Funding Leverage. Continue to leverage potential funding sources to supplement City and private monies to support transportation demand management activities of the City and local employers.
    - Policy CIRC-6.3: Shuttle Service. Encourage increased shuttle service between employment centers and the Downtown Menlo Park Caltrain station.

- Policy CIRC-6.4: Employers and Schools. Encourage employers and schools to promote walking, bicycling, carpooling, shuttles, and transit use.
    - Program CIRC-6.D: Peninsula Traffic Congestion Relief Alliance. Consider joining the Peninsula Traffic Congestion Relief Alliance ("commute.org") to assist local employers with increasing biking and walking, transit, carpool, and vanpool and shuttle use for their employees. [Program CIRC-3.C]
    - Program CIRC-6.E: Employer Programs. Work with local employers to develop programs that encourage walking, bicycling, and transit use. [Program CIRC-3.E]

Furthermore, as part of the Zoning update, the proposed project includes standards for bicycle facilities and requires future development to provide new pedestrian, bicycle, and/or vehicle connections to support connectivity and circulation. As previously discussed, the project also includes the TDM standards, which can include such measures as proximity to transit and provisions for adequate transit shelters, and carpools and transit passes.

The future development under the proposed project would be concentrated on sites either already developed and/or in close proximity to existing development, and would be served by existing transit, bicycle, and pedestrian infrastructure. Implementation of the proposed project would continue to promote the use of public transit, promote the safe use of bicycles as a commute alternative and for recreation and promotes walking as a commute alternative and for short trips, while also requiring that adequate services are provided.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to alternative modes of transportation. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the City to annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes and bi-annually update data regarding travel patterns for all modes to measure circulation system efficiency (e.g., vehicle miles traveled per capita, traffic volumes) and safety (e.g., collision rates) standards, amongst others as listed above. Furthermore, the implementation of proposed Zoning would support adequate facilities and access to alternate modes of transportation. Furthermore, as discussed Chapter 4.9, Land Use and Planning, the proposed project would be consistent with the City's Bicycle Development Plan and Sidewalk Master Plan. Accordingly, the adoption of the proposed project would result in *less-than-significant* impacts with respect to conflicting with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

Much of the anticipated development under the proposed project would occur in the Bayfront Area, including properties located east of US 101 that are not adequately connected to the pedestrian and bicycle circulation network locally or west of US 101, and properties bordering existing streets such as Constitution Drive that lack continuous sidewalks. Therefore, the proposed project would not provide adequate pedestrian or bicycle facilities to connect to the area circulation system. This impact is potentially significant.

In addition, the proposed project would generate increased demand for transit service and increased transit riders in areas not currently served by frequent public transit service, and some potential

development sites are located more than one-quarter mile from an existing transit stop. This impact is potentially significant.

Also, the project would result in increased peak-hour traffic delay at intersections on Bayfront Expressway, University Avenue and Willow Road, as identified in TRANS-1 that could decrease the performance of transit service, and result in increased operating costs to transit operators. This impact is potentially significant.

Impact TRANS-6a: Implementation of the proposed project would not provide adequate pedestrian or bicycle facilities to connect to the area-wide circulation system.

Mitigation Measure TRANS-6a: The City of Menlo Park shall update the Transportation Impact Fee (TIF) program to provide funding for bicycle and pedestrian facilities that are necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward improvements that will connect development sites within the area circulation system, including the elimination of gaps in the citywide pedestrian and bicycle network. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Transportation Impact fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the transportation Impact fees to fund construction (or to recoup fees advanced to fund construction) of the transportation improvements identified in this mitigation measure, among other things that at the time of potential future development may be warranted to mitigate traffic impacts. It should be noted that any project proposed prior to the adoption of an updated TIF will be required to conduct a project-specific Transportation Impact Assessment to determine the impacts and necessary pedestrian or bicycle facilities mitigations that are to be funded by that project.

As part of the update to the TIF program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the bicycle and pedestrian improvements and facilities required to mitigate the traffic impacts of new development pursuant to the proposed project. The following examples of pedestrian and bicycle improvements would reduce impacts to acceptable standards, and these, among others improvements, could be included in the updated TIF program, also described under TRANS-1:

- US 101 Pedestrian & Bicycle Overcrossing at Marsh Road, and Marsh Road Corridor Pedestrian & Bicycle Improvements (Haven Avenue to Marsh Road/Bay Road): Provide pedestrian and bicycle circulation between the Bayfront Area east of US 101 with the area circulation system west of US 101 along Marsh Road, including access to schools and commercial sites west of Marsh Road that are accessed via Bay Road and Florence Street. Improvements should facilitate pedestrian and bicycle circulation between Haven Avenue and across US 101 near Marsh Road. The recommended improvement would include a dedicated pedestrian and bicycle crossing adjacent to Marsh Road. Alternatively, the provision of continuous sidewalks with controlled pedestrian crossings and Class IV protected bicycle lanes on the Marsh Road overpass, if feasible, could mitigate this impact.

- Ringwood Avenue Corridor Pedestrian & Bicycle Improvements (Belle Haven to Middlefield Road): Eliminate pedestrian and bicycle facility gaps on primary access routes to the Ringwood Avenue bicycle/pedestrian overcrossing of US 101 (located near the terminus of Ringwood Avenue and Market Place). Improvements should include complete sidewalks on the north side of Pierce Road and bicycle facility improvements on the proposed Ringwood Avenue-Market Place-Hamilton Avenue bicycle boulevard (see Street Classification Map in Chapter 3, Project Description). These improvements would also enhance pedestrian and bicycle access to Menlo-Atherton High School.
- University Avenue Pedestrian Improvements: Eliminate gaps in the sidewalk network on those portions of University Avenue that are within the Menlo Park City limits. The TIF Program should also include a contribution towards elimination of sidewalk gaps outside the City limits (within the City of East Palo Alto) to ensure that continuous sidewalks are provided on the west University Avenue between Adams Drive and the Bay Trail, located north of Purdue Avenue.
- Willow Road Bikeway Corridor (Bayfront Expressway to Alma Street): Provide a continuous bikeway facility that eliminates bicycle lane gaps, provides Class IV bicycle lanes on the US 101 overpass and where Willow Road intersects US 101 northbound and southbound ramps, and upgrades existing Class II bicycle lanes to Class IV protected bicycle lanes where feasible, particularly where the speed limit exceeds 35 miles per hour (mph).
- Willow Road Pedestrian Crossings (Bayfront Expressway to Newbridge Street): Provide enhanced pedestrian crossings of Willow Road at Hamilton Avenue, Ivy Drive (including proposed new street connection opposite Ivy Drive), O'Brien Drive and Newbridge Street. Enhanced crossings should include straightened crosswalks provided on each leg, high visibility crosswalk striping, accessible pedestrian signals, and pedestrian head-start signal timing (leading pedestrian intervals) where feasible. These enhanced crossings would provide improved access between the Belle Haven neighborhood and potential future development between Willow Road and University Avenue.
- Dumbarton Corridor Connections: Through separate projects, Samtrans is currently considering the potential for a bicycle/pedestrian shared-use trail along the Dumbarton Corridor right-of-way between Redwood City and East Palo Alto, through Menlo Park. If found feasible, the City's TIF Program should incorporate walking and bicycling access and connections to the proposed trail, including a potential rail crossing between Kelly Park and Onetta Harris Community Center and Chilco Street and pedestrian and bicycle improvements on streets that connect to the Dumbarton Corridor: Marsh Road, Chilco Street, Willow Road, and University Avenue.

Significance With Mitigation. Significant and unavoidable. While implementation of Mitigation Measure TRANS-6a would secure a funding mechanism for future pedestrian and bicycle improvements that are determined to be necessary to mitigate impacts from future projects based on then current standards, impacts would remain significant and unavoidable, because the City cannot guarantee improvements at this time. This is because the nexus study has yet to be prepared. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance. However, due to the programmatic nature of the proposed project, no additional mitigating policies are available.

TRANSPORTATION AND CIRCULATION

Impact TRANS-6b: The project would generate a substantial increase in transit riders that cannot be adequately serviced by existing public transit services, and the project would generate demand for transit services at sites more than one-quarter mile from existing public transit routes.

Mitigation Measure TRANS-6b: The City of Menlo Park shall update the existing Shuttle Fee program to guarantee funding for operations of City-sponsored shuttle service that is necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward circulation improvements and right-of-way acquisition. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Shuttle fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the Shuttle fees to fund operations of City-sponsored shuttle service to meet the increased demand.

As part of the update to the Shuttle Fee program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the transit improvements and facilities required to mitigate the transit impacts of new development pursuant to the proposed project. The types of transit-related improvements and facilities that would reduce impacts to acceptable standards including increasing the fleet of City-sponsored Shuttles and adding additional transit stop facilities within one-quarter mile from residential and employment centers These, among other improvements, could be included in the Shuttle Fee program impact fees nexus study.

Significance With Mitigation. Significant and unavoidable. While implementation of Mitigation Measure TRANS-6b would secure a funding mechanism for future improvements to City-sponsored shuttles services that are determined to be necessary to mitigate impacts from future projects based on then current standards, impacts would remain significant and unavoidable, because the City cannot guarantee improvements at this time. This is because the nexus study has yet to be prepared. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance. However, due to the programmatic nature of the proposed project, no additional mitigating policies are available.

Impact TRANS-6c: The project would result in increased peak-hour traffic delay at intersections on Bayfront Expressway, University Avenue and Willow Road, as identified in TRANS-1, that could decrease the performance of transit service and increase the cost of transit operations.

Mitigation Measure TRANS-6c: The City should continue to support the Dumbarton Corridor Study, evaluating the feasibility of providing transit service to the existing rail corridor and/or operational improvements to Bayfront Expressway, Marsh Road and Willow Road, such as a dedicated high-occupancy vehicle (HOV) lane, bus queue-jump lanes, or transit-signal priority that could reduce travel time for current bus operations.

Significance With Mitigation: Significant and unavoidable. While the provision transit service on the on the Dumbarton Corridor could mitigate this impact, because provision of Dumbarton transit service would require approval of other public agencies and is not under the jurisdiction of the City of Menlo Park, implementation of this mitigation cannot be guaranteed and this impact is significant and unavoidable. It should be noted that the identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent projects that comply with the applicable regulations and meet applicable thresholds of significance. However, due to the programmatic nature of the proposed project, no additional mitigating policies are available.

TRANS-7	**Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in additional cumulatively considerable impacts.**

The analysis of the proposed project, above, addresses cumulative impacts to the transportation network in the city and its surroundings; accordingly, cumulative impacts would be the same as those identified above.

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4.14 UTILITIES AND SERVICE SYSTEMS

This chapter describes the existing utilities and service systems for Menlo Park and evaluates the potential environmental consequences of adopting and implementing the proposed project.

Water, wastewater, solid waste, storm water infrastructure, and energy conservation are each addressed in separate sections of this chapter. In each section, a summary of the relevant regulatory setting and existing conditions is followed by a discussion of potential impacts and cumulative impacts from the adoption and implementation of the proposed project.

4.14.1 WATER

This section is based in part by the information provided in the following two reports prepared for the proposed project and the existing Housing Element sites under the existing General Plan:

- Water Supply Evaluation Study, ConnectMenlo – General Plan and M-2 Area Zoning Update Menlo Park, California, prepared by Erler & Kalinowski, Inc., February 3, 2016.
- Water Supply Assessment for the City of Menlo Park Housing Element Update prepared by GHD, March 20, 2013.

These reports are included in Appendix I and Appendix J of this Draft EIR, respectively.

4.14.1.1 ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

Federal Safe Drinking Water Act

The Safe Drinking Water Act (SDWA), the principal federal law intended to ensure safe drinking water to the public, was enacted in 1974 and has been amended several times since it came into law. The SDWA authorizes the United States Environmental Protection Agency (US EPA) to set national standards for drinking water, called the National Primary Drinking Water Regulations, to protect against both naturally occurring and man-made contaminants. These standards set enforceable maximum contaminant levels in drinking water and require all water providers in the United States to treat water to remove contaminants, except for private wells serving fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities. If a water system does not meet standards, it is the water supplier's responsibility to notify its customers.

State Regulations

California Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, which was passed in California in 1969 and amended in 2013, the State Water Resources Control Board (SWRCB) has authority over State water rights and water quality policy. This Act divided the State into nine regional basins, each under the jurisdiction of a Regional Water Quality Control Board (RWQCB) to oversee water quality on a day-to-day basis at the local and regional level. RWQCBs engage in a number of water quality functions in their respective regions. RWQCBs regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Menlo Park is overseen by the San Francisco Bay RWQCB.

California Senate Bills 610 and 221

Senate Bill (SB) 610 and SB 221 amended State law to ensure better coordination between local water supply and land use decisions and ensure adequate water supply for new development. Both statutes require that detailed information regarding water availability be provided to city and county decision-makers prior to approval of large development projects. SB 610 requires water supply assessments (WSAs) for certain types of projects, as defined by Water Code Section 10912, which are subject to the California Environmental Quality Act (CEQA). Projects required to prepare a WSA are the following:

- Residential development of more than 500 dwelling units.
- Shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor area.
- Hotel or motel, or both, having more than 500 rooms.
- Industrial, manufacturing, or processing plant, or industrial park planned to employ more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- Mixed-use project that includes one or more of the projects specified above.
- Project that would demand an amount of water equivalent to, or greater than, the amount of water required for 500 dwelling units.

SB 221 establishes consultation and analysis requirements related to water supply planning for residential subdivisions including more than 500 dwelling units.[1] Because this is a plan level document and no specific development project is proposed, a WSA is not required for the proposed project pursuant to the California Water Code ("CWC" or "Water Code") Section 10910-10915. However, for information purposes and to more fully consider potential impacts to the water supply at full buildout potential under the proposed project, the City has voluntarily elected to prepare a Water Supply Evaluation (WSE)[2] for the proposed project that is modeled after, and in general conformance with, WSA requirements and the

[1] California Department of Water Resources, Guidebook for Implementation of Senate Bill 610 and Senate Bill 221, http://www.water.ca.gov/pubs/use/sb_610_sb_221_guidebook/guidebook.pdf, accessed on February 27, 2015.

[2] Erler & Kalinowski, Inc, 2016. Water Supply Evaluation Study, ConnectMenlo – General Plan and M-2 Area Zoning Update Menlo Park, California, prepared for City of Menlo park, February 3, 2016.

information requested within the California Department of Water Resource's ("DWR's") *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001: To Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*. The WSE is included in Appendix I of this Draft EIR.

California Urban Water Management Planning Act

Through the Urban Water Management Planning Act of 1983, the California Water Code requires all urban water suppliers within California to prepare and adopt an Urban Water Management Plan (UWMP) and update it every five years. This requirement applies to all suppliers providing water to more than 3,000 customers or supplying more than 3,000 acre-feet[3] of water annually. The Act is intended to support conservation and efficient use of urban water supplies. The Act requires that total project water use be compared to water supply sources over the next 20 years in five-year increments, that planning occur for single and multiple dry water years, and that plans include a water recycling analysis that incorporates a description of the wastewater collection and treatment system within the agency's service area along with current and potential recycled water uses. In September 2014 the Act was amended by SB 1420 to require urban water suppliers to provide descriptions of their water demand management measures and similar information.[4]

Groundwater Management Act (1992)

The Groundwater Management Act of the California Water Code (Assembly Bill [AB] 3030), signed into law on September 26, 1992 and effective on January 1, 1993, provides guidance for applicable local agencies to develop voluntary Groundwater Management Plans (GMP) in State-designated groundwater basins. The GMPs can allow agencies to raise revenue to pay for measures influencing the management of the basin, including extraction, recharge, conveyance, facilities' maintenance, and water quality.[5]

Sustainable Groundwater Management Act (2014)

The Sustainable Groundwater Management Act of 2014 (SGMA) consists of three legislative bills, Senate Bill SB 1168, Assembly Bill AB 1739, and Senate Bill SB 1319. The legislation provides a framework for long-term sustainable groundwater management across California. Under the roadmap laid out by the legislation, local and regional authorities in medium and high priority groundwater basins will form Groundwater Sustainability Agencies (GSAs) that oversee the preparation and implementation of a local Groundwater Sustainability Plan (GSP). Local stakeholders have until 2017 to organize themselves in Groundwater Sustainability Agencies. Menlo Park is not required to prepare a GSP and a GSA has not yet been established for the groundwater basins in San Mateo County.[6] Groundwater Sustainability Plans will

[3] Once acre-foot is the amount of water required to cover 1 acre of ground (43,560 square feet) to a depth of 1 foot.

[4] Department of Water Resources. About Urban Water Management, http://www.water.ca.gov/urbanwatermanagement/, accessed December 18, 2015.

[5] Department of Water Resources Planning and Local Assistance Central District, Groundwater, *Groundwater Management*, http://www.cd.water.ca.gov/groundwater/gwab3030.cfm, accessed on January 30, 2016.

[6] Department of Water Resources, GSA Formation Notifications; The local agencies included on the GSA Formation Table have decided to become or form groundwater sustainability agencies (GSAs), http://www.water.ca.gov/groundwater/sgm/gsa_table.cfm, accessed May 4, 2016.

have to be in place and implementation begun sometime between 2020 and 2022. GSAs will have until 2040 to achieve groundwater sustainability.[7]

The Water Conservation Act of 2009

The Water Conservation Act of 2009,[8] SB X7-7, requires all water suppliers to increase water use efficiency. The legislation sets an overall goal of reducing per capita water by 20 percent by 2020, with an interim goal of a 10 percent reduction in per capita water use by 2015. Effective in 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans. The SB X7-7 requires that urban water retail suppliers determine baseline water use and set reduction targets according to specified standards. It also requires agricultural water suppliers to prepare plans and implement efficient water management practices.

State Updated Model Landscape Ordinance

The updated Model Landscape Ordinance requires cities and counties to adopt landscape water conservation ordinances by February 1, 2016 or to adopt a different ordinance that is at least as effective in conserving water as the updated Model Ordinance (MO). The City of Menlo Park adopted Ordinance No. 968, Water Efficient Landscaping Regulations, in 2016, and revised Municipal Code Chapter 12.44, which is described below.

CALGreen Building Code

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations [CCR]) to apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure, unless otherwise indicated in the code, throughout the State of California. CALGreen established planning and design standards for sustainable site development, including water conservation measures and requirements that new buildings reduce water consumption by 20 percent. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011. The building efficiency standards are enforced through the local building permit process.

The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories:

- Planning and design
- Energy efficiency
- Water efficiency and conservation
- Material conservation and resource efficiency

[7] UC Davis, Division of Agriculture and Natural Resources, 2014. Groundwater web page, http://groundwater.ucdavis.edu/SGMA/ , accessed January 30, 2016.

[8] Department of Water Resources, Senate Bill SBX7-7 2009 Information, http://www.water.ca.gov/wateruseefficiency/sb7/, accessed November 11, 2014.

- Environmental quality

The California Plumbing Code (Part 5, Title 24, CCR)

The California Plumbing Code (Part 5, Title 24, CCR) was adopted as part of the California Building Standards Code. The general purpose of the universal code is to prevent disorder in the industry as a result of widely divergent plumbing practices and the use of many different, often conflicting, plumbing codes by local jurisdictions. Among many topics covered in the code are water fixtures, potable and non-potable water systems, and recycled water systems. Water supply and distribution shall comply with all applicable provisions of the current edition of the California Plumbing Code.

Executive Order 29-B-15

Executive Order B-29-15, signed by Governor Brown on April 1, 2015, imposed mandatory water restrictions in California. The Order requires the SWRCB to impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 28, 2016 as compared to the amount used in 2013. In addition to requiring cities and towns to save water, the Order is intended to increase enforcement to prevent wasteful water use, streamline the state's drought response and invest in new technologies that will make California more drought resilient.

Executive Order B-36-15

On November 13, 2015, Governor Brown issued Executive Order B-36-15 (EO B-36-15) that calls for an extension of restrictions to urban potable water usage until October 31, 2016, should drought conditions persist through January 2016.[9] EO B-36-15 is the fifth in a series of Executive Orders by Governor Brown on actions necessary to address California's severe drought conditions. On February 2, 2016 the State Water Board adopted an extended and revised emergency regulation.[10] The regulation extends restrictions on urban water use through October 2016 while providing urban water suppliers more flexibility in meeting their conservation requirements. It also directs staff to report back on additional flexibility once more complete water supply information is known in April 2016. The February 2016 Emergency Regulation allows suppliers flexibility in meeting their conservation requirements through adjustments and credits that allow a supplier to modify its conservation standard up to eight percentage points, based on consideration of: 1) climatic differences experienced throughout the state; 2) water-efficient growth experienced by urban areas; and 3) significant investments that have been made by some suppliers toward creating new, local, drought-resilient sources of potable water supply.[11] Conservation standards were able to be adjusted by submitting required information for verification through the new on-line reporting tool at the state's Drinking Water Information Clearinghouse (DRINC) Portal.[12] The tool was available beginning the week of February 8, 2016 through March 15, 2016. On May 9, 2016, the

[9] SWRCB, 2016. Emergency Conservation Regulations, http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/emergency_regulation.shtml , accessed January 29, 2016.

[10] SWRCB, 2016. Water Conservation Portal – emergency Conservation Regulation, http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/emergency_regulation.shtml , accessed February 4, 2016.

[11] SWRCB, 2016. Fact Sheet, Extended Water Conservation Regulation, http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/factsheet/adjustment_req_fs_final.pdf

[12] DRINC Portal, http://www.drinc.ca.gov/dnn/Home.aspx , accessed February 10, 2016

Governor issued an Executive Order (B-37-16)[13] that directs the State Board to adjust and extend its emergency water conservation regulations through the end of January 2017 in recognition of the differing water supply conditions for many communities.

State Emergency Regulations Restricting Use of Potable Water (Sections 863, 864, 865 and 866, Title 23, CCR)

Water Code section 1058.5 grants the SWRCB the authority to adopt emergency regulations in certain drought years in order to: "prevent the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion, of water, to promote water recycling or water conservation, to require curtailment of diversions when water is not available under the diverter's priority of right, or in furtherance of any of the foregoing, to require reporting of diversion or use or the preparation of monitoring reports."

On May 5, 2015, the SWRCB approved a resolution[14] resulting in adoption of emergency drought regulations[15] implementing the Governor's April 1, 2015 Executive Order (EO) mandating a statewide 25 percent reduction in potable water use. The regulations require each water supplier to California cities and towns to reduce water usage compared to 2013 levels for the compliance period June 2015 through February 2016. The conservation target was to be met each month from June 2015 through February 2016, unless otherwise extended or modified. As discussed above, the restrictions on urban water use were extended through October 2016 while providing urban water suppliers more flexibility in meeting their conservation requirements.[16]

The Menlo Park Municipal Water District (MPMWD) is required by the SWRCB to reduce potable water use by 16 percent each month during the compliance period compared to the same month period in 2013 and must report use on a monthly basis to SWRCB, through October 2016.

The Cal Water Service Bear Gulch District (BGD) is required by the SWRCB to reduce potable water use by 36 percent each month during the compliance period compared to the same month period in 2013 and must report use on a monthly basis to SWRCB, through October 2016.

As noted above, on February 2, 2016 the SWRCB adopted Resolution 2016-007 that extended and revised emergency regulation that imposed restrictions on urban water use through October 2016 while providing urban water suppliers more flexibility in meeting their conservation requirements. Given the fact that in many years a significant portion of the State's rainfall and snowpack occur in February and March, the SWRCB resolution directs staff to monitor and evaluate available data on precipitation, snowpack, reservoir storage levels, and other factors and report back to the Board in March and April,

[13] Governor's Executive Order B-37-16, https://www.gov.ca.gov/docs/5.9.16_Executive_Order.pdf, accessed May 24, 2016

[14] SWRCB Resolution 2015-0032, http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/emergency_regulations/rs2015_0032_with_adopted_regs.pdf, accessed December 18, 2015.

[15] California Office of Administrative Law, Notice of Approval of Emergency Regulatory Actions, http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/emergency_regulations/oal_approved_regs2015.pdf, accessed December 18, 2015.

[16] SWRCB, Water Conservation Portal - Emergency Conservation Regulation, http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/emergency_regulation.shtml, accessed May 4, 2016.

2016 and, if conditions warrant, bring a proposal for rescission or adjustment of this regulation to the Board no later than the second regularly-scheduled May 2016 Board meeting.[17]

Local Regulations

Bay Area Water Supply and Conservation Agency[18]

The Bay Area Water Supply and Conservation Agency (BAWSCA), created on May 27, 2003, represents 26 agencies that depend on the San Francisco Regional Water System (RWS). Two major water suppliers of Menlo Park, MPMWD and California Water Services (Cal Water), are both members of BAWSCA. BAWSCA's roles include coordinating water conservation, water supply, and water recycling activities for its member agencies; acquiring water and making it available to other agencies on a wholesale basis; financing improvements to the RWS; and building facilities.

2010 Urban Water Management Plans[19,20]

The City is in the process of updating the 2015 UWMP now. The City Council public hearing to adopt the 2015 Urban Water Management Plan was scheduled for May 24, 2016.[21]The City is required to adopt the 2015 UWMP by June 30, 2016 and submit the adopted plan to the SWRCB by July 1, 2016. Accordingly, this Draft EIR relies on the current UWMP.

MPMWD and Cal Water both adopted their 2010 UWMPs in June 2011 in accordance with the SB X7-7 and the Urban Water Management Planning Act, outlined in Section 10610 of Division 6 of the California Water Code. One of the purposes of the UWMPs is to identify measures to meet SB X7-7 requirements that mandate a 20-percent reduction of per capita water use and agricultural water use throughout the State by 2020. These UWMPs evaluate the water supply capacity and the projected water demands of the service area over a 20- or 25-year planning horizon. A range of water supply scenarios were modeled, including 1) normal, 2) single-dry, and 3) multiple-dry water year conditions. The UWMPs also provide action plans in the event of a catastrophic interruption in water supplies.

Water Shortage Contingency Plan - MPMWD

MPMWD has developed a *Water Shortage Contingency Plan* that systematically identifies ways in which MPMWD can reduce water demands during dry years. The 2010 UWMP was amended by the City Council on November 18, 2014 with an updated *Water Shortage Contingency Plan*.[22] The overall reduction goals in

[17] SWRCB 2016. Resolution 2016-007. http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2016/rs2016_0007.pdf , accessed February 4, 2016.

[18] *Water Supply Assessment* for the City of Menlo Park Housing Element Update prepared by GHD, March 20, 2013, page 3-9. See Appendix K of this Draft EIR.

[19]City of Menlo Park, *2010 Urban Water Management Plan*, http://www.menlopark.org/DocumentCenter/View/6143, accessed February 27, 2015.

[20] California Water Service Company, 2011. *2010 Urban Water Management Plan*, Bear Gulch District, June 2011.

[21] City of Menlo Park, 2016. Urban Water Management Plan, http://www.menlopark.org/150/Urban-Water-Management-Plan, accessed May 4, 2016.

[22] City of Menlo Park, 2014. Final 2010 UWMP and *Update to the Water Shortage Contingency Plan*, amended November 2014, http://www.menlopark.org/DocumentCenter/View/6143 , accessed December 19, 2015.

the *Water Shortage Contingency Plan* are established in five drought stages and for water demand reductions up to 50 percent. The Menlo Park City Council has the authority to declare a water shortage emergency. Emergencies are declared in five stages with specific reduction methods used for each stage. Table 4.14-1 below summarizes the consumption reduction methods that MPWMD has the authority to use, in accordance with the updated *Water Shortage Contingency Plan.*

TABLE 4.14-1 MPMWD'S WATER SHORTAGE CONTINGENCY PLAN

Stage	Water Use Restrictions	% Goal
1	▪ Hoses must be equipped with a shut-off valve for washing vehicles, sidewalks, walkways, or buildings. ▪ Broken or defective plumbing and irrigation systems must be repaired or replaced within a reasonable period. ▪ Other measures as may be approved by Resolution of the City Council.	NA
2	▪ Continue with actions and measures from Stage 1, except where superseded by more stringent requirements. ▪ Potable water shall not be used to water outdoor landscapes in a manner that causes runoff onto non-irrigated areas, walkways, roadways, parking lots, or other hard surfaces. ▪ Potable water shall not be applied in any manner to any driveway or sidewalk, except when necessary to address immediate health or safety concerns. ▪ Restaurants and other food service operations shall serve water to customers only upon request. ▪ Use only re-circulated or recycled water to operate ornamental fountains. ▪ Other measures as may be approved by Resolution of the City Council to achieve the overall percentage reduction	Up to 20%
3	▪ Continue with actions and measures from Stage 2, except where superseded by more stringent requirements. ▪ Potable water shall not be used for street cleaning. ▪ Limit outdoor irrigation to occur during specific hours, as determined by the Public Works Director, or his designee. ▪ Other measures as may be approved by Resolution of the City Council to achieve the overall percentage reduction.	Up to 30%
4	▪ Continue with actions and measures from Stage 3, except where superseded by more stringent requirements. ▪ No new landscaping shall be installed at new construction sites. ▪ Limit outdoor irrigation to a set number of days per week, as determined by the Public Works Director, or his designee. ▪ Other measures as may be approved by Resolution of the City Council to achieve the overall percentage reduction.	Up to 40%
5	▪ Continue with actions and measures from Stage 4, except where superseded by more stringent requirements. ▪ Newly constructed pools, spas and hot tubs shall not be filled. ▪ Existing irrigation systems shall not be expanded. ▪ Turf irrigation is prohibited at all times. ▪ Other measures as may be approved by Resolution of the City Council to achieve the overall percentage reduction.	Up to 50%

Source: Menlo Park Municipal Water Agency *Water Shortage Contingency Plan*, 2014.

Water Regulations Currently in Place – City of Menlo Park (May 2015)

On May 5, 2015, the Menlo Park City Council adopted Resolution 6261 implementing additional water regulations. The resolution also allowed any MPMWD customer to apply for a Drought Response Plan (DRP) excepting the customer from the two day per week limitation on irrigation of outdoor ornamental landscapes and turf with potable water, provided that the DRP results in an equivalent or greater reduction in water use when compared to the two day per week watering limitation and achieves outdoor potable water savings equivalent to or greater than the percent reduction that MPMWD is required to achieve for overall potable water use by the State Water Resources Control Board (i.e., 16 percent reduction by February 2016, compared to water use in 2013). The following regulations are currently in place in the city:[23]

- Potable water to irrigate outdoor ornamental landscapes or turf shall be limited to the following two days per week schedule: 1) Odd or No Address – Mondays and Thursdays; 2) Even Address – Tuesdays and Fridays.
- Water customers may be granted an exception to the two days per week schedule upon review and approval of a Drought Response Plan that demonstrates an equivalent or greater reduction in water use.
- Irrigation of outdoor ornamental landscapes or turf is not allowed between 8 a.m. - 6 p.m.
- Must not use potable water on outdoor landscapes that causes runoff.
- Hoses must be fitted with an automatic shut-off nozzle for washing vehicles, sidewalks, driveways, walkways or buildings.
- Must not apply potable water to any driveway or sidewalk except to address immediate health or safety concerns.
- Pools, spas, and hot tubs shall be covered when not in use.
- Cannot use potable water in a decorative feature, unless the water recirculates.
- Must repair defective/broken plumbing and irrigation systems within a reasonable time period.
- Potable water shall not be used to water outdoor landscapes during and within 48 hours after measurable rainfall.
- Restaurants must serve water only upon request.

Water Shortage Contingency Plan – Cal Water Bear Gulch District

Cal Water has developed a four stage approach to drought response that corresponds to specific levels of water supply shortage, as described in the 2010 UWMP. The four stages correspond to supply reductions ranging from 5 percent up to 50 percent. At each higher stage Cal Water will become more aggressive in requiring water use reductions from its customers. Cal Water also has a Water Supply Allocation Plan for the possibility of reduced wholesale allocations of imported water from SFPUC. When implemented, Cal

[23] MPMWD, 2015. *Drought Response Plan Application*.

Water would reduce its use of this supply proportionally in order to meet regional conservation targets and avoid wholesaler imposed penalties for overuse. Following the Governor's April 1 Executive Order and the SWRCB's mandatory water use reductions in response to the current drought, Cal Water implemented an approved Water Shortage Contingency Plan with Staged Mandatory Reductions and Drought Surcharges (WSCP). The WSCP consists of four separate components, broken into four escalating stages. Cal Water's WSCP became effective on June 1, 2015.[24] Each stage of the WSCP establishes certain prohibited uses of water. Cal Water moved directly into Stage 2 of the WSCP, which prohibits:

- Using potable water to wash sidewalks and driveways.
- Allowing runoff when irrigating with potable water.
- Using hoses with no shutoff nozzles to wash vehicles.
- Using potable water in decorative water features that do not recirculate the water.
- Irrigating outdoors during and within 48 hours following measureable rainfall.
- Restaurants from serving water to their customers unless the customer requests it.
- Irrigating ornamental turf on public street medians with potable water Irrigating with potable water outside of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.
- Filling ornamental lakes or ponds with potable water.

Water System Improvement Plan - SFPUC[25]

The San Francisco Public Utilities Commission (SFPUC) has started the Water System Improvement Program (WSIP), approved in October 2008, to meet goals for water quality, seismic reliability, delivery reliability, and water supply. The WSIP includes capital improvements to meet a total delivery reliability goal of 265 million gallons per day (MGD) of water supply with no greater than 20 percent rationing in any one year of a drought. As part of the WSIP, the SFPUC adopted a Phased WSIP Variant for water supply, which established a mid-term water supply planning milestone for 2018 when the SFPUC is scheduled to reevaluate water demands through 2030. The SFPUC also imposed the Interim Supply Limitation (ISL), which limits the volume of water that the member agencies and San Francisco can collectively purchase from the RWS to 265 MGD, until 2018. SFPUC's water system improvement projects, as described in the WSIP, are designed to help meet water demands during multiple dry years. As of November 2, 2015, the 48 regional WSIP projects, with a total cost of over $3.5 billion that will benefit the wholesale customers of SFPUC (including Menlo Park), are 90 percent complete.[26] The current forecast to complete the overall WSIP is May 2019.

[24] Cal Water BGD, 2015, Drought Response Plan, http://www.calwatergroup.com/docs/drought_response_program.pdf , accessed December 28, 2015.

[25] *Water Supply Assessment* for the City of Menlo Park Housing Element Update prepared by GHD, March 20, 2013, page 3-2.

[26] San Francisco Public Utilities Commission, 2015, WSIP Regional Projects Quarterly Report, 1st Quarter, fiscal year 2015-2016, http://www.sfwater.org/modules/showdocument.aspx?documentid=8111, accessed December 19, 2015.

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.14.1.3, Impact Discussion.

Menlo Park Municipal Code

The City of Menlo Park Municipal Code, organized by title, chapter, and section, contains all ordinances for Menlo Park. Title 7, Health and Sanitation, and Title 12, Buildings and Construction, include regulations relevant to solid waste resources in Menlo Park as discussed below.

Chapter 7.35, Water Conservation[27]

Chapter 7.35 of the City's Municipal Code contains regulations and restrictions on water use in order to conserve water resources and eliminate wasteful water uses. Municipal Code Section 7.35.020 requires the City Council to adopt by resolution a water conservation plan to mandate any water conservation measures in the event of adoption of emergency water conservation regulations by the State Water Board.

Chapter 12.44, Water Efficient Landscaping[28]

Chapter 12.44 of the City's Municipal Code establishes water-efficient landscaping standards to conserve water use on irrigation. The provisions of this chapter apply to landscaping projects that include irrigated landscape areas exceeding 500 square feet for all landscape areas and 1,000 square feet for rehabilitated landscapes associated with projects requiring City review and approval.

Existing Conditions

Water Service

Potable water is supplied to the Menlo Park community by one of four water utility companies: the MPMWD, California Water Service, the O'Connor Tract Cooperative Water District, and the Palo Alto Park Mutual Water Company. Menlo Park Municipal Water District covers the Sharon Heights neighborhood and most areas on the bay side of Middlefield Road. The Menlo Park Municipal Water District also covers the SRI International campus, Menlo Park Civic Center, and a small number of nearby residences on Barron, Thurlow, and Hopkins Streets. The O'Connor Tract Cooperative Water District serves a small area of Menlo Park, roughly bounded by Euclid Avenue, Woodland Avenue, Menalto Avenue, and properties on the bay side of O'Connor Street. A small area along Euclid Avenue is served by the Menlo Park Municipal Water District. California Water Service serves the remaining, mostly central portion of Menlo Park,

[27] City of Menlo Park, Municipal Code Chapter 7.35, Water Conservation, http://www.codepublishing.com/CA/menlopark/, accessed on December 23, 2015.

[28] City of Menlo Park, Municipal Code Chapter 12.44, Water Efficient Landscaping, http://www.code publishing.com/CA/menlopark/, accessed on December 23, 2015.

including Downtown Menlo Park. A very small portion of Menlo Park is served by the Palo Alto Park Mutual Water Company. This area includes several properties on Menalto Avenue near US 101. Figure 4.14-1 shows the boundaries of the water districts serving Menlo Park.

Menlo Park Municipal Water District

The MPMWD serves approximately 50 percent of the city's population within the following four zones:

- The Lower Zone includes part of the Belle Haven neighborhood, Bay Road, and Willows neighborhood. This includes the business park area located along O'Brien Drive between Willow Road and University Avenue.
- The High Zone is located in Menlo Park between US 101 and the Bayfront Expressway and includes part of the Belle Haven neighborhood and Bayfront Area business parks.
- The Upper Zone is geographically and hydraulically disconnected from other zones. It primarily serves the residential Sharon Heights neighborhood, the Sharon Heights Golf and Country Club, and the Stanford Linear Accelerator Center (SLAC) National Accelerator Laboratory.

In its 2010 UWMP, MPMWD's demand projections assumed very modest residential growth and strong growth in the Commercial-Industrial-Institutional sectors. The MPMWD distribution system consists of 59 miles of water mains, 4,200 metered connections, two reservoirs, and one pump station. The MPMWD also maintains fire hydrants, backflow prevention devices, flushing points, and service connections to the San Francisco Public Utilities Commission SFPUC, which controls access to water via the Hetch Hetchy pipeline right-of-way through Menlo Park.[29]

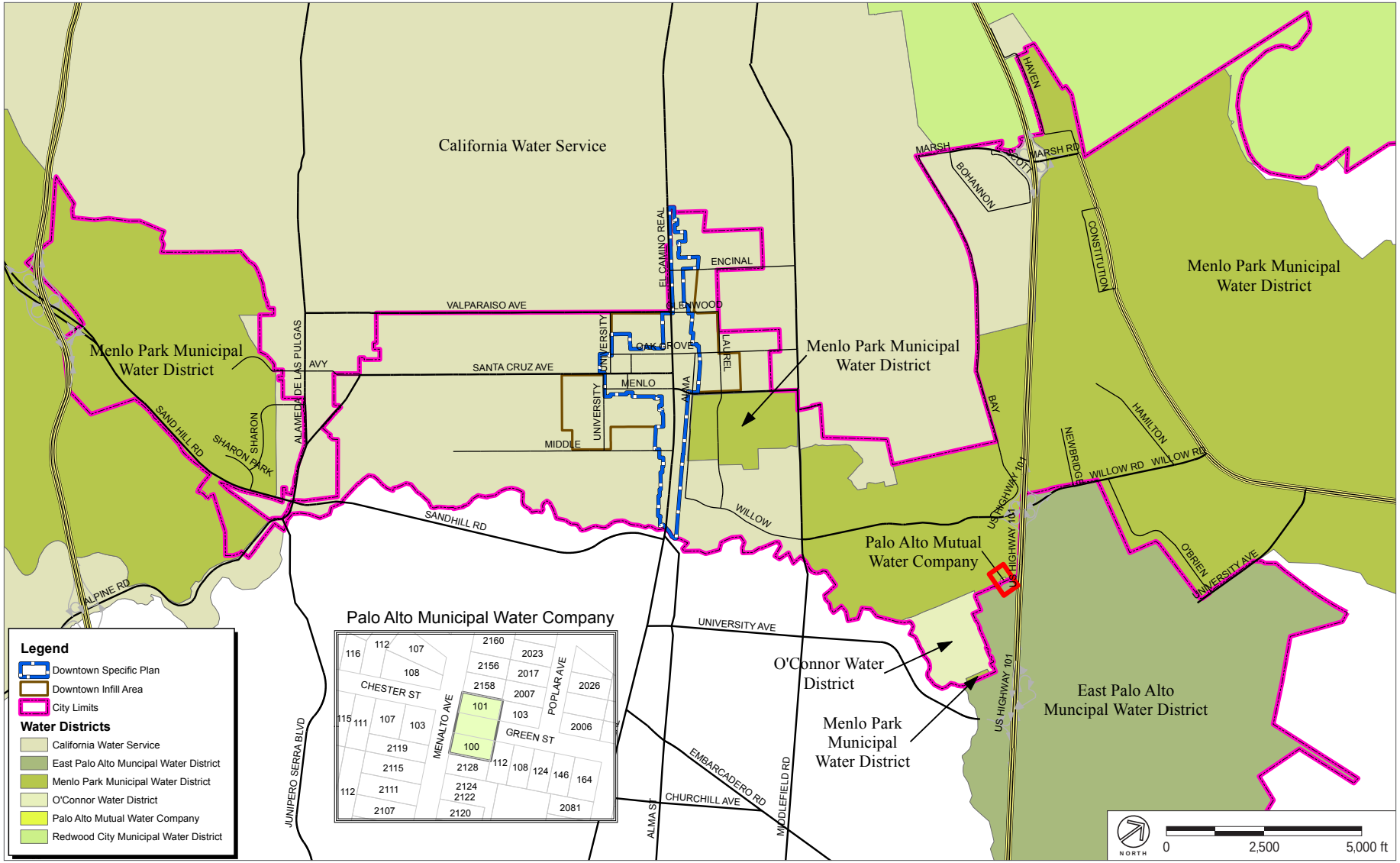
California Water Service Bear Gulch District

Cal Water is an investor-owned public utility that provides water service to millions of customers in 24 separate water systems located across California. The particular system, or district, that serves portions of Menlo Park is known as the Cal Water BGD. Cal Water BGD serves approximately 57,300 customers in several Peninsula communities, including the communities of Atherton, Portola Valley, Woodside, unincorporated portions of San Mateo County, and parts of Menlo Park (approximately 16,600 customers). In its 2010 UWMP, Cal Water BGD projected that the population in its service area would grow from 57,254 persons in 2010 to 66,535 in 2040 with an annual growth rate of 0.54 percent per year, which is slightly higher than the growth rate used in the City's UWMP.[30] The Cal Water BGD distribution system consists of 57 pressure zones, 77 booster pumps, 35 storage tanks and reservoirs, 2,278 hydrants, and 289 miles of main. Cal Water BGD tanks provide storage for more than 11 million gallons of potable water.[31]

[29] City of Menlo Park, 2011. *Menlo Park Facebook Campus Project Draft EIR,* page 3.16-10.

[30] *Water Supply Assessment* for the City of Menlo Park Housing Element Update prepared by GHD, March 20, 2013, pages 2-1 and 2-3.

[31] BAWSCA Annual Survey – FY 2014-15. http://bawsca.org/uploads/userfiles/files/BAWSCA_AnnualSurvey_FY2014-15.pdf, accessed on February 27, 2015.



Source: City of Menlo Park, 2012.

Figure 4.14-1
Water District Map

O'Connor Tract Cooperative Water District

The O'Connor Tract Cooperative Water District (OTCWD) is a very small water district serving approximately 300 dwelling units in a small area near Menlo Park's border with East Palo Alto. To meet the demand of these households, OTCWD operates two wells in Menlo Park. The water from these wells historically has met applicable primary quality standards for drinking water without additional treatment. Estimated water-use levels in 2005 were 120 acre-feet per year (AFY) for OTCWD with a projected 2020 usage of 150 AFY.[32] Per the State Water Board's current drought regulations (SWRCB Resolution 2015-0032, O'Connor, as smaller water suppliers (serving fewer than 3,000 connection), will be required to achieve a 25 percent conservation standard (savings) between June 1, 2015 and February 28, 2016, compared to the same period in 2013.

Palo Alto Park Mutual Water Company

Palo Alto Park Mutual Water Company (PAPMWC) serves a very small number of residential properties located on eight parcels in the vicinity of Menalto Avenue and US 101. PAPMWC is a non-profit mutual benefit corporation that is cooperatively owned by approximately 650 property owners. The water supply for PAPMWC is derived groundwater pumped from five wells within the service area. The rates of these pumps range from 125 to 800 gallons per minute (GPM). PAPMWC operates two storage tanks for the pumped water, with capacities of 11,500 and 350,000 gallons. PAPMWC is not a public utility and only provides water to property owners within its service area.[33]

Water Service Providers Carried Forward for Further Discussion

New development potential under the proposed project would occur in the Bayfront Area only, which is served by the MPMWD and Cal Water BGD; however, the portion of the Bayfront Area served by Cal Water BGD does not include any new development potential under proposed project.[34] The Bayfront Area is not served by O'Connor Tract Cooperative Water District or by Palo Alto Mutual Water Company (see Figure 4.14-1, Water Districts Map, and Figure 3-3, Bayfront Area, in Chapter 3, Project Description of this Draft EIR). O'Connor Tract Cooperative Water District and Palo Alto Mutual Water Company serve small portions of the city, outside of the Bayfront Area. As a result, water supply and demand is not further discussed for the O'Connor Tract Cooperative Water District or the Palo Alto Mutual Water Company. Under the proposed project, existing development potential under the existing General Plan for the remainder of the city, located outside of the Bayfront Area, would be carried forward through the 2040 buildout horizon. This area is served by Cal Water BGD. Therefore, the impacts related to water supply of the MPMWD and Cal Water BGD are carried forward for further discussion in this Draft EIR.

[32] The O'Connor Tract Co-Operative Water Company has levels of Manganese above the Secondary drinking water standard. There is no health risk associated with this exceedance. http://nebula.wsimg.com/fe76804f0beef5b4102236993a4b7fe4?AccessKeyId=C8A9A01A616314B1C39E&disposition=0&alloworigin=1, accessed May 4, 2016.

[33] Palo Alto Park Mutual Water Company, http://www.paloaltoparkmutualwatercompany.com/, accessed February 27, 2015.

[34] A portion of the Bayfront Area bounded by Highway 101, Marsh Road, and the Dumbarton Rail is served by California Water Service Company. However, this area is not subject to land use changes in the proposed project.

Water Supply Evaluation

For new development potential in the Bayfront Area under proposed project the City, as previously stated, has voluntarily elected to prepare a WSE[35] that is modeled after and in general conformance with WSA requirements pursuant to SB 610 and SB 221 described in the Regulatory Setting in Section 4.14.1.1 above. The purpose of the WSE is to evaluate whether the MPMWD has sufficient water supply to meet current and planned water demand within its service area, specifically the demands associated with the project's proposed changes to the Bayfront Area, during normal and dry years over the proposed project's 24-year buildout horizon. The WSE is included in Appendix I of this Draft EIR.

As discussed above, although new development potential within the Bayfront Area is limited to the portions of the Bayfront Area served by MPMWD, water supply and demand for the Cal Water BGD service area for the existing development potential under the existing General Plan is also addressed below. The basis for the discussion of supply and demand within Cal Water BGD's service area is, in part, the WSA that was prepared for the 2013 Housing Element Update Environmental Assessment (WSA-HE)[36] and the 2010 UWMP for Cal Water BGD. The 2013 WSA-HE is included in Appendix J of this Draft EIR.

Accordingly, the remainder of this section summarizes the existing conditions and projected water supplies and demands for MPMWD and Cal Water BGD.

Water Supply

The major water supply source for both the MPMWD and the Cal Water BGD is the San Francisco Regional Water System (RWS), operated by the SFPUC, under the 2009 "Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County." The source water of the RWS is predominantly from the Tuolumne River watershed in the Sierra Nevada Mountains, delivered through the Hetch Hetchy aqueducts, but also includes treated water produced by the SFPUC from its local watersheds and facilities in Alameda and San Mateo Counties. In June 2009, the City of Menlo Park (and California Water Service Company [i.e., Cal Water]) entered into an agreement with the SFPUC that implemented a new system for allocating water during water shortages, such as drought years. This allocation system accounts for usage by both wholesale and retail customers in the SFPUC service area and specific reductions in use would be determined by water availability and projected demand at the time a water shortage is declared.

The Water Supply Agreement with SFPUC provides 184 million gallons per day (MGD) to wholesale customers during normal water years. This volume, referred to as the "Supply Assurance" is subject to reduction during periods of water shortage due to drought, emergencies, or other scenarios resulting in a water shortage. Each wholesale customer's share of the 184 MGD is referred to as their Individual Supply Guarantee (ISG). Although the Agreement expires in 2034, the Supply Assurance and ISGs continue in perpetuity. The Agreement also recognizes the SFPUC's decision made in October 2008 to (a) defer any consideration of an increase to the 184 MGD Supply Assurance until 2018, (b) place an interim limit on

[35] Erler & Kalinowski, Inc, 2016. Water Supply Evaluation Study, ConnectMenlo – General Plan and M-2 Area Zoning Update Menlo Park, California, prepared for City of Menlo park, February 3, 2016. See Appendix J of this Draft EIR.

[36] *Water Supply Assessment* for the City of Menlo Park Housing Element Update prepared by GHD, March 20, 2013, See Appendix K of this Draft EIR.

sales of 184 MGD for all wholesale customers, (c) establish interim supply allocations (ISAs) for each wholesale customer through 2018, and (d) develop an environmental enhancement surcharge to be applied to wholesale agencies that exceed their ISA, if total use by SFPUC's retail customers and wholesale customers exceeds 265 MGD.

The MPMWD Individual Supply Guarantee (ISG) is 4.465 MGD (4,993 AFY or 1,630 million gallons per year [MGY]), and the Cal Water ISG is 35.68 MGD (39,967 AFY or 13,020 MGY). Cal Water BGD receives between 11.45 and 12.85 MGD or about one-third of the total Cal Water ISG. In addition, the Cal Water BGD obtains surface water from the Bear Gulch Creek at approximately 1,260 AFY in a normal year and 609 AFY in a multiple dry year. The MPMWD does not have an additional water source, but is evaluating several well sites that could produce up to 3,000 gallons per minute (GPM) in order to supplement its emergency potable and fire water supply.

The ISAs will last only until 2018 and will only be used as a basis for applying the surcharge. Therefore, although the establishment of the ISAs may potentially increase the cost of water supplied by SFPUC to MPMWD or Cal Water if either agency exceeds its ISA at a time when collective deliveries from the Regional System exceed 265 MGD, the ISAs will not affect MPMWD's ISG of 4.465 MGD or Cal Water's ISG of 35.68 MGD. Therefore, projected water supplies to MPMWD and Cal Water from SFPUC that are identified in the 2010 UWMPs, (as well in the ConnectMenlo WSE, which references the Draft 2015 UWMP for MPMWD), and rely on the ISGs for MPMWD and Cal Water, have not been modified based upon the provisions of the new Water Supply Agreement.

MPMWD Supply

Thus, the MPMWD's projected water supply from SFPUC during a normal water year is 1,630 million gallons (MG). During single dry years, the MPMWD 2015 UWMP (in draft) estimates that annual deliveries from SFPUC will be reduced to 1,281 MG.[37] During the second and third dry years of a multiple-year drought, the 2015 UWMP estimates that annual deliveries from SFPUC will be reduced to 1,108 MG.

Cal Water Bear Gulch District Supply

In a normal year Cal Water BGD receives between 11.45 and 12.85 MGD[38] or about one-third of the total Cal Water ISG from SFPUC, as indicated in the 2010 UWMP. Cal Water's ISG is allocated by Cal Water among three districts: Bear Gulch, Mid-Peninsula, and South San Francisco. The amount available to the BGD in any given year varies, and depends on the availability of local supplies in the three districts. During multiple dry years, the 2010 UWMP estimates (see Table 5.2-3 therein) the ISG supply available to Bear Gulch can be reduced to 79 percent of the total available during normal years. In addition to the SFPUC imported water, surface water supplies approximately five percent (1,206 AFY in a normal year) of the Bear Gulch District's water requirements. It is collected from the Bear Gulch Creek, which drains a 1,500-acre watershed owned by Cal Water, through two diversion facilities and is stored in Bear Gulch Reservoir prior to use. This surface water is treated at the outlet of the Bear Gulch Reservoir prior to entry into the distribution system. The 2010 UWMP estimates this surface water supply can be reduced to about 48

[37] Based on Table 11 of the WSE, February 3, 2016.
[38] Equivalent to 4.179 to 4.690 MGY, or 12,820 to 14.390 AFY

percent of normal during the multiple dry years. It is estimated the total water supply for Cal Water BGD (SFPUC plus surface supplies) can be reduced to about 76 percent of normal in multiple dry years.

Water Shortage Contingency Plans

The 2009 Water Supply Agreement includes a Water Shortage Allocation Plan (WSAP) that addresses shortages of up to 20 percent of system-wide use. The Tier One Shortage Plan of the WSAP allocates water from the SFPUC's RWS between San Francisco and the wholesale customers, during system-wide shortages of 20 percent or less. The WSAP also anticipated a Tier Two Shortage Plan, adopted by the wholesale customers, which would allocate the available water from the RWS among the wholesale customers.

As discussed above, as part of their UWMPs, the MPMWD and Cal Water BGD have prepared Water Shortage Contingency Plans, which describe measures to reduce water demand by up to 50 percent in the case of drought or emergency in their respective service areas. As noted, in response to the current drought and state regulations mandating demand reductions, MPMWD updated its Water Shortage Contingency Plan November 2014 and the City Council approved new water reduction regulations May 2015. Also in response to the current drought and corresponding state regulations, Cal Water BGD implemented an approved Water Shortage Contingency Plan with Staged Mandatory Reductions and Drought Surcharges, effective on June 1, 2015.

Water Demand

MPMWD

Existing Water Demand

As reported in the WSE,[39] total annual water use for MPMWD was approximately 1,030 MG in 2014, which was a decrease relative to 2013 and a departure from the increase in water use observed between 2011 and 2013. Prior to 2011, water use had decreased since 2007; this decrease is thought to reflect impacts of the 2007-2009 drought, as well as the economic downturn that resulted in lower residential and non-residential water use.

Average annual water use within the Bayfront Area from 2010 through 2014 was approximately 195 MG, with annual water use ranging from 162 MG in 2012 to 224 MG in 2010.[40]

Future Water Demand *without* Proposed Project

The projected future water demand of the existing General Plan buildout within MPMWD's service area is reported in the draft 2015 UWMP, which was available during preparation of the WSE. Projected water

[39] Erler & Kalinowski, Inc, 2016. Water Supply Evaluation Study, ConnectMenlo – General Plan and M-2 Area Zoning Update Menlo Park, California, prepared for City of Menlo park, February 3, 2016. Table 5.

[40] Erler & Kalinowski, Inc, 2016. Water Supply Evaluation Study, ConnectMenlo – General Plan and M-2 Area Zoning Update Menlo Park, California, prepared for City of Menlo park, February 3, 2016. Table 1.

demands within MPMWD are provided in the WSE[41] in five year increments for 2020 through 2040. It is estimated that annual water demands associated with the City's existing General Plan buildout are approximately 1,310 MG in 2020 and 1,240 MG in 2040. The anticipated decline in water demands between 2020 and 2040 in spite of growth in total population and jobs is largely due to:

- Decreasing projected water use in the industrial sector; and
- Increased water efficiency in the residential and non-residential sectors as a result of plumbing code updates and planned MPMWD conservation efforts.

The WSE[42] identifies other planned projects within MPMWD's water service area, not included in the existing General Plan buildout, that are included in the Draft 2015 UWMP and the 2015 DSS Model.[43] These projects (Facebook expansion and New Magnet High School) were identified on the basis of information provided by the City's Planning Division on September 9, 2015 during preparation of the WSE. Potential annual water demands associated with these projects is approximately 31 MG.

Therefore, it is estimated that annual water demand will be approximately 1,271 MG in 2040 within MPMWD's service area (i.e., 1,240 MG for buildout of the existing General Plan plus 31 MG for other planned projects), excluding the proposed project.

Future Water Demand *with* Proposed Project

The proposed project includes a net increase in new development east of Highway 101 within the Bayfront Area of approximately:

- 2.3 million non-residential square feet, including offices, life-sciences buildings, and other commercial uses;
- 400 hotel rooms;
- 4,500 multi-family residential units;
- Two transit centers; and
- 61 acres of landscaped open space.

As described in the WSE, the average annual water use for the new development potential under the proposed project was estimated based on: (1) the application of well-established methodologies for estimating indoor and outdoor water use factors on a "per square foot" or "per unit" basis, and (2) assumptions regarding water efficiency for certain end uses based on conformance with the City requirements. These project-specific water use factors were then applied to each new land use anticipated in the Bayfront Area. A summary of the resulting water use projections at buildout are

[41] Erler & Kalinowski, Inc, 2016. Water Supply Evaluation Study, ConnectMenlo – General Plan and M-2 Area Zoning Update Menlo Park, California, prepared for City of Menlo park, February 3, 2016. Table 6.

[42] Erler & Kalinowski, Inc, 2016. Water Supply Evaluation Study, ConnectMenlo – General Plan and M-2 Area Zoning Update Menlo Park, California, prepared for City of Menlo park, February 3, 2016. Table 7.

[43] Demand Side Management Least Cost Planning Decision Support System (DSS). The DSS Model is used to project both long-range water demands and conservation savings. To forecast water demands, the DSS Model relies on demographic and employment projections, combined with the effects of natural fixture replacement due to the implementation of plumbing codes to forecast future demands.

provided in the WSE.[44] Based on methodologies described in the WSE, the annual water use associated with the new development potential under the proposed project is projected to be 343 MG at buildout.

Therefore, adding the estimated water demand (343 MG per year) for the proposed project's new development potential and the estimated amount without the proposed project's new development potential (1,271 MG), yields an expected water demand in 2040 within MPMWD's service area of approximately 1,614 MG. Future water demands in the MPMWD service area, with the proposed project's new development potential, are summarized in Table 4.14-2.

TABLE 4.14-2 TOTAL PROJECTED FUTURE WATER DEMANDS FOR MPMWD

	Projected Future Water Demand (MG)				
Water Demand Estimate	**2020**	**2025**	**2030**	**2035**	**2040**
Water Demand of Existing General Plan[a]	1,310	1,286	1,265	1,251	1,240
Water Demand for Other Planned Projects[b]	31	31	31	31	313
Total Water Demand without Proposed Project	**1,341**	**1,317**	**1,296**	**1,282**	**1,271**
Project Water Demand[c]	0	86	172	257	343
Total Water Demand with Proposed Project	**1,341**	**1,403**	**1,468**	**1,539**	**1,614**

Notes:
a. The total projected District-wide water demand between 2010 and 2040 is based on water demand projections within the MPMWD's draft 2015 UWMP (see WSE; Table 6)
b. The total estimated water demand for currently planned projects is 31 MG (see WSE; Table 7);
c. The proposed project is expecting buildout by 2040 over a 25-year horizon; therefore, project demands are phased throughout 2020 to 2040 to reflect phased buildout of the proposed project.
Source: WSE, February 3, 2016; Table 8 (from 2015 Urban Water Management Plan, prepared by the City of Menlo Park, draft).

Cal Water Bear Gulch District

Taking into account the requirements of SBx7-7, Cal Water's 2010 UWMP for the BGD reported the following:

- A computed baseline use of 238 gallons per capita per day (gpcd), based on water use in the period from 2000 until 2009;
- An adopted 2015 interim target of 214 gpcd; and
- An adopted 2020 target of 190 gpcd.

In order to calculate future demands, Cal Water multiplied the SBx7-7 targets by the projected population within its BGD service area. This resulted in gross future water demand projections. In order to estimate how these demands would be spread across the various water use sectors, Cal Water used the ratio of individual deliveries for each class of demand (e.g., residential, CII, landscape), to the total historic deliveries. This ratio was applied to the total adjusted baseline demand resulting in the projected

[44] Erler & Kalinowski, Inc, 2016. Water Supply Evaluation Study, ConnectMenlo – General Plan and M-2 Area Zoning Update Menlo Park, California, prepared for City of Menlo park, February 3, 2016. Table 2.

deliveries. The 2010 UWMP (Table 5.2-4 therein) reports total water demand projections in the BGD ranged from 13,839 AFY (4,510 MGY) in 2015 to 14,160 AFY (4,614 MGY) in 2040 in a normal hydrologic year.

Comparison of Supply and Demand

MPMWD

Normal Hydrologic Year

As shown on Table 4.14-3, and in the WSE,[45] MPMWD is expected to have adequate water supplies during normal years to meet its total annual projected demands including the proposed project demand (343 MG per year) based on MPMWD's 2010 UWMP and 2015 UWMP in development. The projected water supply from 2020 through 2040 is 1,630 MGY during normal years. Anticipated water demand of the proposed project plus demand from buildout of the existing General Plan and other planned projects in the MPMWD service area is projected to range from 1,341 MGY in 2020 to 1,614 MGY in 2040. At its largest, anticipated water demand is 16 MGY below the projected supply.

Single Dry Year

During single-dry years, the WSE concludes MPMWD is expected to have a 4.5 percent shortfall in water supplies to meet its total annual projected demands through 2020 either with or without the proposed project demand (0 MG in 2020). By 2040, MPMWD's total annual water demand, including the project demand from new development potential, is estimated to exceed total annual supply by approximately 333 MG, which results in a total water supply shortfall of 21 percent.[46] Without the proposed project's new development potential, there is sufficient supply to meet the anticipated demand during single dry years in 2040. Therefore, the proposed project creates an incremental shortfall of approximately 21 percent in 2040 compared to the without-project conditions (see Table 4.14-3).

Multiple Dry Years

During multiple-dry years in 2020, MPMWD's total annual water demand, either including or excluding the proposed project demand, is projected to exceed the total annual supply by approximately 233 MGY, which results in a total water supply shortfall of 17 percent. In 2040, MPMWD's total annual water demand, including the project demand, is projected to exceed the total annual supply by approximately 506 MG, which results in a total water supply shortfall of 31 percent. Without the proposed project's new development potential, the multiple dry year shortfall in 2040 is projected to be 13 percent, or 163 MG. Therefore, in 2040, the proposed project's new development potential creates an incremental shortfall of approximately 18 percent compared to the without-project conditions, during multiple dry years (see Table 4.14-3).

[45] Erler & Kalinowski, Inc, 2016. Water Supply Evaluation Study, ConnectMenlo – General Plan and M-2 Area Zoning Update Menlo Park, California, prepared for City of Menlo park, February 3, 2016. Tables 8, 10, and 13.

[46] Erler & Kalinowski, Inc, 2016. Water Supply Evaluation Study, ConnectMenlo – General Plan and M-2 Area Zoning Update Menlo Park, California, prepared for City of Menlo park, February 3, 2016. Tables 11.

TABLE 4.14-3 INCREMENTAL IMPACT OF THE PROJECT ON MPMWD'S WATER SUPPLY AND DEMAND IN NORMAL AND DRY YEARS

			Without Proposed Project			With Proposed Project		
			[A]	[B]	[C] C = (A - B) / B	[D]	[E] E = (A - D) / D	[F] F = E - C
	Year		Total Potable Supply (MG)[a]	Potable Demand (MG)[b]	Supply Shortfall (% of Demand)	Potable Demand (MG)[b]	Supply Shortfall (% of Demand)	Incremental Shortage
2020	Normal		1,630	1,341	No Shortfall	1,341	No Shortfall	0%
	SDY		1,281	1,341	4.5%	1,341	4.5%	0%
	MDY	Year 1	1,281	1,341	4.5%	1,341	4.5%	0%
		Year 2	1,108	1,341	17%	1,341	17%	0%
		Year 3	1,108	1,341	17%	1,341	17%	0%
2025	Normal		1,630	1,317	No Shortfall	1,403	No Shortfall	0%
	SDY		1,281	1,317	2.7%	1,403	8.7%	6%
	MDY	Year 1	1,281	1,317	2.7%	1,403	8.7%	6%
		Year 2	1,108	1,317	16%	1,403	21%	5%
		Year 3	1,108	1,317	16%	1,403	21%	5%
2030	Normal		1,630	1,296	No Shortfall	1,468	No Shortfall	0%
	SDY		1,281	1,296	1.1%	1,468	13%	12%
	MDY	Year 1	1,281	1,296	1.1%	1,468	13%	12%
		Year 2	1,108	1,296	14%	1,468	24%	10%
		Year 3	1,108	1,296	14%	1,468	24%	10%

TABLE 4.14-3 INCREMENTAL IMPACT OF THE PROJECT ON MPMWD'S WATER SUPPLY AND DEMAND IN NORMAL AND DRY YEARS

			Without Proposed Project			With Proposed Project		
			[A]	[B]	[C] C = (A - B) / B	[D]	[E] E = (A - D) / D	[F] F = E - C
	Year		Total Potable Supply (MG)[a]	Potable Demand (MG)[b]	Supply Shortfall (% of Demand)	Potable Demand (MG)[b]	Supply Shortfall (% of Demand)	Incremental Shortage
2035	Normal		1,630	1,282	No Shortfall	1,539	No Shortfall	0%
	SDY		1,281	1,282	0.1%	1,539	17%	17%
	MDY	Year 1	1,281	1,282	0.1%	1,539	17%	17%
		Year 2	1,108	1,282	14%	1,539	28%	14%
		Year 3	1,108	1,282	14%	1,539	28%	14%
2040	Normal		1,630	1,271	No Shortfall	1,614	No Shortfall	0%
	SDY		1,281	1,271	No Shortfall	1,614	21%	21%
	MDY	Year 1	1,281	1,271	No Shortfall	1,614	21%	21%
		Year 2	1,108	1,271	13%	1,614	31%	18%
		Year 3	1,108	1,271	13%	1,614	31%	18%

Notes: SDY = single dry year, MDY = multiple

Source: WSE, February 3, 2016, Table 13. Projected available water supplies during normal, single dry and multiple dry years are from MPMWD's 2015 UWMP (in development), and are documented in Tables 10, 11 and 12 of the WSE. Values for projected water demand with and without proposed project are calculated in Table 8 of WSE.

Cal Water Bear Gulch District

The growth anticipated by the existing General Plan development potential outside the Bayfront Area partially falls within the Cal Water BGD. Cal Water BGD's 2010 UWMP projects water demands using a unit demand methodology based on land uses and population projections in the General Plans of cities it serves, including Menlo Park. For purposes of the impact analyses in this Draft EIR it is conservatively assumed that the growth anticipated by the existing General Plan development potential outside the Bayfront area was not *specifically* taken into account in the demand projection allowance made in Cal Water BGD's 2010 UWMP. However, it is noted that Cal Water BGD's 2010 UWMP projected that population in its service area would grow from 57,773 persons in 2015 to 66,535 in 2040. This is an annual growth rate of 0.61 percent per year, which is higher than the growth rate used in the MPMWD's 2010 UWMP.

Normal Hydrologic Year

According to the 2010 UWMP, based on the availability of normal year supplies, there will be a supply deficiency of approximately 2,100 AF in 2040. Cal Water will only purchase enough SFPUC water to meet customer demand in any given year. The projected demand is based on the SBx7-7 target demand, which assumes that each Cal Water district reaches its individual demand goals.

Single Dry Year

In general, and from historical operational records, Cal Water BGD's demand has shown to increase during a single-dry years as compared to normal years. The water demand increases due to maintenance of landscape and other high water uses that would normally be supplied by precipitation. According to the SFPUC reliability analysis provided to BAWSCA for the 2010 UWMP, there could be a 10 percent system-wide cutback during single dry years. Under the Tier 2 allocation plan, Cal Water could see a reduction in SFPUC supply of up to 17 percent. A 10 percent system-wide cutback in SFPUC supplies results in an estimated supply shortfall of approximately 4,500 AF (13 percent shortfall) in 2020 and 9,400 AF (27 percent shortfall) in 2040. Historically, the 2010 UWMP notes that SFPUC supplies have not been reduced this dramatically in the first year of a drought. Under normal circumstances SFPUC has adequate carryover storage in the RWS to provide an increased level of service in single dry years. If the hydrologic conditions were severe enough, Cal Water would expect SFPUC to request a voluntary reduction in purchases. Cal Water would respond accordingly by requesting additional conservation by its customers through implementation of the *Water Shortage Contingency Plan*.

Multiple Dry Years

Based on the years chosen for the analysis in the 2010 UWMP, Cal Water's three Peninsula Districts (including BGD) had lower demands during the multiple dry year period than in either the single dry or normal hydrologic years. According to the SFPUC reliability analysis provided to BAWSCA for the 2010 UWMP, there could be a 10 percent system-wide cutback during the first year of a multiple dry year period, and a 20 percent cutback in years two and three. As noted above, a 10 percent system-wide

cutback results in a 17 percent reduction in SFPUC supplies to Cal Water, while a 20 percent cutback results in a 34 percent reduction in SFPUC supplies. There is a supply shortfall of about 45 AF (less than 0.1 percent shortfall) in 2020 if a 10 percent system-wide reduction is required. If the cutback reaches 20 percent Cal Water could see a shortfall of about 6,500 AF (23 percent shortfall) beginning in 2020 and up to 9,700 AF (34 percent shortfall) in 2036. These shortfalls would need to be met through a combination of customer demand reductions resulting from the implementation of the *Water Shortage Contingency Plan*.

4.14.1.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would have a significant impact on water service if:

1. There were insufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements were needed.
2. It would require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.

4.14.1.3 IMPACT DISCUSSION

UTIL-1	**Implementation of the proposed project would have sufficient water supplies available to the serve the study area from existing entitlements, conservation plans and resources, and would not require new or expanded entitlements.**

MPMWD

As described above, the existing development potential in the Bayfront Area would add 343 MGY demand at buildout in 2040 to the MPMWD service area. This demand would be added incrementally over the project time horizon, from 0 MG in 2020 to 343 MG in 2040. As shown in Table 4.14-3 above, MPWMD's water supply is adequate to meet the increased demands in normal years through the buildout year 2040.

During single-dry years, by 2040, MPMWD's total annual water demand, including the demand of the existing development potential under the proposed project, is estimated to exceed total annual supply by approximately 333 MG, which results in a total water supply shortfall of 21 percent. Without the proposed project's existing development potential there is sufficient water supply to meet projected demand through 2040. Therefore, the proposed project creates an incremental shortfall of approximately 21 percent in 2040 compared to the without-project conditions.

During multiple-dry years, by 2020, MPMWD's total annual water demand, either including or excluding the proposed project's demand (0 MG in 2020), is projected to exceed the total annual supply by approximately 233 MGY, which results in a total water supply shortfall of 17 percent. In 2040, MPMWD's total annual water demand, *including* the proposed project demand, is projected to exceed the total annual supply by approximately 506 MGY, which results in a total water supply shortfall of 31 percent.

Without the proposed project, the multiple dry year shortfall in 2040 is projected to be 13 percent. Therefore, in 2040, the proposed project creates an incremental shortfall of approximately 18 percent compared to the without-project conditions, during multiple dry years.

In sum, MPMWD could experience water shortages at project buildout (2040) during single (21 percent shortfall) and multiple dry years (31 percent shortfall). However, with MPMWD's *Water Shortage Contingency Plan* in place, the shortages in multiple dry years would be managed through demand reductions of up to 50 percent.

In addition, as part of the Zoning update, the project includes green and sustainable building standards in the Bayfront Area. These standards require all new buildings within the Bayfront Area to be maintained without the use of well water and include dual plumbing systems for the use of recycled water. Under the Zoning update, no potable water shall not be used for decorative features, unless the water is recycled, and single pass cooling systems are prohibited. Also, future development with a gross floor area of 100,000 square feet or more must submit a proposed water budget for review by the City's Public Works Director prior to certification of occupancy. New buildings with 250,000 square feet of gross floor area or more are required to use an alternate water source for all City-approved non-potable applications.

Therefore, impacts to the MPMWD would be *less than significant*.

Cal Water Bear Gulch District

The 2010 UWMP estimates Cal Water could see a supply shortfall of up to 9,700 AF in 2036 (combined for all three districts: Bear Gulch, Mid-Peninsula, and South San Francisco) if a 20 percent system-wide reduction from SFPUC's RWS is required. This magnitude of shortfall represents 34 percent shortfall to Cal Water as a function of projected supply and a 25 percent shortfall as a function of projected demand.[47] System wide shortfalls would need to be met through customer demand reductions resulting from the implementation of the *Water Shortage Contingency Plan*. Table 3-2 in Chapter 3, Project Description, of this Draft EIR, shows the population growth attributable to the existing General Plan is 2,580 people, and population growth attributable to all reasonably foreseeable cumulative projects in the city is 3,300 people at the buildout horizon year (2040). For purposes of analysis, using the very conservative assumption that all this population growth is attributable to the Cal Water BGD service territory and is not accounted for in the population/demand growth projections in the 2010 UWMP, the total resulting incremental water demand in the Cal Water territory would be 408 MG,[48] or 1504 AF (in 2040). This incremental water demand represents an additional five (5) percent shortfall on top of the 34 percent shortfall projected during multiple dry years in the Cal Water service territory. With Cal Water's *Water Shortage Contingency Plan* in place, shortages in multiple dry years would be managed through demand reductions of up to 50 percent, or more.[49]

Therefore, impacts to the Cal Water supply would be *less than significant*.

[47] Cal Water BGD 2010 UWMP, Table 5.2-6.
[48] 5,880 x 190 gpcd [2020 target for Cal Water[2010 UWMP] x 365 days/yr = 408 MGY.
[49] Cal Water BGD 2010 UWMP, Table 5.5-3

Summary

In addition to the implementation of the water shortage contingency plans of the water supply retailers, the proposed zoning changes encourage water conservation and the potential development of recycled water sources. The proposed Land Use (LU) Element, which would be affirmed as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to the environment related to water supply and demand. The following General Plan goals, policies and a program would serve to minimize water consumption and help to maintain a balance between water supply and demand:

- Goal OSC-1: Maintain, protect and enhance open space and natural resources.
  - Policy OSC-1.11: Sustainable Landscape Practices. Encourage the enhancement of boulevards, plazas and other urban open spaces in high-density and mixed-use residential developments, commercial and industrial areas with landscaping practices that minimize water usage.
- Goal OSC-2: Provide Parks and Recreation Facilities.
  - Policy OSC-2.7: Conservation of Resources at City Facilities. Reduce consumption of water, energy, landfilled waste, and fossil fuels in the construction, operations and maintenance of City owned and/or operated facilities.
- Goal OSC-4: Promote sustainability and climate action planning.
  - Policy OSC-4.2: Sustainable Building. Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.
- Goal OSC-5: Ensure healthy air quality and water quality.
  - Policy OSC-5.3: Water Conservation. Encourage water-conserving practices in businesses, homes and institutions.
    - Program OSC-5.A: Expand Water Conservation Programs. Expand the Menlo Park Municipal Water District's conservation programs through education, social marketing methods, establishing standards, and providing incentives
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.

- Policy LU-7.1 Sustainability. Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste.
- Policy LU-7.4 Water Protection. Work with regional and local jurisdictions and agencies responsible for ground water extraction to develop a comprehensive underground water protection program in accordance with the San Francisquito Creek Watershed Policy, which includes preservation of existing sources and monitoring of all wells in the basin to evaluate the long term effects of water extraction.
- Policy LU-7.5: Reclaimed Water Use. Implement use of adequately treated "reclaimed" water (recycled/nonpotable water sources such as, graywater, blackwater, rainwater, stormwater, foundation drainage, etc.) through dual plumbing systems for outdoor and indoor uses, as feasible.

The experience of the past four years of drought (2012 to 2016), and the water conservation response actions taken by the state and the City,[50] demonstrate that sufficient water supplies would be available to serve the proposed project from existing entitlements and resources and new or expanded entitlements would not be required during single- and multiple-dry years. In addition, future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning requirements that have been prepared to minimize impacts related to water supplies as listed above. The City, throughout the 2040 buildout horizon, would implement the General Plan program that requires the expansion of the Menlo Park Municipal Water District's conservation programs as listed above. Therefore, the adoption of the proposed project would result in less-than-significant impact with respect to water supplies during single- and multiple-dry years.

Applicable Regulations:

- California Water Conservation Act of 2009 (SB X7-7)
- California Plumbing Code that requires water conserving fixtures
- California Emergency Regulations Restricting Use of Potable Water (CCR Title 23, Sections 863, 864, 865 and 866)
- 2009 Water Shortage Allocation Plan between the SFPUC and its wholesale customers, adopted as part of the Water Supply Agreement
- SFPUC's Water Supply Improvement Program
- City of Menlo Park Municipal Code: Chapter 7.35, Water Conservation; Chapter 12.44, Water Efficient Landscaping
- City of Menlo Park City Council Resolution 6261 (May 2015) Regarding Emergency Water Conservation Regulations
- MPMWD and Cal Water BGD water supply and demand management strategies and water shortage contingency plans identified in the Urban Water Management Plans

Significance Without Mitigation: Less than significant.

[50] SWRCB, 2016. Water Conservation Portal – Conservation Reporting, accessed on May 4, 2016.

UTIL-2 Implementation of the proposed project would require or result in the construction of new water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.

The MPMWD receives 100 percent of its potable water from the SFPUC. The City does not own or operate a water treatment plant (WTP). Through 2040, Cal Water's planned water supply is greater than 91 percent from SFPUC; less than 9 percent from local surface diversions. The water purchased from the SFPUC may be treated at one or more WTPs operated by SFPUC. SFPUC treats water to meet all applicable drinking water standards. SFPUC periodically makes improvements to its WTPs in order to improve system reliability and accommodate projected growth in its regional service areas. For example, the WSIP includes capacity expansion and other improvements to the Tesla Treatment Facility (completed in 2013), Sunol Valley WTP (completed in 2014) and Harry Tracy WTP (97 percent complete).[51] The WSIP also includes many projects to improve the Regional Water System distribution lines and storage reservoirs. As a result, adoption and implementation of the proposed project would not prompt a need to expand treatment facilities or regional water system conveyance and storage facilities in order to meet its demand and this impact would be *less than significant*.

Project-level infrastructure improvements may be necessary during buildout of the project. For example, existing local distribution lines within the City may be undersized for future projects and improvements under the proposed project and could require replacement with larger diameter pipes. In addition, the Bayfront Area reportedly has inadequate storage for fire flow and emergency supplies, and MPMWD distribution system does not have adequate hydraulic connectivity to the Upper zone to alleviate this shortage. Potential environmental impacts could result from construction and operation of pipeline improvements and additional water storage capacity; however, such impacts would be project-specific. Any new or expanded local water distribution facilities would require permitting and review in accordance with CEQA, which would ensure environmental impacts are disclosed and mitigated to the extent possible. Therefore, in accordance with the applicable regulations listed below, adoption of the proposed project would result in *less-than-significant* impacts with respect to adequate water facilities and service.

Applicable Regulations:

- California Water Conservation Act of 2009 (SB X7-7)
- California Plumbing Code that requires water conserving fixtures
- California Emergency Regulations Restricting Use of Potable Water (CCR Title 23, Sections 863, 864, 865 and 866)
- 2009 Water Shortage Allocation Plan between the SFPUC and its wholesale customers, adopted as part of the Water Supply Agreement
- SFPUC's Water Supply Improvement Program
- City of Menlo Park Municipal Code: Chapter7.35, Water Conservation; Chapter 12.44, Water Efficient Landscaping
- City of Menlo Park City Council Resolution 6261 (May 2015) Regarding Emergency Water Conservation Regulations

[51] SFPUC, WSIP, Regional Projects Quarterly Report, 4th Quarter, FY 2014/2015, http://sfsewers.org/Modules/ShowDocument.aspx?documentID=7612, accessed October 23, 2015.

- MPMWD and Cal Water BGD water supply and demand management strategies and water shortage contingency plans identified in the 2010 Urban Water Management Plans

Significance Without Mitigation: Less than significant.

4.14.1.4 CUMULATIVE IMPACT DISCUSSION

UTIL-3	Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to water service.

This section analyzes potential cumulative impacts to water supply that could occur from the adoption and implementation of the proposed project in combination with past, present, and other reasonably foreseeable projects in the surrounding area(as addressed in the ConnectMenlo WSE and the UWMPs). The geographic scope of this cumulative analysis is the SFPUC retail and wholesale service area. The MPMWD's 2010 and 2015 (in draft) UWMPs, and the WSE prepared for the proposed project, indicate that sufficient water supply exists to meet demand in normal years for existing development potential. The last four years of drought have demonstrated that existing water supplies from SFPUC were also sufficient to serve the City during the current multiple-year drought period. The WSE (2016), the UWMPs, the Water Shortage Allocation Plan of the Water Supply Agreement between SFPUC and wholesale customers, the WSIP, the MPMWD and Cal Water BGD water shortage contingency plans, and mandatory state emergency water use restrictions also indicate that there are plans and programs in place to ensure sufficient water during future single- and multiple-dry years. Similarly, the cumulative water supply needs of the proposed project in combination with past, present, and reasonably foreseeable projects in the SFPUC wholesale service territory during normal, single-, and multiple-dry years could be met by 1) State voluntary and mandatory water conservation and water efficiency measures, 2) SFPUC voluntary and mandatory water conservation and water efficiency measures, 3) City water conservation measures called for in the municipal code and emergency conservation ordinance, 4) BAWSCA's long-term water supply strategy, and 5) SFPUC's WSIP improvements. Cumulative projects would contribute to additional water demands. However, future projects would be subject to substantially the same water conservation efforts, water efficiency measures, and water supply improvements to balance supply and demand as would the proposed project. In particular, cumulative projects within the SFPUC wholesale service area would be subject to State and SFPUC voluntary and mandatory conservation measures to reduce usage, the BAWSCA's long-term water supply strategy to enhance supplies, and the SFPUC's WSIP projects to improve the regional water system reliability and capacity. In addition, cumulative projects within the Bayfront Area would be required to comply with the green and sustainable building standards included in the Zoning regulations.

Physical impacts to the environment as a result of infrastructure improvements would be restricted to the study area and therefore, would not result in a greater cumulative impact. As discussed under UTIL-2, potential environmental impacts would be project-specific. Any new or expanded local water distribution facilities would require permitting and review in accordance with CEQA, which would ensure environmental impacts are disclosed and mitigated to the extent possible.

With conservation measures described above, there would be adequate water supplies to serve the proposed project in combination with other reasonably foreseeable projects in the SFPUC wholesale service area. Therefore, in accordance with the applicable regulations listed below, cumulative impacts would be *less than significant*.

Applicable Regulations:

- California Water Conservation Act of 2009 (SB X7-7)
- California Plumbing Code that requires water conserving fixtures
- California Emergency Regulations Restricting Use of Potable Water (CCR Title 23, Sections 863, 864, 865 and 866)
- 2009 Water Shortage Allocation Plan between the SFPUC and its wholesale customers, adopted as part of the Water Supply Agreement
- SFPUC's Water Supply Improvement Program
- City of Menlo Park Municipal Code: Chapter7.35, Water Conservation; Chapter 12.44, Water Efficient Landscaping
- City of Menlo Park City Council Resolution 6261 (May 2015) Regarding Emergency Water Conservation Regulations
- MPMWD and Cal Water BGD water supply and demand management strategies and water shortage contingency plans identified in the Urban Water Management Plans

Significance Without Mitigation: Less than significant.

4.14.2 SANITARY WASTEWATER (SEWER)

This section describes the existing regulatory setting and conditions as well as potential impacts of adopting and implementing the proposed project with regard to wastewater collection and treatment facilities. Wastewater collection services in the city and proposed project study area are provided by West Bay Sanitary District (WBSD). Wastewater treatment services are provided by Silicon Valley Clean Water (SVCW; formerly the South Bayside Systems Authority ([SBSA]) at their Waste Water Treatment Plant (WWTP) located in Redwood City.

4.14.2.1 ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

The federal government regulates wastewater treatment and planning through the Federal Water Pollution Control Act of 1972, more commonly known as the Clean Water Act (CWA), as well as through the National Pollutant Discharge Elimination System (NPDES) permit program, both of which are discussed in further detail below.

Clean Water Act

The Federal Water Pollution Act of 1972, more commonly known as the Clean Water Act (CWA), regulates the discharge of pollutants into watersheds throughout the nation. It is the primary federal law governing water pollution. Under the CWA, the US EPA implements pollution control programs and sets wastewater standards. The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the Clean Water Act to regulate municipal and industrial discharges to surface waters of the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable connections and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Wastewater discharge is regulated under the NPDES permit program for direct discharges into receiving waters and by the National Pretreatment Program for indirect discharges to a sewage treatment plant.

Operation of the SVCW WWTP and its wastewater collection system is regulated by Waste Discharge Requirements (WDRs; NPDES No. CA0038369) found in RWQCB Order No. R2-2012-0062 effective October 1, 2012, and expiring September 30, 2017. The discharger's wastewater collection system consists of four pump stations which receive wastewater from the "satellite" wastewater collection systems of four municipal jurisdictions (West Bay Sanitary District, City of Belmont, City of San Carlos and City of Redwood City). The effluent from the WWTP is also subject to two other NPDES permits: 1) the WDRs for mercury and polychlorinated biphenyls (PCBs) from municipal and industrial wastewater discharges to San Francisco Bay (NPDES No. CA0038849); and 2) waste discharge requirements for nutrients from municipal wastewater discharges to San Francisco Bay (NPDES No. CA0038873). The three NPDES permits enable SVCW to discharge treated wastewater into San Francisco Bay.

State Regulations

State Water Resources Control Board

On May 2, 2006 the State Water Resources Control Board (SWRCB) adopted a General Waste Discharge Requirement (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California with more than one mile of sewer pipe. The order provides a consistent statewide approach to reducing sanitary sewer overflows (SSOs) by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system, to prevent sanitary sewer waste from entering the storm sewer system, and to develop a Sanitary Sewer Master Plan. The General Waste Discharge

Requirement also requires that storm sewer overflows be reported to the SWRCB using an online reporting system.

The SWRCB has delegated authority to nine Regional Water Quality Control Boards (RWQCBs) to enforce these requirements within their region. The San Francisco Bay RWQCB issues and enforces NPDES permits applicable to the WBSD wastewater collection system in Menlo Park and the SVCW WWTP in Redwood City.

Sanitary District Act of 1923

The Sanitary District Act of 1923 (Health and Safety Code Section 6400 et seq.) authorizes the formation of sanitation districts and enforces the Districts to construct, operate, and maintain facilities for the collection, treatment, and disposal of wastewater. The Act was amended in 1949 to allow the districts to also provide solid waste management and disposal services, including refuse transfer and resource recovery.

Regional Regulations

Silicon Valley Clean Water Planning Documents

Silicon Valley Clean Water (SVCW; formerly the South Bayside Systems Authority [SBSA]) initiated a $339 million 10-year Capital Improvement Program (CIP) in 2008 to improve the reliability and efficiency of its regional wastewater system and facilities through repair, replacement, and improvements to existing infrastructure. The CIP 2015 Update published in June 2015 extends the original 10-year CIP to a $792 million 15 year CIP.[52] The CIP is a living document and will continue to be reviewed annually, refined and updated as needed.

The SVCW Conveyance System Master Plan, published in August 2011, includes facilities expansion planning based on growth projections provided by member agencies derived from General Plans and/or master planning documents. The SVCW WWTP currently is permitted for 29 million gallons per day (MGD) dry weather capacity and 71 MGD wet weather capacity. The CIP Update in 2013 reflected the results of a capacity Study (Brown & Caldwell, 2013) that identified four new projects needed for SVCW to reliably treat its wet weather flow. Expansion projects (known as "Stage 2") are not included in the 2015 CIP. The SVCW's Stage 2 expansion program is contained under a separate program. The 2015 CIP Update notes that "a 'Stage 2 Capacity' Fund was established to pay for capital projects that increase SVCW treatment capacity. The CIP further notes that each year, if the funds held in reserves fall below targeted levels (10 percent of the operating plus capital budgets, plus $1 million), SVCW is to consider budget adjustments in order to return to the target level. The SVCW, a Joint Powers Authority (JPA), has the ability to amend its reserve policy at any time.

[52] SVCW, 2015. Silicon Valley Clean Water Capital Improvement Program 2015 Update, June 2015; http://www.svcw.org/programs/Shared%20Documents/Final%202015%20CIP%20Update%2007152015.pdf, accessed December 2, 2015.

West Bay Sanitary District Collection System Master Plan

The West Bay Sanitary District updated its Wastewater Collection System Master Plan in July 2011. The 2011 Master Plan assesses the conveyance capacity of the WBSD's sewer collection system pipes and pump stations, evaluates facilities that may require rehabilitation or replacement, develops a prioritized CIP, and establishes a funding plan for the proposed CIP. The CIPs are planned to be implemented over the next ten years.

West Bay Sanitary District Code of General Regulations

The WBSD's Code of General Regulations establishes standards, conditions, and provisions for fees relating to the use of sanitary wastewater facilities of the WBSD. Article VII requires Class 1 sewer permits for residential connections, Class 2 sewer permits for non-residential connections, and Class 3 sewer permits for construction of sewer mains, pumping stations, and other wastewater facilities. In order to receive a permit, a developer must submit an application, pay all fees and charges, and satisfy requirements, such as extending the collection facilities to the vicinity of the development site. For a Class 3 permit, the WBSD Manager examines the submitted application's conformance with engineering practices and the standard specifications and policies of the WBSD and then submits it to the WBSD Board of Directors for approval. Subsequent to the WBSD's acceptance of a Class 3 permit, but prior to connection of and discharge into the WBSD's wastewater facilities, a Class 1 or Class 2 permit, as applicable, must be obtained by the developer. All costs and expenses associated with the installation and connection of the building sewer shall be at the owner's expense. All work shall be performed under the inspection of, and in accordance with, the standard specifications of WBSD.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.14.3.3, Impact Discussion.

Existing Conditions

This section describes the environmental setting and potential impacts of the proposed project with regard to wastewater collection and treatment facilities.

Sanitary Sewer

The West Bay Sanitary District (WBSD) provides wastewater collection and conveyance services to Menlo Park, Atherton, Portola Valley, and areas of East Palo Alto, Woodside, and unincorporated San Mateo and Santa Clara counties. Small areas along Haven Avenue are served by the Fair Oaks Sewer Maintenance District (FOSMD), and small portions of the Willows neighborhood in the O'Connor area are served by East Palo Alto Sanitary District (EPASD). Wastewater from the EPASD is treated by the City of Palo Alto's Regional Water Quality Control Plant. WBSD collected wastewater is treated by Silicon Valley Clean Water

(SVCW), which is a Joint Powers Authority that owns and operates the regional Waste Water Treatment Plant (WWTP) in Redwood Shores. The SVCW also operates the pump stations that are located at the terminus of each member's collection system. The Joint Powers Authority governing members include WBSD and the cities of Redwood City, San Carlos, and Belmont.

Wastewater Collection

The WBSD service area encompasses approximately 8,325 acres and includes approximately 19,000 service connections to serve a population of 52,900.[53] The WBSD operates and maintains approximately 200 miles of gravity sewer mains in size from 6 to 54 inches in diameter.[54] The system serves more than 19,000 connections, including residential, commercial, and industrial users, and contains 150 miles of private lateral sewers.[55] The WBSD conveys raw wastewater to SVCW for treatment through the Menlo Park Pump Station and force main.[56] The SVCW then discharges treated water to the San Francisco Bay.

The WBSD's Base Wastewater Flow (BWF; "dry weather flow"), as measured during the 2009/10 flow monitoring program, is 4.6 MGD. This BWF translates to approximately 87 gallons per capita per day (gpcd), which is within the industry standard and closely matches the WBSD's design criteria of 85 gpcd.[57]

The WBSD owns and operates 12 pump stations ranging in capacity from 110 to 2,500 gallons per minute (GPM).[58] As a precaution, pump stations have redundant pumping equipment and standby generators, and the WBSD has additional emergency standby generators and bypass pumps as part of its mobile emergency response equipment.[59] The 2015-2016 Capital Assets Fund for WBSD includes $4 million of pipeline replacement projects (as scheduled in the Collection System Master Plan 2011, updated in 2013).[60, 61] This Capital Fund Budget also includes a $3,250,000 CIP carryover (unspent) from CIP projects in progress from Fiscal Year (FY) 2014-2015. These expenditures enable the District to maintain the goal of replacing more than 1.5 percent (or about three miles) of the system's aging pipelines each year.

The Capital Fund expenses also include the building of Emergency Capital Reserves and Capital Project Reserves. The budget proposal includes the utilization of approximately $960,000 of the Capital Projects reserve to accommodate the pre-payment of Stage 2 Capacity at the Silicon Valley Clean Water treatment facility. This will require the allocation of $320,000 per year in this FY and the following two FYs to replenish the target level of $3.5 million.

[53] West Bay Sanitary District, 2011. *Wastewater Collection System Master Plan,* prepared by West Yost Associates.
[54] West Bay Sanitary District, 2011. Wastewater Collection System Master Plan, prepared by West Yost Associates.
[55] West Bay Sanitary District, 2011. Wastewater Collection System Master Plan, prepared by West Yost Associates.
[56] West Bay Sanitary District, About Us. http://www.westbaysanitary.org/, accessed February 27, 2015.
[57] West Bay Sanitary District, 2011. Wastewater Collection System Master Plan, prepared by West Yost Associates.
[58] West Bay Sanitary District, 2011. *Wastewater Collection System Master Plan,* prepared by West Yost Associates.
[59] West Bay Sanitary District, What We Do? http://www.westbaysanitary.org/education/what-we-do, accessed February 27, 2015.
[60] West Bay Sanitary District, 2013. 2012 Hydraulic Model Recalibration Effort and Updated CIP (Updated 2011 Collection System Master Plan), Technical Memorandum from West Yost Associated, dated February 21, 2013; https://westbaysanitary.org/wsbd-prod/resources/825/2011_Master_Plan_Update_of_2013.pdf , accessed December 4, 2015.
[61] West Bay Sanitary District, 2015. General Fund and Capital Asset Fund Budgets & Reserves, FY 2015-16, approved June 10, 2015. https://westbaysanitary.org/wp-content/uploads/2015/06/WBSD-FY2015-16-Approved-Budget-061515-a.pdf. accessed December 4, 2015.

The WBSD's system flows from the hills to the bay and terminates at the Menlo Park Pump Station, which is owned by the WBSD, operated by SVCW, and located at the entrance to Bedwell Bayfront Park near the San Francisco Bay. The Menlo Park Pump Station conveys wastewater via the main line trunk to SVCW's WWTP.[62]

Wastewater Treatment

The SVCW WWTP treats raw wastewater from Menlo Park and other communities and discharges to the deep water channel of the San Francisco Bay. The WWTP is designed to remove more than 97 percent of all solids, organic material, and pathogens from the wastewater through physical and biological processes.[63]

The SVCW's WWTP has an existing dry weather capacity of 29 MGD and wet weather capacity of 71 MGD. As reported by the RWQCB,[64] from July 2008 through June 2011, the average monthly flow was 15.9 MGD, and the maximum daily flow was 48.8 MGD. Both rates are well within the 29 MGD average dry weather design flow and 71 MGD peak wet weather design flow. Under its Stage 2 Expansion Program, the SVCW will increase WWTP capacity to 80 MGD wet weather capacity as needed.[65] The improvements under the SVCW's CIP are intended to improve the conveyance system, treatment processes and capacity. The current $792 million 15 year CIP is a living document and will continue to be reviewed annually, refined and updated as needed. The CIP and the Stage 2 Expansion Program are designed to accommodate regional development. During the dry season, SVCW further treats some of the WWTP flow with coagulation and additional disinfection for use as recycled water for landscape irrigation in the SVCW service area.

Other Facilities

The WBSD owns four storage basins, named the Flow Equalization Facility (FEF), on approximately 20 acres at the bayside terminus of Marsh Road in Menlo Park. The two basins closest to the Menlo Park Pump Station are currently used to provide wet weather storage for the WBSD. The WBSD's primary wet weather storage facility, Pond 1, has an estimated capacity of less than 10 million gallons. This land and these basins were part of the WBSD's wastewater treatment facilities, prior to the forming of the SVCW in 1980.[66]

The WBSD and SVCW have a lease agreement that allows SVCW to use the FEF during wet weather events. When needed, SVCW requests that the WBSD bypass the Menlo Park Pump Station and flow directly to the FEF. When SVCW system-wide flows have decreased after the wet weather event, the

[62] West Bay Sanitary District, 2011. *Wastewater Collection System Master Plan,* prepared by West Yost Associates.

[63] Silicon Valley Clean Water, Facilities web page, http://www.svcw.org/facilities/sitePages/wastewater%20treatment.aspx. accessed December 4, 2015.

[64] RWQCB, 2012. Order No R2-2012-0062; Waste Discharge Requirements, NPDES No. CA0038369, for South Bayside System Authority Wastewater Treatment Plant, http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2012/R2-2012-0062.pdf. accessed December 4, 2015.

[65] Teresa Herrera, Silicon Valley Clean Water. Personal correspondence with PlaceWorks, January 21, 2013.

[66] West Bay Sanitary District, 2011. *Wastewater Collection System Master Plan,* prepared by West Yost Associates.

WBSD-owned transfer pump station returns stored flow back to the Menlo Park Pump Station. This transfer pump station, which is operated by SVCW, has a capacity of 8,660 GPM.[67]

4.14.2.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would have a significant impact on wastewater service if it would:

1. Exceed wastewater treatment requirements of the applicable RWQCB.
2. Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
3. Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

4.14.2.3 IMPACT DISCUSSION

This section analyzes the proposed project's potential impacts to wastewater collection and treatment facilities.

UTIL-4	**Implementation of the proposed project would not exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board.**

The RWQCB Order Number R2-2012-002 (NPDES No. CA0038369) prescribes treatment requirements and discharge limits, and sets out a framework for compliance and enforcement applicable to the SVCW WWTP and its wastewater conveyance system, as well as municipal wastewater collection systems such as the WBSD that contribute influent to the WWTP.

This NPDES Order currently indicates dry weather facility design flow of up to 29 MGD, and wet weather design flow of up to 71 MGD.

Assuming 90 percent of the net increase in water demand for the proposed project (see Water Supply section 4.14.1; Table 4.14-2) becomes wastewater, the estimated net increased wastewater generation rate from the proposed project at buildout will be 309 million gallons per year (or 0.85 MGD). This increase in wastewater generation (i.e., a maximum of approximately 0.85 MGD) would not be significant relative to currently available excess dry weather design flow capacity of 13 MGD (29 MGD design flow minus 16 MGD current average flow equals 13 MGD).

Pursuant to the RWQCB Order, the WWTP routinely (daily, weekly, monthly, etc.) monitors its effluent for numerous chemical and biological parameters in four different main process sample streams. Test results are submitted periodically to the RWQCB to verify compliance with effluent discharge limits. This

[67] West Bay Sanitary District, 2011. *Wastewater Collection System Master Plan,* prepared by West Yost Associates.

monitoring allows for a very good assessment of the performance of WWTP processes. The SVCW facility also implements an approved pretreatment program specified in the NPDES permit, which includes approved local limits as required by the NPDES permit. The permit requires the Discharger (SVCW) to evaluate its local limits, such as those established by the other entities contributing to the WWTP, to ensure compliance with updated effluent limits. These local limits are approved as part of the pretreatment program required by the NPDES Permit. The SVCW WWTP is required to monitor the permitted discharges into the collection system in order to evaluate compliance with the RWQCP's permit conditions. In addition, the SVCW's Pollution Prevention Program,[68] as reported annually to the RWQCB, further minimizes pollutants of concern that enter the system.

The proposed Land Use (LU) Element, which would be affirmed as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to wastewater treatment and capacity. The following General Plan goals, policies and programs would serve to minimize potential adverse impacts associated with RWWCB requirements for wastewater collection and treatment:

- GOAL LU-7: Sustainability. Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
    - Policy LU-7.6: Sewage Treatment Facilities. Support expansion and improvement of sewage treatment facilities to meet Menlo Park's needs, as well as regional water quality standards, to the extent that such expansion and improvement are in conformance with other City policies.
        - Program LU-7.A: Green Building Operation and Maintenance. Employ green building and operation and maintenance best practices, including increased energy efficiency, use of renewable energy and reclaimed water, and install drought-tolerant landscaping for all projects.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
    - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal OSC-5: Ensure Healthy Air Quality and Water Quality.
    - Policy OSC-5.3: Water Conservation. Encourage water-conserving practices in businesses, homes and institutions.
        - Program OSC-5.A: Expand Water Conservation Programs. Expand the Menlo Park Municipal Water District's conservation programs through education, social marketing methods, establishing standards, and providing incentives.

[68] Silicon Valley Clean Water, 2014. *Annual Pollution Prevention Program Report for SVCW (2014)*, ftp://swrcb2a.waterboards.ca.gov/pub/rwqcb2/Staff/Parrish%20James/FEB%202015%20P2%20REPORTS/Final%20SVCW%202014%20P2%20Report%20with%20attachments.pdf , accessed December 4, 2015.

In addition, as part of the Zoning update, the project includes green and sustainable building standards in the Bayfront Area. These standards require all new buildings within the Bayfront Area to be maintained without the use of well water and include dual plumbing for the use of recycled water. Under the Zoning update, no potable water shall not be used for decorative features, unless the water is recycled, and single pass cooling systems are prohibited. Further, future development with a gross floor area of 100,000 square feet or more must submit a proposed water budget for review by the City's Public Works Director prior to certification of occupancy. New buildings with 250,000 square feet of gross floor area or more are required to use an alternate water source for all City-approved non-potable applications.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations, that have been prepared to minimize impacts related to wastewater treatment as listed above. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the expansion of the Menlo Park Municipal Water District's conservation programs and future development to employ green building best practices as listed above. In accordance with the General Plan policies, the Zoning regulations, and applicable regulations, wastewater generated from potential future development under the proposed project would not exceed the wastewater treatment requirements or capacity of the SVCW WWTP. Therefore, the adoption of the proposed project would result in *less-than-significant* impacts with respect to the San Francisco RWQCB wastewater treatment requirements.

Applicable Regulations:

- San Francisco RWQCB NPDES Permit (Order No. R2-2012-0062) for operation of the RWQCP
- SWRCB Order No. 2006-0003-DWQ for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems
- SWRCB Order No. WQ 2013-0058-EXEC revising SWRCB Order No. 2006-0003-DWQ
- San Francisco RWQCB NPDES Permit No. CA0038849 for waste discharge requirements for mercury and PCBs from municipal and industrial wastewater discharges to San Francisco Bay
- San Francisco RWQCB NPDES Permit No. CA0038873 for waste discharge requirements for nutrients from municipal and industrial wastewater discharges to San Francisco Bay
- Silicon Valley Clean Water JPA Pollution Prevention Program
- West Bay Sanitary District Code of General Regulations

Significance Without Mitigation: Less than significant.

UTIL-5	**Implementation of the proposed project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.**

Silicon Valley Clean Water WWTP

Operation of the SVCW WWTP and its wastewater conveyance system is governed by WDRs found in RWQCB Order Number R2-2012-0062 (NPDES No. CA0038369).This Order lists a dry weather facility design flow of 29 MGD, and a wet weather design flow of 71 MGD. The NPDES permit does not have a

limitation on the flow quantity. The SVCW reports the treatment plant has a capacity limit of 80 MGD, though there are some process bottlenecks that would need to be resolved to get the plant capacity to 80 MGD.[69] Therefore, the WWTP design is not necessarily limited to the peak wet weather flow (PWWF) of 71 MGD mentioned in the NPDES.

As reported by the RWQCB, from July 2008 through June 2011, the average monthly flow at the SVCW WWTP was 15.9 MGD, and the maximum daily flow was 48.8 MGD. Both rates are well within the 29 MGD average dry weather design flow and 71 MGD peak wet weather design flow. Under its Stage 2 Expansion Program, the SVCW will increase WWTP capacity to 80 MGD wet weather capacity as needed.

Under the assumption 90 percent of the net increase in water demand for the proposed project (see Water Supply section 4.14.1; Table 4.14-2) becomes wastewater, the estimated net increased wastewater generation rate from the proposed project at buildout will be 309 million gallons per year (or 0.85 MGD). This increase in wastewater generation (i.e., a maximum of approximately 0.85 MGD) would not be significant relative to currently available excess dry weather design flow capacity of13 MGD (29 MGD design flow minus 16 MGD current average flow = 13 MGD). Compared with current conditions, Table 4.14-2 shows water demand without the proposed project is projected to decrease through the buildout year (2040).

In general, conveyance systems and treatment plants are designed and constructed to accommodate future capacity expansion including additional base flows due to approved growth plus estimated wet weather flows. The SVCW Conveyance System Master Plan, published in August 2011, includes facilities expansion planning based on growth projections provided by member agencies derived from general plans and/or master planning documents.

The improvements under the SVCW's CIP are intended to improve the conveyance system, treatment processes and capacity. The current $792 million 15 year CIP is a living document and will continue to be reviewed annually, refined and updated as needed. The CIP and the Stage 2 Expansion Program are designed to accommodate regional development.

While the increase wastewater flows from implementation of the proposed project would add to the capacity demands on the WWTP and its conveyance system, the effect is not substantial and would be integrated into the ongoing planning and budgeting processes to improve the conveyance system, treatment processes and capacity.

The design and planning of operation, maintenance and capital improvements to the WWTP is expected to continue in the future, independent of the proposed project. Environmental impacts from construction of any expanded or new wastewater treatment facilities that are deemed necessary through the planning process would be addressed in the CEQA review conducted by the lead agency for such facility expansion or development (i.e., SVCW). Therefore, an evaluation of possible environmental effects of any future expansion/development of such facilities at this time would be speculative and beyond the scope of this Draft EIR.

[69] Silicon Valley Clean Water, 2011. Conveyance System Master Plan, Volume 2, August 2011, http://www.svcw.org/projects/63%20inch%20pipeline/CSMP_Aug_2011_Vol_2_Final.pdf, accessed December 4, 2015.

UTILITIES AND SERVICE SYSTEMS

After buildout, the study area would continue to be provided with wastewater conveyance and treatment services from the SVCW. Existing infrastructure would be preserved in place and, if necessary, treatment and conveyance systems (e.g., force mains and pump stations) would be improved and/or replaced in accordance with the ongoing planning and budgeting processes.

In addition, the proposed Land Use (LU) Element, which would be affirmed as part of the proposed project, and existing Section II, Open Space and Conservation (OSC), of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to wastewater collection and treatment. The following General Plan goals, policies and programs would serve to minimize the need for new or expanded wastewater facilities/services, and help ensure any environmental impacts from expanded/new facilities would be addressed:

- Goal OSC-5: Ensure Healthy Air Quality and Water Quality.
  - Policy OSC-5.3: Water Conservation. Encourage water-conserving practices in businesses, homes and institutions.
    - Program OSC-5.A: Expand Water Conservation Programs. Expand the Menlo Park Municipal Water District's conservation programs through education, social marketing methods, establishing standards, and providing incentives.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- GOAL LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
  - Policy LU-7.6: Sewage Treatment Facilities. Support expansion and improvement of sewage treatment facilities to meet Menlo Park's needs, as well as regional water quality standards, to the extent that such expansion and improvement are in conformance with other City policies.
    - Program LU-7.A: Green Building Operation and Maintenance. Employ green building and operation and maintenance best practices, including increased energy efficiency, use of renewable energy and reclaimed water, and install drought-tolerant landscaping for all projects.

In addition, as part of the Zoning update, the project includes green and sustainable building standards in the Bayfront Area. These standards require all new buildings within the Bayfront Area to be maintained without the use of well water and include dual plumbing for the use of recycled water. Under the Zoning update, no potable water shall not be used for decorative features, unless the water is recycled, and single pass cooling systems are prohibited. Further, future development with a gross floor area of 100,000 square feet or more must submit a proposed water budget for review by the City's Public Works Director

prior to certification of occupancy. New buildings with 250,000 square feet of gross floor area or more are required to use an alternate water source for all City-approved non-potable applications.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to promote water conservation and minimize impacts related to wastewater generation as listed above. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the expansion of the Menlo Park Municipal Water District's conservation programs and future development to employ green building best practices as listed above. In addition, as described above, future development under the proposed project would not substantially reduce the capacity of the wastewater treatment system. Further, wastewater facilities will be expanded to accommodate future growth in the service areas as needed in accordance with CIPs. Therefore, the adoption of the proposed project would result in *less-than-significant* impacts with respect to the need for new or expanded wastewater collection facilities.

Significance Without Mitigation: Less than significant.

West Bay Sanitary District

The WBSD Base Wastewater Flow (BWF); "dry weather flow", as measured during the 2009/10 flow monitoring program, is 4.6 MGD. Assuming 90 percent of the net increase in indoor water demand for the proposed project (see Table 4.14-2) becomes wastewater, the estimated net increased wastewater generation rate from the proposed project at buildout will be 309 million gallons per year (or 0.85 MGD). This increase in wastewater generation (i.e., a maximum of approximately 0.85 MGD) would represent 18 percent of the current dry weather flow.

The 2015-2016 FY Capital Assets Fund for WBSD includes $4 million of pipeline replacement projects (as scheduled in the Collection System Master Plan 2011,[70] updated in 2013). This Capital Fund Budget also includes a $3,250,000 CIP carryover (unspent) from CIP projects in progress from FY 2014-2015. These expenditures enable the District to maintain the goal of replacing more than 1.5 percent (or about three miles) of the system's aging pipelines each year.

If the WBSD repairs 1.5 percent of the system or 3 miles of pipe per year, and replacement of 1.5 percent of the system achieves ¾ percent Infiltration & Inflow (I&I) reduction, the WBSD should expect to reduce peak wet weather I&I by 177,000 GPD or by 1.8 MGD in ten years.[71] This reduction would lower predicted PWWF to 21.8 MGD in ten years. The WBSD has established sufficient funding to achieve this level of replacement.

The RWQCB requires the WBSD prepare a CIP to provide hydraulic capacity of key collection system elements under peak flow conditions. A short- and long-term capital improvement plan (CIP) is required

[70] WBSD, 2011. Sanitary Sewer Master Plan, https://westbaysanitary.org/wsbd-prod/resources/824/WBSD_Master_Plan_2011.pdf, accessed December 4, 2015.

[71] West Bay Sanitary District, 2013. 2012 Hydraulic Model Recalibration Effort and Updated CIP ('Updated 2011 Collection System Master Plan'), Technical Memorandum from Wet U=Yost Associated, dated February 21, 2013; https://westbaysanitary.org/wsbd-prod/resources/825/2011_Master_Plan_Update_of_2013.pdf , accessed December 4, 2015.

to address identified hydraulic deficiencies including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I&I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding. The WBSD shall develop a schedule of completion dates for all portions of the CIP. This schedule shall be reviewed and updated at least every two years.

The WBSA prepared a *Sewer System Management Plan* (SSMP)[72] in compliance with requirements of the RWQCB and the SWRCB following the guidelines in the SSMP Development Guide prepared by the RWQCB in cooperation with the Bay Area Clean Water Agencies (BACWA). The WBSD must also comply with RWQCB Sanitary Sewer Overflow (SSO) electronic reporting requirements issued in November 2004. Section 8 of the SSMP discusses the WBSA's capacity management.

The WBSD proactively re-assessed the capacity of its wastewater collection system in December of 2009 and completed the re-assessment project in early 2011 as part of the *Sanitary Sewer Master Plan 2011* (Master Plan) prepared West Yost & Associates. The Annual Flow Monitoring Study utilized 16 temporary flow monitors that captured both wet and dry weather flows. Flow measurements were used to determine peaking factors caused by inflow and infiltration. Based on land use designations/population projections from available planning documents, the Master Plan projected both dry weather flows and wet weather flows, and then evaluated, based on a consistent design storm size, whether the WBSD's trunk sewers had sufficient capacity to convey these flows. The Master Plan also included a chapter on Capacity Analysis, which included hydraulic capacity analysis results, recommended projects, and conceptual costs.

The Master Plan recommended five priority sewer projects to be completed in the next ten years, and six long term capacity improvement projects to meet the WBSD's surcharge criteria under the applied design storm. The WBSD prioritized these projects as part of its CIP.

This work will provide a risk-based, prioritized long-term CIP that replaces existing facilities and aims to reduce potential infiltration and inflow into the system. Additionally, the WBSD does perform periodic Flow Monitoring on the collection system to ensure prioritized CIP's are scheduled accordingly, as new flow data becomes available it will be inserted into the hydraulic model for analysis and confirmation of proposed future projects.

The design and planning of operation, maintenance and capital improvements to the WBSD collection system is expected to continue in the future, independent of the proposed project. Environmental impacts from construction of any expanded or new wastewater collection facilities that are deemed necessary through the planning process would be addressed in the CEQA review conducted by the lead agency for such facility expansion or development (i.e., WBSD). Therefore, an evaluation of possible environmental effects of any future expansion/development of such facilities at this time would be speculative and beyond the scope of this Draft EIR.

[72] WBSD, 2015. Sewer System Management Plan, August 2015, https://westbaysanitary.org/education/what-we-do/ssmp, accessed December 4, 2015.

After buildout, the study area would continue to be provided with wastewater collection services from the WBSD, which will have been continuously subject to the *System Evaluation and Capacity Assurance Plan* required by the RWQCB. Existing infrastructure would be preserved in place and, as needed, extensions and/or replacement of sewer pipes/lift stations would be installed to provide wastewater service to portions of the study area. Potential construction-related impacts from such project-level improvements would be evaluated during project-level analysis, as needed.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations, listed above (UTIL-4), that have been prepared to promote water conservation and minimize impacts related to wastewater generation. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the expansion of the Menlo Park Municipal Water District's conservation programs and future development to employ green building best practices as listed above (UTIL-4). Therefore, the adoption of the proposed project would result in *less-than-significant* impacts with respect to the need for new or expanded wastewater collection facilities.

Significance Without Mitigation: Less than significant.

UTIL-6	**Implementation of the proposed project would not result in the determination by the wastewater treatment provider, which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.**

Silicon Valley Clean Water WWTP

RWQCB Order No. R2-2012-0062 lists a dry weather facility design flow of 29 MGD, and a wet weather design flow of 71 MGD for the SVCW WWTP. As reported by the RWQCB, from July 2008 through June 2011, the average monthly flow at the SVCW WWTP was 15.9 MGD, and the maximum daily flow was 48.8 MGD. Both rates are well within the 29 MGD average dry weather design flow and 71 MGD peak wet weather design flow.

Assuming 90 percent of the net increase in water demand for the proposed project at buildout (343 MGY; see Table 4.14-2) becomes wastewater, the estimated net increased wastewater generation rate from the proposed project at buildout will be 309 million gallons per year (or 0.85 MGD). This increase in wastewater generation would not be significant relative to currently available excess dry weather design flow capacity of13 MGD (29 MGD design flow minus 16 MGD current average flow equals 13 MGD). Compared with current conditions, Table 4.14-2 indicates that the water demand without the proposed project is projected to decrease through the buildout year (2040).

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations, listed above (UTIL-4), that have been prepared to promote water conservation and minimize impacts related to wastewater generation. The City, throughout the 2040 buildout horizon, would implement the General

Plan programs that require the expansion of the Menlo Park Municipal Water District's conservation programs and future development to employ green building best practices. In addition, as stated above, future development under the proposed project would not substantially reduce the capacity of the wastewater treatment system. Further, facilities will be expanded to accommodate future growth in the service areas as needed in accordance with CIPs. Therefore, the adoption of the proposed project would result in *less-than-significant* impacts with respect to SVCW WWTP's wastewater treatment capacity.

Significance Without Mitigation: Less than significant.

West Bay Sanitary District

The WBSD Base Wastewater Flow (BWF); "dry weather flow", as measured during the 2009/10 flow monitoring program, is 4.6 MGD. The estimated net increased wastewater generation rate from the proposed project at buildout will be 309 million gallons per year (or 0.85 MGD). This increase in wastewater generation (0.85 MGD) would represent 18 percent of the current dry weather flow.

As discussed above (UTIL-5), in accordance with RWQCB requirements and the Wastewater Collection System Master Plan, WBSD implements a risk-based, prioritized long-term CIP (as well as a short-term CIP) that replaces existing facilities and aims to reduce potential infiltration and inflow into the system. Additionally, the WBSD perform periodic Flow Monitoring on the collection system to ensure prioritized CIP's are scheduled accordingly, as new flow data becomes available it will be inserted into the hydraulic model for analysis and confirmation of proposed future projects.

The Master Plan recommended five priority sewer projects to be completed in the next ten years, and six long term capacity improvement projects to meet the WBSD's surcharge criteria under the applied design storm. The WBSD prioritized these projects as part of its CIP.

The design and planning of operation, maintenance and capital improvements to the WBSD collection system is expected to continue in the future, independent of the proposed project. After buildout, the study area would continue to be provided with wastewater collection services from the WBSD, which will have been continuously subject to the *System Evaluation and Capacity Assurance Plan* required by the RWQCB. Existing infrastructure would be preserved in place and, as needed, in accordance with the CIP, extensions and/or replacement of sewer pipes/lift stations would be installed to provide wastewater service to portions of the study area.

Future development under the proposed project would tie into the WBSD's existing collection facilities. Installation of extension lines would comply with the WBSD Class 1 and Class 3 sewer permits, which require projects to reduce impacts to the WBSD's service capacity. As described above, the WBSD *Wastewater Collection System Master Plan* includes collection system improvements to support future development in its service area. The WBSD will update the *Wastewater Collection System Master Plan* to accommodate future growth beyond the year 2020.[73] Additionally, project applicants will be responsible for upgrading or expanding the WBSD's collection system if the WBSD determines the demand from the project would exceed the WBSD's conveyance system capacity.

[73] West Bay Side Sanitary District, 2016. Documents Web page, https://westbaysanitary.org/about-us/documents/, accessed on May 4, 2016.

In addition, future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations, listed above (UTIL-4), that have been prepared to promote water conservation and minimize impacts related to wastewater generation. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the expansion of the Menlo Park Municipal Water District's conservation programs and future development to employ green building best practices, listed above (UTIL-4). Therefore, adoption of the proposed project would result in *less-than-significant* impacts with respect to WBSD's wastewater treatment capacity.

Significance Without Mitigation: Less than significant.

4.14.2.4 IMPACT DISCUSSION

UTIL-7	**Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects would result in less than significant cumulative impacts with respect to wastewater service.**

The geographic scope of this cumulative analysis is taken as the WBSD and SVCW service areas. Assuming a regional annual growth rate of 1 percent, SVCW's cumulative wastewater demand would increase by 3.84 MGD in the 24-year planning horizon.[74] Added to the existing average demand of approximately 16 MGD, and the future development under the proposed project demand of 0.85 MGD, the cumulative demand of 20.66 MGD would not exceed the SVCW WWTP's existing capacity of 29 MGD average dry weather flow. Moreover, Table 4.14-2 shows water demand (and therefore wastewater demand) will actually decrease from current conditions through 2040 within the Bayfront Area.

Because the cumulative demand would not substantially reduce the existing or planned capacity of the SVCW's wastewater treatment system, the construction of new wastewater treatment facilities would be unnecessary. As previously stated, as the discharger named in the NPDES Permit, SVCW implements and enforces a pretreatment program for effluent discharged into San Francisco Bay. Consequently, wastewater from cumulative development would not exceed effluent limits of the applicable RWQCB WDR (Order 2012-0063; NPDES No. 0038369).

In addition, future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations, listed above (UTIL-4), that have been prepared to promote water conservation and minimize impacts related to wastewater generation. Specifically, Policy LU-7.6 states the expansion and improvement of sewage treatment facilities to meet the needs of Menlo Park and to meet regional water quality standards shall be supported to the extent that such expansion and improvement are in conformance with other City policies. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the expansion of the Menlo Park Municipal Water District's conservation programs and future development to employ green building best practices listed above

[74] 16 MGD (existing demand) multiplied by 24 percent (assuming one percent growth per year, which approximates the regional rate estimated by ABAG, for the 24 years from 2016 to 2040).

(UTIL-4). Also, the WBSD's CIPs, would ensure that the WBSD's wastewater collection system has sufficient capacity to accommodate the cumulative growth. Therefore, adoption of the proposed project would result in *less-than-significant* impacts with respect to wastewater service.

Significance Without Mitigation: Less than significant.

4.14.3 SOLID WASTE

4.14.3.1 ENVIRONMENTAL SETTING

Regulatory Setting

State Regulations

California Integrated Waste Management Act

California's Integrated Waste Management Act of 1989, AB 939, subsequently amended by SB 1016, set a requirement for cities and counties throughout the State to divert 50 percent of all solid waste from landfills by January 1, 2000 though source reduction, recycling, and composting. To help achieve this, the Act required that each city and county prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of on-going landfill capacity.

In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system. The per capita disposal measurement system is based on two factors: a jurisdiction's reported total disposal of solid waste divided by a jurisdiction's population. The California Integrated Waste Management Board was replaced by the California Department of Resources Recycling and Recovery (CalRecycle) in 2010. CalRecycle sets a target per capita disposal rate for each jurisdiction. Each jurisdiction must submit an annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate. In 2013, the statewide residential per capita disposal rate was 4.4 pounds per resident per day, and the statewide employee per capita disposal rate was 10.2 pound per employee per day.[75]

In 2011, AB 341 was passed that sets a State policy goal of not less than 75 percent of solid waste that is generated to be source reduced, recycled, or composted by the year 2020. CalRecycle was required to submit a report to the legislature by January 1, 2014 outlining the strategy that will be used to achieve this policy goal.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act require areas in development projects to be set aside for collecting and loading recyclable materials. This Act required CalRecycle to develop a model ordinance for adoption by any local agency relating to adequate areas for collection and loading of

[75] Calrecycle, California's Statewide Per Resident, Per Employee, and Total Disposal Since 1989, http://www.calrecycle.ca.gov/lgcentral/GoalMeasure/DisposalRate/Graphs/Disposal.htm, accessed on February 27, 2015.

recyclable materials as part of development projects. Local agencies are required to adopt the model, or an ordinance of their own, providing for adequate areas in development projects for the collection and loading of recyclable materials.

Mandatory Commercial Organics Recycling

In October of 2014 Governor Brown signed AB 1826[76] requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. Greenhouse gas (GHG) emissions result from the decomposition of organic wastes in landfills. Mandatory recycling of organic waste is aimed at helping achieve California's aggressive recycling and GHG emission goals. The implementation schedule is as follows:

- January 1, 2016: Local jurisdictions shall have an organic waste recycling program in place. Jurisdictions shall conduct outreach and education to inform businesses how to recycle organic waste in the jurisdiction, as well as monitoring to identify those not recycling and to notify them of the law and how to comply.
- April 1, 2016: Businesses that generate eight cubic yards of organic waste per week shall arrange for organic waste recycling services.
- January 1, 2017: Businesses that generate four cubic yards of organic waste per week shall arrange for organic waste recycling services.
- August 1, 2017 and Ongoing: Jurisdictions shall provide information about their organic waste recycling program implementation in the annual report submitted to CalRecycle. (See above for description of information to be provided.)
- Fall 2018: After receipt of the 2016 annual reports submitted on August 1, 2017, CalRecycle shall conduct its formal review of those jurisdictions that are on a two-year review cycle.
- January 1, 2019: Businesses that generate four cubic yards or more of commercial solid waste per week shall arrange for organic waste recycling services.
- Fall 2020: After receipt of the 2019 annual reports submitted on August 1, 2020, CalRecycle shall conduct its formal review of all jurisdictions.
- Summer/Fall 2021: If CalRecycle determines that the statewide disposal of organic waste in 2020 has not been reduced by 50 percent of the level of disposal during 2014, the organic recycling requirements on businesses will expand to cover businesses that generate two cubic yards or more of commercial solid waste per week. Additionally certain exemptions, previously discussed, may no longer be available if this target is not met.

[76] Calrecycle, 2016. Mandatory Commercial Organics Recycling, http://www.calrecycle.ca.gov/recycle/commercial/organics/, accessed February 4, 2016.

Global Warming Solutions Act of 2006, Scoping Plan[77]

The California Global Warming Solutions Act of 2006 (also known as AB 32) Scoping Plan, which was adopted by the Air Resources Board (ARB), included a Mandatory Commercial Recycling Measure. The Mandatory Commercial Recycling Measure focuses on diverting commercial waste as a means to reduce greenhouse gas (GHG) emissions, with the goal of reducing GHG emissions by five million metric tons of carbon dioxide equivalents (MTCO2e), consistent with the 2020 targets set by AB 32. To achieve the Measure's objective, the commercial sector will need to recycle an additional 2 to 3 million tons of materials annually by the year 2020.

CalRecycle adopted this Measure at its January 17, 2012 monthly public meeting. The regulation was approved by the Office of Administrative Law on May 7, 2012 and became effective immediately. On June 27, 2012, the Governor signed SB 1018, which included an amendment requiring both businesses that generate 4 cubic yards or more of commercial solid waste per week and multi-family residences with five or more units to arrange for recycling services. This requirement became effective on July 1, 2012.

CAL Green Building Code

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, California Code of Regulations [CCR], known as "CALGreen") was adopted as part of the California Building Standards Code to apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout the State of California, unless otherwise indicated in this code. Section 4.408, Construction Waste Reduction Disposal and Recycling, mandates that, in the absence of a more stringent local ordinance, a minimum of 50 percent of non-hazardous construction and demolition debris must be recycled or salvaged. This Code requires that project applicants prepare a Waste Management Plan (WMP), for on-site sorting or construction debris, which is submitted to the City of Menlo Park for approval.

The WMP is required to include the following:

- Identify the materials to be diverted from disposal by recycling, reuse on the Project or salvage for future use or sale.
- Specify if materials will be sorted on-site or mixed for transportation to a diversion facility.
- Identify the diversion facility where the material collected can be taken.
- Identify construction methods employed to reduce the amount of waste generated.
- Specify that the amount of materials diverted shall be calculated by weight or volume, but not by both.

[77] CalRecycle, http://www.calrecycle.ca.gov/Recycle/Commercial/, accessed on February 27, 2015.

Regional Regulations

San Mateo Countywide Integrated Waste Management Plan[78]

The California Integrated Waste Management Act of 1989 (AB 939) requires each County to prepare and adopt a Countywide Integrated Waste Management Plan (CIWMP). San Mateo County government and all the cities in the county have prepared and adopted elements that comprise the CIWMP. The elements of the CIWMP are: the Source Reduction and Recycling Element (SRRE), the Household Hazardous Waste Element (HHWE), and the Non-Disposal Facility Element (NDFE).

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.14.3.3, Impact Discussion.

Menlo Park Municipal Code

The City of Menlo Park Municipal Code, organized by title, chapter, and section, contains all ordinances for Menlo Park. Title 7, Health and Sanitation, and Title 12, Buildings and Construction, include regulations relevant to solid waste resources in Menlo Park as discussed below.

Chapter 7.04, Garbage and Rubbish Disposal

Chapter 7.04 describes the responsibilities and requirements for owners, occupants and service providers regarding solid waste collection, storage, recycling and disposal.

Chapter 7.06, Refuse and Garbage Collection Service Areas

Chapter 7.06 establishes service areas and describes the process of determining and allocating charges for service.

Chapter 7.10, Reusable Bag Ordinance

Chapter 7.10 specifies that Chapter 4.114, "Reusable Bags," of Title 4, "Sanitation and Health," of the San Mateo County Ordinance Code, and any amendment thereto approved by the Menlo Park city council, is adopted in its entirety by reference and made effective in the city.

[78] County of San Mateo, Five-Year Countywide Integrated Waste Management Plan Review Report, December 2009, http://www.co.sanmateo.ca.us/bos.dir/BosAgendas/agendas2010/Agenda20100126/20100126_att1_54.pdf, accessed on February 27, 2015.

Chapter 12.48, Recycling and Salvaging of Construction and Demolition Debris

Chapter 12.48 establishes landfill diversion requirements of Construction and Demolition (C&D) debris.[79] Residential projects of 1,000 square feet or greater and commercial projects of 5,000 square feet or greater are required to divert 60 percent of total generated waste tonnage through recycling, reuse, salvage, and other diversion programs. As part of a building or demolition permit application, project applicants must submit estimated tonnage of C&D debris and plans for diverting materials to the building division.

City of Menlo Park Climate Change Action Plan[80]

The City's 2009 Climate Action Plan (CAP) was developed to reduce GHG emissions by implementing various strategies and programs at the local level. The CAP identifies the City's existing GHG inventory and estimates emissions for the year 2020 under different scenarios. Based on this, the CAP proposes emission reduction targets to help meet AB 32's regional goals. The CAP also recommends short- and mid-term strategies for the community and municipal operations to meet the targets. The CAP strategies related to solid waste include 1) adopting a new mandatory commercial recycling ordinance to reduce waste to landfill and 2) adopting a Zero Waste Policy, which requires a 75-percent diversion rate by 2020 and a 90-percent diversion rate by 2030. The City's CAP Assessment, prepared in 2011, recommended implementing these strategies within five years.[81] The most recent update to the City's CAP was published in October 2015.[82]This updated CAP reports that 1 percent of Menlo Park GHG emissions are attributable to solid waste. Strategies to be implemented between 2015 and 2020 include consider changes to City's solid waste, recycling, and organics collection franchise that encourage zero waste and decrease waste to landfill.

Existing Conditions

Recology Incorporated provides solid waste collection and conveyance service for the City of Menlo Park. Collected recyclables, organics, and garbage are conveyed to the Shoreway Environmental Center in San Carlos for processing and shipment. The Shoreway Environmental Center is owned by RethinkWaste (former South Bayside Waste Management Authority), which is a joint powers authority that is comprised of twelve public agencies, including Atherton, Belmont, Burlingame, East Palo Alto, Foster City, Hillsborough, Menlo Park, Redwood City, San Carlos, San Mateo, the County of San Mateo, and the West Bay Sanitary District, and operated by South Bay Recycling under a ten-year contract with RethinkWaste as of January 1, 2011.[83]

[79] City of Menlo Park, Municipal Code Chapter 12.48, http://www.codepublishing.com/CA/menlopark/, accessed on February 27, 2015.

[80] City of Menlo Park, *Climate Change Action Plan,* 2009, http://www.menlopark.org/DocumentCenter/View/1346, accessed on February 27, 2015.

[81] City of Menlo Park, *Climate Action Plan Assessment*, 2011, http://www.menlopark.org/DocumentCenter/View/1343, accessed on February 27, 2015.

[82] City of Menlo Park, Climate Action Plan Update and Status Report, October 2015, http://ca-menlopark.civicplus.com/ArchiveCenter/ViewFile/Item/4299,accessed on May 4, 2016.

[83] RethinkWaste, About Us, http://www.rethinkwaste.org/about/about-us, accessed on December 8, 2015.

The Shoreway Environmental Center consists of a transfer station, a materials recovery facility, a public recycling center, an environmental education center, Recology offices, and South Bay Recycling offices in separate buildings on 16 acres of land. Shoreway serves as a regional solid waste and recycling facility for the receipt, handling and transfer of refuse, recyclables and organic materials collected from the RethinkWaste service area (southern and central San Mateo County). The primary goal of RethinkWaste is to provide cost effective waste reduction, recycling, and solid waste programs to member agencies through franchised services and other recyclers to meet and sustain a minimum of 50-percent diversion of waste from landfill as mandated by California State Law, AB 939.

As of 2014, the RethinkWaste service area (San Mateo County) produced 22 percent less trash disposed in a landfill than in 2010, from 75,223 tons to 58,553 tons. This was accompanied by a two (2) percent increase in recycling and a 28 percent increase in composting of organics.[84]

Materials not composted or recycled at Shoreway are landfilled at the Ox Mountain Landfill (also known as Corinda Los Trancos Landfill) near the City of Half Moon Bay, San Mateo County.

In 2014, Menlo Park's per capita solid waste disposal rate for residents was 4.9 pounds per day (PPD); the per capita disposal rate target for residents according to CalRecycle is 7.5 PPD.[85] The City's per capita solid waste disposal rate for employees in 2014 was 4.8 PPD; the CalRecycle per capita disposal rate target for employees is 9.2 PPD.

CalRecycle[86] reports that in 2014 a total of 29,124 tons of solid waste from Menlo Park was disposed at 15 different landfills. Seventy-four percent (74.4 percent; 21,658 tons) of Menlo Park's solid waste in 2014 went to the Ox Mountain Landfill (also called Corinda Los Trancos Landfill) (21,658 tons). The three landfills receiving the second, third and fourth largest amount of solid waste from Menlo Park in 2014 were:

- Monterey Peninsula Landfill (3,988 tons)
- Recology Hay Road Landfill (1,075 tons)
- Potrero Hills Landfill (903 tons).

Ox Mountain Landfill

The Ox Mountain Landfill is a sanitary landfill located in Half Moon Bay, California. It has a permitted throughput capacity of 3,598 tons per day. Its remaining permitted capacity is 26,898,089 cubic yards. The Ox Mountain Landfill has an estimated "cease operation date" of January 1, 2018, according to CalRecycle.[87] Ox Mountain is expected to service the region until year 2034.[88]

[84] RethinkWaste, 2014 Annual Report, http://www.rethinkwaste.org/uploads/media_items/2014-annual-report.original.pdf, accessed on December 8, 2015.

[85] CalRecycle Jurisdiction Diversion/DisposalRate Summary, http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversionPost2006.aspx , accessed December 8, 2015.

[86] CalRecycle Jurisdiction Disposal by Facility Report, http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=ReportYear%3d2014%26ReportName%3dReportEDRSJurisDisposalByFacility%26OriginJurisdictionIDs%3d299 , accessed December 8, 2015.

[87] CalRecycle, Ox Mountain "Facility Site summary Details: (41-AA-0002)" http://www.calrecycle.ca.gov/SWFacilities/Directory/41-AA-0002/Detail/, accessed May 5, 2016.

Monterey Peninsula Landfill

The Monterey Peninsula Landfill is located in Marina, California. It has a permitted throughput capacity of 3,500 tons per day. Its remaining permitted capacity is 48,560,000 cubic yards. It has an estimated "cease operation date" of February 28, 2107.[89]

Recology Hay Road Landfill

The Recology Hay Landfill is located in Vacaville, California. It has a permitted throughput capacity of 2,400 tons per day. Its remaining permitted capacity is 30, 433,000 cubic yards. It has an estimated "cease operation date" of January 1, 2077.[90]

Potrero Hills Landfill

The Potrero Hills Landfill is located in Suisun city, California. It has a permitted throughput capacity of 4,330 tons per day. Its remaining permitted capacity is 13,872,000 cubic yards. It has an estimated "cease operation date" of February 14, 2048.[91]

4.14.3.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would have a significant impact on solid waste service if:

1. Would not be served by a landfill(s) with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs.
2. Would be out of compliance with federal, State, and local statues and regulations related to solid waste.

4.14.3.3 IMPACT DISCUSSION

UTIL-8	**Implementation of the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the proposed project's solid waste disposal needs.**

In 2014, CalRecycle reported that while the overall total of 29,124 tons of solid waste from Menlo Park was disposed at 15 different landfills, the majority (74.4 percent or 21,658 tons) went to one landfill (Ox Mountain Landfill). The three landfills (Monterey, Recology: Hay Road and Potrero) that received the

[88] RethinkWaste, Hilary Gans, Operations Contracts Manager. Personal email correspondence with PlaceWorks December 11, 2012.

[89] CalRecycle, "Monterey Peninsula Landfill (27-AA-0010)", http://www.calrecycle.ca.gov/SWFacilities/Directory/27-AA-0010/Detail, accessed December 8, 2015.

[90] CalRecycle,"Recology Hay Road Landfill (48-AA-0002)"http://www.calrecycle.ca.gov/SWFacilities/Directory/48-AA-0002/Detail/ , accessed December 8, 2015.

[91] CalRecycle,"Potrero Hills Landfill (48-AA-0075)" http://www.calrecycle.ca.gov/SWFacilities/Directory/48-AA-0075/Detail/ , accessed December 8, 2015.

second, third and fourth most waste accounted for 20.5 percent (or 5,966 tons) combined. Table 4.14-4 compares the maximum daily capacity and estimated closure date for each of the four facilities.

TABLE 4.14-4 LANDFILLS' EXISTING DAILY CAPACITY AND ESTIMATED CLOSURE DATE

Landfill Facility	Daily Capacity (tons/day)	Estimated Closure Year
Ox Mountain Landfill	3,598	2034
Recology: Hay Road Landfill	2,400	2077
Monterey Peninsula Landfill	3,500	2107
Potrero Hills Landfill	4,330	2048

Source: CalRecycle.

The City's disposal rate per resident in 2014 was 4.9 pounds of solid waste per person per day (ppd), which was below the CalRecycle target of 7.2 ppd per resident. The disposal rate per business employee in the City in 2014 was 4.8 ppd, which was below the CalRecycle target rate of 9.2 ppd per employee. The City's disposal rates for both residents and employees have been below target rates since 2007.[92]

As shown in Table 3-2, in Chapter 3, Project Description, of this Draft EIR, the proposed project's new development potential in the Bayfront Area at buildout would generate 11,570 new residents and 5,500 new employees and combined with the existing General Plan would result in 14,150 residents and 9,900 employees. For analysis purposes, solid waste generation is assumed to be the actual 2014 per capita generation rates of 4.9 ppd for residents and 4.8 ppd for employees. Accordingly, the total solid waste generated by the proposed project's residents and employees is estimated to be 116,855 ppd, or 58.3 tons per day.

The total estimated solid waste generation rate for the proposed project of 58.3 tons per day is less than 1.5 percent of the daily capacity (i.e., tons/day) of the Ox Mountain landfill. The solid waste generated from buildout of the proposed project is also less than 2 percent of the permitted daily capacity of the landfill with the smallest daily capacity (i.e., 2,400 tons/day) of any of the four landfills shown on Table 4.14-4. As such, buildout of the proposed project would have a *less-than-significant* impact with regard to daily capacity at each of the landfill facilities.

One of the four landfills that receive the majority of the City's solid waste, Ox Mountain, is likely to reach its permitted maximum capacity prior to 2040, the proposed project buildout horizon year, as shown in the Table 4.14-4. However, the other three landfills are not estimated to close until 2048 (Potrero Hills Landfill), 2077 (Recology: Hay Road Landfill) and 2107 (Monterey Peninsula Landfill), respectively. In addition, there are 15 other landfills that received waste from Menlo Park in 2014. If one or more of the

[92] The per capita disposal rate target is also known as "the 50 percent equivalent per capita disposal target." It is the amount of disposal Menlo Park would have had during the 2003 – 2006 base period (designated by CalRecycle) if it had been exactly at a 50 percent diversion rate. It is calculated by CalRecycle using the average base period per capita generation for Menlo Park (in pounds), then dividing this generation average in half to determine the 50 percent equivalent per capita disposal target. The target is an indicator for comparison with that jurisdiction's annual per capita per day disposal rate beginning with the 2007 program year.

four landfills on Table 4.14-4 were unavailable in the future, it is likely Menlo Park's solid waste volume would be increased at one or more of the other landfills that already serve Menlo Park.

Additionally, future development would be required to comply with the CBC Section 4.408, which requires a minimum of 50 percent of non-hazardous construction and demolition debris to be recycled or salvaged. Per Section 4.408 of the CALGreen building code (Part 11, Title 24, CCR), the future development under the proposed project would be required to prepare a WMP which is submitted to the City for approval, in order to ensure that it meets the diversion requirement for reused or recycled C&D debris.

In addition, the proposed Land Use (LU) Element, which would be affirmed as part of the proposed project, and existing Section II, Open Space and Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general goals and policies that would require local planning and development decisions to consider impacts from solid waste generation. The following General Plan goals and policies would serve to minimize potential adverse impacts associated with solid waste collection and disposition, and would serve to reduce the need for new or expanded landfills:

- Goal OSC-4: Promote sustainability and climate action planning.
  - Policy OSC-4.2: Sustainable Building. Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.
  - Policy OSC-4.6: Waste Reduction Target. Strive to meet the California State Integrated Waste Management Board per person target of waste generation per person per day through their source reduction, reuse, and recycling programs.
  - Policy OSC-4.7: Waste Management Collaboration. Continue to support and participate in efforts such as the South Bayside Waste Management Authority, which provides waste reduction, recycling, and solid waste programs and solutions.
  - Policy OSC-4.8: Waste Diversion. Develop and implement a zero waste policy, or implement standards, incentives, or other programs that would lead the community towards a zero waste goal.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- GOAL LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
  - Policy LU-7.1: Sustainability. Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste.

Also, as part of the Zoning update, the project includes green and sustainable building standards in the Bayfront Area that require all applicants to submit a zero-waste management plan to the City. The zero-waste management plan must clearly outline the applicants plan to reduce, recycle, and compost waste from demolition, construction and occupancy phases of the building. Zero waste is defined as 90 percent overall diversion of non-hazardous waste from landfill and incineration.

Future development under the proposed project, as part of the City's approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to solid waste disposal needs. In addition, adherence with applicable regulations listed below would ensure solid waste generated by the proposed project would not exceed the landfill capacity available to the City. Therefore, adoption of the proposed project would result in *less-than-significant* impacts with respect to solid waste disposal needs.

Applicable Regulations:

- California Integrated Waste Management Act
- Global Warming Solutions Act of 2006, Scoping Plan
- CAL Green Building Code
- City of Menlo Park Municipal Code – Chapter 7.10, Reusable Bag Ordinance; Chapter 12.48, Recycling and Salvaging of Construction and Demolition Debris.

Significance Without Mitigation: Less than significant.

UTIL-9 Implementation of the proposed project would comply with federal, State, and local statutes and regulations related to solid waste.

As discussed above, the City has complied with State requirements to reduce the volume of solid waste through recycling and reuse of solid waste. The City's per capita disposal rate is below the target rate established by CalRecycle. The City also has established solid waste recycling requirements in its Municipal Code.

Future development under the proposed project, as part of the City's approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations, listed above in UTIL-8, that have been prepared to minimize impacts related to adequate waste collection and disposal facilities. In accordance with the applicable regulations listed below, adoption and implementation of the proposed project would comply with applicable statutes and regulations related to solid waste. Therefore, adoption of the proposed project would result in a *less-than-significant* impact with respect to compliance with federal, State, and local statutes and regulations related to solid waste

Applicable Regulations:

- California Integrated Waste Management Act
- Global Warming Solutions Act of 2006, Scoping Plan
- CAL Green Building Code

- City of Menlo Park Municipal Code – Chapter 7.10, Reusable Bag Ordinance; Chapter 12.48, Recycling and Salvaging of Construction and Demolition Debris.

Significance Without Mitigation: Less than significant.

4.14.3.4 CUMULATIVE IMPACT DISCUSSION

UTIL-10 **Implementation of the proposed project, in combination with past, present, and reasonably foreseeable development, would result in significant impacts with respect to solid waste.**

Buildout of the study area will increase the quantity of solid waste for disposal. Although AB 939 established a goal for all California cities to provide at least 15 years of ongoing landfill capacity, growth from other projects within the city, and from other cities in the region, may exceed that which was taken into account when calculating landfill capacity. Also, because Ox Mountain Landfill, one of the four landfill facilities that combined take approximately 95 percent of the City's solid waste (in 2014) is expected to close 2034, Menlo Park or other jurisdictions that use the same facilities may eventually experience insufficient future capacity at a specific landfill to accommodate existing or increased population and employment levels.

Three of the four main landfills serving the city are estimated to close in 2048 (Potrero Hills Landfill), 2077 (Recology: Hay Road Landfill) and 2107 (Monterey Peninsula Landfill), respectively. In addition, there are 15 landfills that received waste from Menlo Park in 2014. If one or more of the main four landfills serving Menlo Park in 2014 were unavailable in the future, it is likely Menlo Park's solid waste volume could be increased at one or more of the other landfills that already serve the city.

As shown in Chapter 4.11, Population and Housing, of this Draft EIR, additional growth as a result of the potential new development under the proposed project would exceed the regional growth projections by as many as 14,150 new residents and 9,900 new employees. Although implementation of existing waste reduction programs and diversion requirements discussed under UTIL-9 and UTIL-10, would reduce the potential for exceeding existing capacities of landfills, the potential lack of landfill capacity for disposal of solid waste would have a *significant* impact in context with the cumulative setting.

Impact UTIL-10: Implementation of the proposed project, when considered with the other jurisdictions that divert solid waste to the Ox Mountain Landfill, could result in potential lack of landfill capacity for disposal of solid waste under cumulative conditions.

Mitigation Measure UTIL-10: The City shall continue its reduction programs and diversion requirements in an effort to further reduce solid waste that is diverted to the landfill and lower its per capita disposal rate. In addition, the City shall monitor solid waste generation volumes in relation to capacities at receiving landfill sites to ensure that sufficient capacity exists to accommodate future growth. The City shall seek new landfill sites to replace the Ox Mountain landfill, at such time that this landfill is closed.

Significance With Mitigation: Less than significant. The proposed development in Menlo Park would be required to comply with the City's regulations that have been prepared to reduce solid waste and therefore, reduce impacts related to landfill capacity. For this reason, and because the growth under the proposed project would occur incrementally over a period of 24-years, impacts related to landfill capacity would be less than significant with implementation of Mitigation Measure UTIL-10.

4.14.4 STORMWATER INFRASTRUCTURE

This section outlines the regulatory setting, describes environmental setting, and discusses potential impacts of adopting and implementing the proposed project with regard to stormwater infrastructure.

4.14.4.1 ENVIRONMENTAL SETTING

Regulatory Setting

Federal Regulations

Clean Water Act and National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established by the Clean Water Act (CWA) to regulate municipal and industrial discharges to surface waters of the United States including discharges from municipal separate storm sewer systems (MS4s).

State Regulations

State Water Resources Control Board and Regional Water Quality Control Board

In California, the State Water Resources Control Board (SWRCB) has broad authority over water quality control issues for the State. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the State by the federal government under the CWA. Regional authority for planning, permitting, and enforcement is delegated to the nine Regional Water Quality Control Boards (RWQCBs).

Statewide General Permit

The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2003-0005-DWQ) for Small Municipal Separate Storm Sewer System (MS4s) operators to efficiently regulate stormwater discharges under a single permit.[93] Permittees must develop and implement a Stormwater Management Plan (SWMP) with the goal of reducing the discharge of pollutants to the maximum extent practicable.

[93] State Water Resources Control Board, *Order No. 2003-0005-DWQ*, http://www.swrcb.ca.gov/water_issues/programs/stormwater/docs/final_ms4_permit.pdf, accessed on December 18, 2015.

SWRCB Construction General Permit

Construction activities that disturb one or more acres of land that could impact hydrologic resources must comply with the requirements of the SWRCB Construction General Permit (2009-0009-DWQ, which was amended by 2010-0014-DWQ in 2010).[94] Under the terms of the permit, applicants must file a complete and accurate Notice of Intent with the SWRCB. Applicants must also demonstrate conformance with applicable BMPs and prepare a Storm Water Pollution Prevention Plan (SWPPP), containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection, discharge points, and general topography both before and after construction, as well as drainage patterns across the project site. The operative Construction General Permit requires stormwater pollution prevention controls, including the imposition of minimum BMPs and the development and implementation of Rain Event Action Plans for certain sites.

NPDES Municipal Regional Stormwater Permit

The proposed project study area is covered under the regulations of the new Municipal Regional Stormwater NPDES Permit (MRP) issued by the RWQCB. This NPDES Permit falls under Order R2-2015-0049, adopted on November 19, 2015.[95] The municipalities have to require both private and public projects to implement post-construct stormwater controls as part of their obligations under Provision C.3 of the MRP. Above and beyond post-construction stormwater management practices, the permit also requires municipalities to adopt trash and street sweeping programs to regulate discharges into storm drain systems or directly into waters of the United States.

San Mateo Countywide Pollution Prevention Program

The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) was established in 1990 to reduce the pollution washed by stormwater runoff into local creeks, the San Francisco Bay, and the Pacific Ocean.[96] The SMCWPPP assists its member agencies (the 20 cities in the County and unincorporated San Mateo County) to protect stormwater quality by complying with the countywide municipal stormwater NPDES permit. The SMCWPPP also provides C.3 Stormwater Technical Guidance for developers, builders, and project applicants to design and build low impact development projects. As defined by Provision C.3.b.ii of the MRP, projects that create and/or replace 10,000 square feet or more of impervious surface, and restaurants, retail gasoline outlets, auto service facilities, and uncovered parking lots (stand-alone or part of another use) that create and/or replace 5,000 square feet or more of impervious surface are regulated by Provision C.3. Single-family homes that are not part of a larger plan of development are excluded.

[94] State Water Resources Control Board, *Order No. 2010-0014-DWQ*, http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_factsheet.pdf, accessed on December 18, 2015.

[95] California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit, Order R2-2015-0049 NPDES Permit No. CAS612008, November 19, 2015, http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/stormwater/Municipal/R2-2015-0049.pdf

[96] San Mateo Countywide Water Pollution Prevention Program, C.3 Stormwater Technical Guidance, http://www.flowstobay.org/documents/business/new-development/2012/C3_Technical_Guidance_Aug2012_SMCWPPP_for_upload.pdf, accessed on February 27, 2015.

Regional Regulations

San Francisco Bay Basin Water Quality Control Plan

The San Francisco Bay Regional Water Quality Control Board (RWQCB) oversees a Water Quality Control Plan for the San Francisco Bay Basin (the Basin Plan) that designates "beneficial" uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan, which includes wetlands in and near Menlo Park.[97] The Basin Plan centers on watershed management, a strategy for protecting water quality by examining all inputs into drainages and downstream water bodies. Accordingly, compliance with the Basin Plan involves adherence to stormwater control requirements for land use activities in Menlo Park.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.14.4.3, Impact Discussion.

City of Menlo Park Municipal Code

The City of Menlo Park Municipal Code, organized by title, chapter, and section, contains all ordinances for Menlo Park. Title 7, Health and Sanitation, include regulations relevant to stormwater management in Menlo Park as discussed below.

Chapter 7.42, Stormwater Management Program[98]

Chapter 7.42 of the Municipal Code aims to protect and enhance the water quality Area and establishes regulations and restrictions related to pollutants in storm water discharges and non-storm water discharges, including spills, dumping, or disposal of materials. To reduce pollutants in stormwater, the City requires that new development or redevelopment projects use BMPs, such as biological treatments, detentions, and rain gardens.

Hydrology Report

The City of Menlo Park Public Works Department requires that a Hydrology Report be prepared by a California-registered civil engineer for all development projects with 10,000 square feet or more of impervious surface area and a Simplified Hydrology Report for significant development projects with less than 10,000 square feet of impervious surface area. The Hydrology Report should comply with the "Requirements for the Preparation of Hydrology Reports" published by the City, including existing and

[97] California Regional Water Quality Control Board San Francisco Bay Region (Region 2), 2007. San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan).

[98] City of Menlo Park, Municipal Code Chapter 7.42, Stormwater Management Program, http://www.codepublishing.com/CA/menlopark/, accessed on December 18, 2015.

proposed on-site and off-site conditions, the location of the project, the hydrology calculation method used in the report, proposed storm water quality measures, and an assessment of potential off-site impacts.[99]

Grading and Drainage Guidelines[100]

The Grading and Drainage Guidelines (G&D Guidelines) establish design requirements for new construction and redevelopment projects. These G&D Guidelines describe the stormwater control and treatment measures that reduce the amount of stormwater runoff and prevent sediment and pollutants from entering into the City's storm drain system. In particular, G&D Guidelines require the post development runoff rate not exceed pre-project levels, and the retention/detention systems be designed to treat storm water run-off in the event of a ten-year storm with a time of concentration of ten minutes.

In addition, the G&D Guidelines outline requirements for G&D Plans, which the City of Menlo Park Engineering Division requires for any new construction or redevelopment that increases impervious areas by more than 500 square feet. The G&D Guidelines indicate that a G&D Plan must include existing and proposed calculations showing site grading and drainage features. The grading and drainage design for the project shall control stormwater runoff and pollutants using the San Mateo County's C.3 Stormwater Technical Guidance criteria. The City also requires G&D Plans to include erosion and sedimentation control details and include an Impervious Area Worksheet evaluating existing and proposed impervious areas.

City of Menlo Park City-Wide Storm Drainage Study

The City prepared the City-Wide Storm Drainage Study in May 2003 that summarized the existing stormwater drainage system and drainage deficiencies, and then prioritized system repairs and upgrades to reduce storm drain problems in the city.[101] Highest priority is given to projects that improve the level of service to areas where stormwater frequently floods properties, and lower priority is given to projects that eliminate nuisance localized ponding in the gutter.

Middlefield Road Storm Drain Study (2003)

The Storm Drainage Study, dated May 6, 2003, determined that the existing storm drain system in Middlefield Road has limited flow capacity and system deficiencies. The existing storm drain system discharges to San Francisquito Creek at two locations, Middlefield Road and the intersection of Baywood Avenue and Woodland Avenue, through 36-inch and 48-inch outfalls respectively.

Since the 2003 Study was prepared, various projects have been completed that affect the existing storm drain system. The Middlefield Road study was designed to analyze the existing infrastructure and provide engineering recommendations to improve the drainage flows and reduce or eliminate street flooding. The

[99] City of Menlo Park, *Requirements for the Preparation of Hydrology Reports*, August 20, 2006, http://www.menlopark.org/documentcenter/view/1010, accessed on December 18, 2015.

[100] City of Menlo Park, *Land Development Guidelines*, 2014, http://www.menlopark.org/documentcenter/view/4694, accessed on February 27, 2015.

[101] BKF Engineers, 2003, City-wide Storm Drainage Study, http://www.menlopark.org/documentcenter/view/1017, accessed on December 18, 2015.

project includes locating the utilities within the street, analyzing of the existing pipe inverts and clearances, identifying the physical constraints, and proposing alternative solutions that reduce flooding along Middlefield Road.[102]

Existing Conditions

Watershed and Creek Systems

Menlo Park is located within the approximately 45-square-mile San Francisquito Creek watershed, which includes portions of both Santa Clara County and San Mateo County. The uppermost elevations of the watershed are west of Highway 35 (locally known as Skyline Boulevard), and its lowest points are in East Palo Alto where San Francisquito Creek empties into the San Francisco Bay. The southernmost edge of the watershed is in the Los Trancos Regional Preserve near Palo Alto, and its northern most edge is Sweeny Ridge in the Golden Gate National Recreation Area. A map of the San Francisquito Watershed is provided as Figure 4.8-1.

Water flows west to east through natural creeks and streams and channelized waterways. In the undeveloped marshes, water flows through Flood Slough and Ravenswood Slough. In general, the creek flows in a northeasterly direction, and ultimately drains into the San Francisco Bay. San Francisquito Creek flows through Menlo Park largely in its natural alignment, and it forms the southern boundary of the City limits. Riparian vegetation around the creek spans a 25- to 75-meter-wide space, depending on adjacent land use and topography, consisting primarily of willow, bay laurels, redwoods, alders, cottonwoods, dogwoods, valley oaks, and coast live oaks.

Storm Drain System

The City's storm drain system is maintained by the Menlo Park Public Works Department and consists of 17 individual systems that serve 17 drainage areas, as described in the city-wide study conducted in 2003 by BKF Engineers. The City has 44 miles of storm drain pipe and 1,000 inlets or catch basins.[103] The area north of Middlefield Road drains to the Bay through either the Belle Haven Storm Drain system or through the City of East Palo Alto storm drain lines. The area south of Middlefield Road drains to either Atherton Channel on the northwest or San Francisquito Creek on the southeast. Significant portions of the system are not capable of providing conveyance of a 10-year storm event.[104] Common issues include undersized storm drain lines, bubble-up storm drain systems, and areas without storm drains. Flow in the street reaches the outfall slower than flow through a piped system. As a result, unintentional stormwater detention occurs. This detention decreases peak flow rates through the system, but increases the duration of surface and localized flooding.

As noted above, the City conducted a study in 2003 evaluating deficiencies in the storm system design and limited flow capacity along Middlefield Road and proposed alternatives to reduce flooding.

[102] City of Menlo Park, Middlefield Road Storm Drain Study web page, http://www.menlopark.org/268/Middlefield-Road-Storm-Drain-Study, accessed on May 4,, 2016.
[103] Virginia Parks, Associate Engineer, City of Menlo Park. Email communication with PlaceWorks on November 14, 2012.
[104] BKF Engineers, 2003. City-Wide Storm Drainage Study.

Improvements to address flooding along Middlefield Road as well as drainage channel improvements to Atherton Channel are planned in the future.

The City requires that all stormwater be treated on-site through Low Impact Development (LID) features such as biological treatments, detentions, and rain gardens.[105] If the geological conditions of a development site do not allow these kinds of biological treatments (e.g., clay layers), the City requires mechanical treatment be installed and maintained on-site at the owner's expense. The City conducts engineering reviews of private projects to ensure designs are consistent with City specifications.[106]

Flood Hazard Areas

A map of the locations that are within the 100-year and 500-year floodplain is shown on Figure 4.8-3 in Chapter 4.8, Hydrology and Water Quality, of this Draft EIR. As shown, most of the Bayfront Area, specifically much of the area between Constitution Drive and US Highway 101 (US 101), is within the 100-year floodplain that is subject to tidal flooding from San Francisco Bay.[107] In addition, some portions of Menlo Park, including the Bayfront Area, between Middlefield Road and US 101 are within the 100-year floodplain due to overflow from San Francisquito Creek.[108]

In addition, there are three smaller areas of Menlo Park, including the Bayfront Area, that are subject to 500-year flood hazards. These areas are: 1) northwest of San Francisquito Creek between Middlefield Road and Elm Street to approximately 400 feet west of Santa Monica Avenue; 2) south of the US 101 and Marsh Road interchange to approximately 450 feet south of the rail line; and 3) the area bounded by Ivy Drive to the north, Willow Road to the east, US 101 to the south, and Sevier Avenue to the east.

The San Francisquito Creek Joint Powers Authority in conjunction with the United States Army Corps of Engineers and the Santa Clara Valley Water District, are implementing improvements to provide 100-year flood protection for flood-prone reaches of San Francisquito Creek both upstream and downstream from US 101.[109] The goal is to eliminate the need for more than 8,400 properties to contribute to the National Flood Insurance Program because of overflows from San Francisquito Creek and San Francisco Bay tides.

The first portion of the San Francisquito Creek improvement project, which includes the section from San Francisco Bay to US 101, is scheduled to begin in 2016 (depending on permit approval); the Final EIR was completed in October 2012. The project will reduce flood risks along a flood-prone reach of the creek

[105] Virginia Parks, Associate Engineer, City of Menlo Park. Personal communication with PlaceWorks, December 13, 2012.

[106] Menlo Park, Public Works Department website, http://www.menlopark.org/195/Public-Works, accessed on February 27, 2015.

[107] Federal Emergency Management Agency (FEMA). Various FIRM Maps Including 06081C0306E to 06081C309E., http://msc.fema.gov/portal, accessed on December 18, 2015.

[108] San Francisquito Creek Joint Powers Authority (SFCJPA). San Francisquito Creek Floodplain Mapping – 100-year Fluvial Flood Inundation Map. At http://www.sfcjpa.org/documents/Corps_of_Engineers_100-year_floodplain_map.pdf, accessed on December 18, 2015.

[109] San Francisquito Creek Joint Powers Authority. Projects Overview. http://sfcjpa.org/web/projects/projects-overview/, accessed December 18, 2015

downstream of US 101 and will reduce flood risks from Bay tides and 50 years of future sea level rise. The following tasks will be completed:[110]

- Widen the creek to convey a 100-year storm flow, coupled with a 100-year tide and 25 inches of sea level rise.
- Excavate sediment that has built up over several decades and replace it with a marsh plan.
- Remove an abandoned levee to allow high creek flows into the Palo Alto Baylands south of the creek, thus reinstating a natural connection to the Bay for the first time in over 75 years.
- Construct floodwalls aligned to Caltrans' US 101 bridge over the creek in the area confined by homes and businesses.

Cities and unincorporated communities in San Mateo County, including Menlo Park, generate runoff that flows into the Bayfront Canal via the Atherton Channel and six other drainage basins. Historically, flooding has occurred in the neighborhoods near the Bayfront Canal (Redwood City) and Atherton Channel (Menlo Park), particularly during storms that coincide with high tides.[111] As configured as of 2013, the Bayfront Canal and Atherton Channel do not have enough detention capacity to prevent flooding in low lying areas. In addition, during storms that coincide with high tides, the Canal and Channel cannot discharge sufficient stormwater flows to the Bay due to hydraulic limitations.

The Bayfront Canal and Atherton Channel Improvement Project will include installing a culvert to direct water to the Ravenswood Ponds; making open channel improvements upstream and downstream of the culvert; and installing water control structures within and around the Ravenswood Ponds to allow the flow from the culvert to move between the ponds and ultimately to the Bay.[112] The project will be implemented by the Association of Bay Area Governments (ABAG) and is expected to be completed in January 2018. In addition, the City of Redwood City is partnering with the Coastal Conservancy to integrate the Salt Pond Restoration Project with the Bayfront Canal/Atherton Channel Flood Improvement Project.[113] When complete, this project would restore 15,100 acres of industrial salt ponds to tidal wetlands and other habitats and serve as stormwater detention for the Bayfront Canal and Atherton Channel drainage areas.

4.14.4.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would have a significant stormwater-related impact if it would require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.

[110] San Francisquito Creek Joint Powers Authority. Projects Overview. http://sfcjpa.org/web/projects/active/s.f.-bay-to-highway-101/, accessed December 18, 2015 .

[111] Bay Area Integrated Regional Water Management Plan, 2013. Bayfront Canal Flood Management and Habitat Restoration Project. http://bairwmp.org/projects/bayfront-canal-flood-management-and-habitat-restoration-project, accessed December 18, 2015.

[112] Moffat & Nichol, 2014. *Bayfront Canal Flood Improvements – Project Description.* Dated March 6, 2014.

[113] Bay Area Integrated Regional Water Management Plan, 2016. Bayfront Canal Flood Management and Habitat Restoration Project. Accessed on May 5, 2016 at http://bairwmp.org/projects/bayfront-canal-flood-management-and-habitat-restoration-project.

4.14.4.3 IMPACT DISCUSSION

UTIL-11	**Implementation of the proposed project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.**

In general, an increase in impervious surfaces with new development and redevelopment under the proposed project could result in an increase in stormwater runoff which could exceed the capacity of existing or planned stormwater drainage systems. Under existing conditions, portions of the City's storm drainage systems are not capable of containing the runoff from 10-year storm events. In addition, changes in existing drainage patterns could increase the rate and/or amount of stormwater runoff.

However, the existing development potential in the city and the new development potential under the proposed project involves parcels in the Bayfront Area that have already been developed and are covered with impervious surfaces. Therefore, post-development runoff rates would not be significantly different than pre-development rates. In addition, implementation of LID guidelines and engineering review of drainage calculations and development plans by the Menlo Park Public Works Department would ensure that there are no significant increases in peak flow rates or runoff volumes. The City requires detention of stormwater runoff such that discharges do not exceed existing flow rates.

As discussed previously, all new and redevelopment projects that create or replace 10,000 square feet or more of impervious space (or 5,000 square feet of impervious space for uncovered parking areas, restaurants, auto service facilities, and retail gasoline outlets) are considered regulated projects and would be required to comply with the C.3 provisions of the MRP requirements and implement various post-construction BMPs and LID features that include site design, stormwater treatment, runoff retention, and peak flow management. Future development under the proposed project that create or replace one acre or more of impervious surface, post-project stormwater peak flows discharged from the site must not exceed pre-project flow rates, if the site is in a HM (Hydro-modification) area.[114] These measures would minimize the amount of stormwater runoff from the new sites.

The proposed Land Use (LU) Element, which would be affirmed as part of the proposed project, and existing Section II, Open Space and Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain general goals, policies, and programs that would require local planning and development decisions to consider impacts to stormwater infrastructure. The following General Plan goals, policies and programs would serve to minimize potential adverse impacts associated with stormwater runoff rate issues:

- Goal OSCS-1: Maintain, Protect and Enhance Open Space and Natural Resources.
  - Policy OSC-1.6: South Bay Salt Pond Restoration Project and flood management project. Continue to support and participate in federal and State efforts related to the South Bay Salt Pond Restoration Project and flood management project. Provide public access to the Bay for scenic

[114] Some areas of Menlo Park south of El Camino Real (State Route 82) are within the area subject to HM requirements.

enjoyment and recreation opportunities as well as conservation education opportunities related to the open Bay, the sloughs and the marshes.

- Policy OSCS-1.7: San Francisquito Creek Joint Powers Authority. Continue efforts through San Francisquito Creek Joint Powers Authority to enhance the value of the creek as a community amenity for trails and open space, conservation and educational opportunities.

- Goal S-1: Assure a safe community.
  - Policy S-1.25: Creeks and Drainage-ways. Seek to retain San Francisquito and Atherton creeks/channels in their natural state in order to prevent undue erosion of creek banks. Protect creek-side habitat and provide maintenance access along creeks where appropriate.
  - Policy S-1.26: Erosion and Sediment Control. Continue to require the use of best management practices for erosion and sediment control measures with proposed development in compliance with applicable regional regulations.
  - Policy S-1.27: Regional Water Quality Control Board (RWQCB) Requirements. Enforce stormwater pollution prevention practices and appropriate watershed management plans in the RWQCB general National Pollutant Discharge Elimination System requirements, the San Mateo County Water Pollution Prevention Program and the City's Stormwater Management Program. Revise, as necessary, City plans so they integrate water quality and watershed protection with water supply, flood control, habitat protection, groundwater recharge, and other sustainable development principles and policies.
- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
  - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities
  - Policy LU-6.11: Baylands Preservation. Allow development near the Bay only in already developed areas.
    - Program LU-6.A: San Francisquito Creek Setbacks. Establish Zoning Ordinance requirements for minimum setbacks for new structures or impervious surfaces within a specified distance of the top the San Francisquito Creek bank.
- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.
  - Policy LU-7.5: Reclaimed Water Use. Implement use of adequately treated "reclaimed" water (recycled/nonpotable water sources such as, graywater, blackwater, rainwater, stormwater, foundation drainage, etc.) through dual plumbing systems for outdoor and indoor uses, as feasible.

- Program LU-7.A: Green Building and Maintenance. Employ green building and operation and maintenance best practices, including increased energy efficiency, use of renewable energy and reclaimed water, and install drought-tolerant landscaping for all projects.

Additionally, as part of the Zoning update, the project includes green and sustainable building standards in the Bayfront Area. These standards require all new buildings within the Bayfront Area to include dual plumbing for the use of recycled water. Further, the Zoning update include development regulations that require new development within the Bayfront Area to provide a minimum amount of open space equal to 25 percent of the lot area, and require appropriate areas for landscaping, which would reduce surface water runoff.

Any increase in peak flow rates shall be handled on-site by retention to treat excess flow for the 10-year storm event. Any retained on-site stormwater would eventually be routed to existing storm drains. Future development under the proposed project, as part of the City's approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to stormwater drainage facilities. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require establishing Zoning Ordinance requirements for minimum setbacks for new structures or impervious surfaces near the San Francisquito Creek bank and employing green building best practices. In addition, the Grading and Drainage Plans for each future project would be reviewed by the City to ensure that on-site drainage, LID features, and retention basins are adequate to prevent on-site or off-site flooding. As a result of implementation of these measures, including compliance with the C.3 provisions of the MRP, and because the majority of sites would be either infill projects or would be located within existing storm drainage systems, development under the proposed project would not require significant expansions of the existing stormwater drainage infrastructure. Because the City requires no net increase in stormwater flow rates, adoption of the proposed project would result in *less-than-significant* with respect to future development runoff.

Significance Without Mitigation: Less than significant.

4.14.4.4 CUMULATIVE IMPACT DISCUSSION

UTIL-12	**Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less-than-significant cumulative impacts with respect to stormwater infrastructure.**

The geographic context used for the cumulative assessment of water quality and hydrology impacts is the San Francisquito Creek Watershed, which encompasses the entire study area. Cumulative impacts can occur when impacts that are significant or less than significant from a proposed project combine with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area.

As discussed previously, new development and redevelopment under the proposed project would require conformance with State and local policies that would reduce hydrology and related stormwater utility impacts to *less-than-significant* levels. When applicable, any additional new development within the City

would be subject, on a project-by-project basis, to independent CEQA review as well as policies in the Menlo Park General Plan, design guidelines, zoning regulations, and other applicable City requirements that reduce impacts related to stormwater hydrology. More specifically, potential changes related to stormwater flows, drainage, impervious surfaces, and flooding would be minimized via the implementation of stormwater control measures, retention, infiltration, LID measures, and review by the City's Public Works Department to integrate measures to reduce potential flooding impacts. All cumulative projects would be subject to similar permit requirements and would be required to comply with City ordinances and to be consistent with the General Plan, as well as numerous water quality regulations that control construction related and operational discharge of stormwater. For these reasons, impacts on hydrology, from future development under the proposed project, are not cumulatively considerable and the cumulative impact would be *less than significant.*

Significance Without Mitigation: Less than significant.

4.14.5 ENERGY CONSERVATION

In order to assure that energy implications are considered in project decisions, Appendix F, Energy Conservation, of the CEQA Guidelines, requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. However, no specific thresholds of significance for potential energy impacts are suggested in the State CEQA Guidelines. This section provides a general description of the regulatory setting addressing existing electric and natural gas services and infrastructure, and supply and demand in Menlo Park.

4.14.5.1 ENVIRONMENTAL SETTING

Regulatory Framework

Federal Regulations

Energy Independence and Security Act of 2007

Signed into law in December 2007, this Act is an energy policy law that contains provisions designed to increase energy efficiency and the availability of renewable energy. The Act contains provisions for increasing fuel economy standards for cars and light trucks, while establishing new minimum efficiency standards for lighting as well as residential and commercial appliance equipment.

Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. This Act includes tax incentives for the following: energy conservation improvements in commercial and residential buildings; fossil fuel production and clean coal facilities; and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the Department of Transportation (DOT) to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and hazardous materials Safety Administration (PHMSA) within DOT develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6 million mile pipeline transportation system. DOT's and PHMSA's regulations governing natural gas transmission pipelines, facility operations, employee activities, and safety are found at 49CFR Part40, 40CFR Part 190, 40CFR Part 191, 49CFR Part192, 49CFR Part 193 and 49CFR Part 199.

National Energy Policy

Established in 2001 by the National Energy Policy Development Group, this policy is designed to help the private sector and state and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

State Regulations

California Public Utilities Commission

In September 2008, the California Public Utilities Commission (CPUC) adopted the Long Term Energy Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision, as well as goals for each economic sector, identifying specific near-term, mid-term, and long-term strategies to assist in achieving these goals. This Plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020;
- All new commercial construction in California will be zero net energy by 2030;
- Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate; and
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

With respect to the commercial sector, the Long Term Energy Efficiency Strategic Plan notes that commercial buildings, which include schools, hospitals, and public buildings, consume more electricity than any other end-use sector in California. The commercial sector's five billion-plus square feet of space accounts for 38 percent of the state's power use and over 25 percent of natural gas consumption. Lighting, cooling, refrigeration, and ventilation account for 75 percent of all commercial electric use, while space heating, water heating, and cooking account for over 90 percent of gas use. In 2006, schools and colleges were in the top five facility types for electricity and gas consumption, accounting for approximately 10 percent of state's electricity and gas use.

The CPUC and the California Energy Commission (CEC) have adopted the following goals to achieve zero net energy (ZNE) levels by 2030 in the commercial sector:

- Goal 1: New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.
- Goal 2: 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.
- Goal 3: Transform the commercial lighting market through technological advancement and innovative utility initiatives.

California Energy Code

The State of California provides a minimum standard for energy conservation through Title 24 of the California Code of Regulations (CCR), commonly referred to as the "California Energy Code" (CEC). The CEC was adopted by the California Energy Resources Conservation and Development Commission in June 1977 and revised in 2008 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the CEC adopted the 2013 Building and Energy Efficiency Standards, which went into effect on January 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

CALGreen Building Code

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations). CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011. The building efficiency standards are enforced through the local building permit process. The Code was updated again in 2013, effective January 1, 2014, except energy based measures whose implementation was delayed until July 1, 2014.

The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories:

- Planning and design
- Energy efficiency
- Water efficiency and conservation
- Material conservation and resource efficiency
- Environmental quality

The provisions of CALGreen apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure, unless otherwise indicated in this code, throughout the State of California. Compliance with the CALGreen Code is not a substitution for meeting the certification requirements of any green building program. CALGreen requires new buildings to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills, and install low pollutant-emitting materials.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. Though these regulations are now often viewed as "business-as-usual," they exceed the standards imposed by all other states and they reduce GHG emissions by reducing energy demand.

Governor's Green Building Executive Order

In 2004, Executive Order (EO) S-20-04 was signed by the Governor, committing the State to take aggressive action to reduce state building electricity usage by retrofitting, building, and operating the most energy and resource-efficient buildings by taking all cost-effective measures described in the Green Building Action Plan for facilities owned, funded or leased by the State and to encourage cities, counties and schools to do the same. It also calls for State agencies, departments, and other entities under the direct executive authority of the Governor to cooperate in taking measures to reduce grid-based energy purchases for State-owned buildings by 20 percent by 2015, through cost-effective efficiency measures and distributed generation technologies. These measures should include, but are not limited to:

- Designing, constructing and operating all new and renovated State-owned facilities paid for with state funds as "LEED Silver" or higher certified buildings;
- Identifying the most appropriate financing and project delivery mechanisms to achieve these goals;
- Seeking out office space leases in buildings with a US EPA Energy Star rating; and
- Purchasing or operating Energy Star electrical equipment whenever cost-effective.

State Greenhouse Gas Regulations

The Governor's GHG Reduction Executive Order S-3-05 was signed on June 1, 2005, and set GHG reduction targets for the State. Soon after, AB 32, the Global Warming Solutions Act (2006) was passed by the California state legislature on August 31, 2006, to place the State on a course toward reducing its contribution of GHG emissions. In response to AB 32, the California Air Resources Board (CARB) developed a Scoping Plan outlining California's approach to achieving the goal of reducing GHG emissions to 1990 levels by 2020. The final Scoping Plan was adopted by CARB on December 11, 2008. CARB approved the first 5-year Update to the Climate Change Scoping Plan on May 22, 2014, as required by AB 32. For a detailed discussion on these regulations, see Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR.

Renewable Portfolio Standard

Signed into law in 2011, SB X1-2 directs CPUC's Renewable Energy Resources Program to increase the amount of electricity generated from eligible renewable energy resources per year to an amount that equals at least 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, 25 percent by December 31, 2016 and 33 percent by December 31, 2020. SB X1-2 codifies the 33 percent by 2020 renewable portfolio standard (RPS) *goal* established pursuant to the Global Warming Solutions Act of 2006. This new RPS applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020.

California Energy Benchmarking and Disclosure

Assembly Bill 1103 (2007) requires that electric and gas utilities maintain records of the energy consumption data of all nonresidential buildings to which they provide service and that by January 1, 2009, upon authorization of a nonresidential building owner or operator, an electric or gas utility shall upload all of the energy consumption data for the specified building to the US EPA Energy Star Portfolio Manager in a manner that preserves the confidentiality of the customer. This statute further requires a nonresidential building owner or operator disclose Energy Star Portfolio Manager benchmarking data and ratings, for the most recent 12-month period, to a prospective buyer, lessee, or lender. Enforcement of the latter requirement began on January 1, 2014.

On October 8, 2015, the Governor signed AB 802 which would revise and recast the above provisions. The new law directs the Energy Commission to establish a statewide energy benchmarking and disclosure program, and enhances the Commission's existing authority to collect data from utilities and other entities for the purposes of energy forecasting, planning and program design. Among the specific provisions, AB 802 would require utilities to maintain records of the energy usage data of all buildings to which they provide service for at least the most recent 12 complete months. Beginning no later than January 1, 2017, the bill would require each utility, upon the request and the written authorization or secure electronic authorization of the owner, owner's agent, or operator of a covered building, as defined, to deliver or provide aggregated energy usage data for a covered building to the owner, owner's agent, operator, or to the owner's account in the Energy Star Portfolio Manager, subject to specified requirements. The bill would also authorize the commission to specify additional information to be delivered by utilities for certain purposes.

Local Regulations

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed project. Applicable goals, policies, and programs are identified and assessed for their effectiveness later in this chapter under Section 4.14.5.3, Impact Discussion.

UTILITIES AND SERVICE SYSTEMS

City of Menlo Park Municipal Code

The City of Menlo Park Municipal Code, organized by title, chapter, and section, contains all ordinances for Menlo Park. Title 12, Buildings and Construction, include regulations relevant to energy conservation in Menlo Park as discussed below.

City of Menlo Park 2013 Green Building Standards Codes[115]

Menlo Park has adopted local amendments to 2013 CALGreen, which has been enforced since January 1, 2014. Chapter 12.18 of the Menlo Park Municipal Code adopts and amends CALGreen by reference, establishing sustainable building requirements that are applicable to all newly constructed buildings or structures. Section 12.18.010 of the Menlo Park Municipal Code requires that newly constructed buildings achieve at least a 15 percent reduction in energy usage when compared to the State's mandatory energy efficiency standards.

City of Menlo Park Climate Change Action Plan[116]

The City has a Climate Action Plan (CAP) to reduce GHG emissions. The most recent update to the City's CAP was published in October 2015[117]. The CAP recommends various renewable energy, energy efficiency and energy conservation strategies over the five period from 2015 - 2020, including:

- Complete installation of Solar PV on four City buildings
- Complete installation of four Electric Vehicle (EV) charging stations at City public parking locations
- Complete energy efficient upgrades and renewable energy installation at city facilities
- Consider Community Choice Energy (CCE) options to gain additional renewable power in Menlo Park's portfolio
- Incorporate Zero Net Energy and LEED Silver requirements into Planning requirements and Building Codes to increase efficiency in new buildings
- Implement Energy Star ratings requirement, or other performance tracking methodology, into Planning requirements for new buildings
- Consider developing an energy efficient/renewable energy plan for commercial and residential sector to re-invigorate energy upgrades for existing buildings
- Re-invigorate a social marketing program to increase biking, public transit, and walking in the community
- Implement CCE, if selected as an option
- Support Transportation Commission's car sharing program
- Support Bicycle Commission's bike sharing program
- Consider program to increase Caltrain ridership by downtown employees
- Encourage local food production through social marketing, education, and community garden programs

[115] City of Menlo Park, *2013 Green Building Standards Codes Summary of Changes*, http://www.menlopark.org/DocumentCenter/Home/View/93accessed on May 4, 2016.

[116] City of Menlo Park, *Climate Change Action Plan,* 2009, http://www.menlopark.org/DocumentCenter/View/1346, accessed on February 27, 2015.

[117] City of Menlo Park, Climate Action Plan Update and Status Report, October 2015, http://ca-menlopark.civicplus.com/ArchiveCenter/ViewFile/Item/4299

- Consider large scale renewable energy generation within Menlo Park (such as solar farm on a portion of open space, or large number of solar roof-top installations)
- Consider fuel switching strategies to move residential and commercial energy from natural gas and other fuels to renewable electricity portfolio
- Consider replacement of all remaining City non-LED street lights with LED fixtures
    - Consider height and density limit adjustments to promote active and public transportationExisting Conditions

Grid electricity and natural gas service in Menlo Park is provided by Pacific Gas & Electric (PG&E). PG&E is a publicly traded utility company which generates, purchases, and transmits energy under contract with the California Public Utilities Commission. PG&E's service territory is 70,000 square miles in area, roughly extending north to south from Eureka to Bakersfield, and east to west from the Sierra Nevada mountain range to the Pacific Ocean.[118]

On January 26, 2016, the Menlo Park City Council approved joining Peninsula Clean Energy (PCE) to provide additional renewable power. PCE is a community choice energy (CCE) program, also known sometimes as community choice aggregation.[119] CCE programs allow local governments to pool the electricity demands of their communities, purchase power with higher renewable content, and reinvest in local infrastructure. PG&E will still deliver the power, maintain the lines, and bill customers, but the power will be purchased by "Peninsula Clean Energy" in San Mateo County. PCE plans to have an "ECO 50" and "ECO 100" program that includes 50 percent and 100 percent renewable energy, respectively.

Electricity

PG&E's electricity distribution system consists of 141,215 circuit miles of electric distribution lines and 18,616 circuit miles of interconnected transmission lines. PG&E electricity is generated by a combination of sources such as coal-fired power plants, nuclear power plants, and hydro-electric dams, as well as newer sources of energy such as wind turbines and photovoltaic plants or "solar farms." "The Grid," or bulk electric grid, is a network of high-voltage transmission lines link power plants with the PG&E system. The distribution system, comprised of lower voltage secondary lines, is at the street and neighborhood level, and consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to the individual customer.

PG&E produces or buys its energy from a number of conventional and renewable generating sources, which travel through PG&E's electric transmission and distribution systems. The power mix PG&E provided to customers in 2014 consisted of non-emitting nuclear generation (21 percent), large hydroelectric facilities (8 percent) and eligible renewable resources (27 percent), such as wind, geothermal, biomass, solar and small hydro[120]. The remaining portion came from natural gas/other (24 percent) and unspecified power (21 percent). Unspecified power refers to electricity that is not traceable to specific generation sources by any auditable contract trail. In addition, PG&E has plans to increase the

[118] PG&E, 2012. Company Info. http://www.pge.com/about/company/profile/ accessed on February 1, 2016
[119] Peninsula Clean Energy, 2016. http://www.peninsulacleanenergy.com/, accessed on May 4, 2016.
[120] PG&E, 2015. PG&E's 2014 Power Mix, http://pge.com/includes/docs/pdfs/myhome/myaccount/explanationofbill/billinserts/11.15_PowerContent.pdf , accessed May 4, 2016.

use of renewable power. For instance, PG&E purchases power from customers that install small-scale renewable generators (e.g., wind turbines or photovoltaic cells) up to 1.5 megawatts in size. In 2014, PG&E served 28 percent of their retail electricity sales with renewable power. PG&E's percentage of renewable power currently under contract for 2020 is 37percent.[121]

In 2013 PG&E's projected annual electricity demand growth between 2012 and 2024 is 1.25 percent.[122] In 2015 PG&E's preliminary projected average annual electricity demand growth (mid-demand forecast) between 2013-2026 is 1.26 percent.[123] Within the San Francisco Bay planning area (Zone 1) of PG&E's service area the preliminary projected average annual electricity demand growth between 2013-2026 is 1.41 percent. Energy providers in the State project demand by assuming future economic growth and taking into account projects such as the proposed project Update.

The existing electrical system in the study area consists of overhead and underground facilities.

Natural Gas

PG&E's natural gas (methane) pipe delivery system includes 42,141 miles of distribution pipelines, and 6,438 miles of transportation pipelines. Gas delivered by PG&E originates in gas fields in California, the US Southwest, US Rocky Mountains, and from Canada. Transportation pipelines send natural gas from fields and storage facilities in large pipes under high pressure. The smaller distribution pipelines deliver gas to individual businesses or residences.

PG&E gas transmission pipeline systems serve approximately 4.2 million gas customers in northern and central California. The system is operated under an inspection and monitoring program. The system operates in real time on a 24-hour basis, and includes leak inspections, surveys, and patrols of the pipelines. A new program, the Pipeline 2020 program, aims to modernize critical pipeline infrastructure, expand the use of automatic or remotely-operated shut-off valves, catalyze development of next-generation inspection technologies, develop industry-leading best practices, and enhance public safety partnerships with local communities, public officials, and first responders.

The PG&E gas transportation pipeline nearest the Bayfront Area, where the new development potential is proposed, primarily runs north along Highway 101 (Bayshore Freeway) until Second Avenue where it continues north along Broadway Street.[124] Distribution gas pipelines are located throughout the project study area.

[121] California Public Utilities Commission (CPUC), 201. California Renewables Portfolio Standard (RPS), http://www.cpuc.ca.gov/RPS_Homepage/ , accessed on May 4, 2016.

[122] California Energy Commission (CEC), 2013. California Energy Demand 2014-2024 Preliminary Forecast, CEC-200-2013-004-SD-V2, May 2013

[123] CEC, 2015. California Energy Demand 2016-2026, Preliminary Electricity Forecast, CEC-200-2015-003, June 2015, http://docketpublic.energy.ca.gov/PublicDocuments/15-IEPR-03/TN205141_20150623T153206_CALIFORNIA_ENERGY_DEMAND_20162026_PRELIMINARY_ELECTRICITY_FOREC.pdf, accessed May 4, 2016.

[124] Pacific Gas & Electric, 2014. Gas Transmission System Map web page, http://www.pge.com/en/safety/systemworks/gas/transmissionpipelines/index.page, accessed February 1, 2016.

4.14.5.2 STANDARDS OF SIGNIFICANCE

As previously discussed, Appendix F, Energy Conservation, of the CEQA Guidelines, requires a discussion of the potential energy impacts of proposed projects; however, no specific thresholds of significance for potential energy impacts are suggested in the State CEQA Guidelines or for the City of Menlo Park. Therefore, this EIR analysis determined that impacts would be significant if implementation of the proposed project would result in a substantial increase in natural gas and electrical service demands that would require the new construction of energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities paralleling the threshold determinations for other utility and service systems under Appendix G, Environmental Checklist of the CEQA Guidelines. To further the intent of Appendix F, Energy Conservation, relevant, potential impacts listed in that appendix are also incorporated in the evaluation.

Appendix F lists the following possible impacts to energy conservation that should be considered to the extent they are applicable and relevant to a particular project:

1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials maybe discussed.
2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.
3. The effects of the project on peak and base period demands for electricity and other forms of energy.
4. The degree to which the project complies with existing energy standards.
5. The effects of the project on energy resources.
6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

The analysis included in Section 4.14.5.3 below focuses on discussions related to possible impact numbers 2, 4, 5 and 6 listed above. Focus on these potential impacts was done because they are relevant and applicable to the programmatic analysis in this Draft EIR, and the development allowed under the proposed project does not represent a unique or energy-intensive use that would be substantially different than other similar projects.

4.14.5.3 IMPACT DISCUSSION

This section analyzes the proposed project’s potential impacts and cumulative impacts to electric and natural gas services and infrastructure, supply and demand, and energy conservation.

UTIL-13 Implementation of the proposed project would not result in a substantial increase in natural gas and electrical service demands, and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities.

New development under the proposed project would continue to be served by PG&E or PCE when it commences transmission of energy over PG&E facilities. New electrical and gas distribution lines may be required to replace existing lines when realignment is required under future development; however, such replacement/realignment is speculative at this time and any individual development projects would be subject to independent CEQA review and permitting ensuring any associated environmental impacts would be addressed. The projected increase in development would result in a long-term increase in energy demand associated with the operation of lighting and space heating/cooling in the added building space, and vehicle travel. In addition, construction activities associated with development require the use of energy (e.g., electricity and fuel) for various purposes such as the operation of construction equipment and tools, as well as excavation, grading, demolition, and construction vehicle travel.

Construction

Even with energy saving practices in place (as discussed below), new electrical connections, switches and/or transformers might be required to serve new structures and/or carry additional loads within the study area. Similarly, new gas distribution lines and connections may be necessary. These are infrastructure improvements that would be addressed for future individual development projects. Most of the work would be in existing public rights-of-way or facilities. Although creation of new or re-located gas and electric lines could create short-term construction-related environmental effects (e.g., noise, dust, traffic, temporary service interruption, etc.), the work would be subject to compliance with the City's and PG&E's regulations and standard conditions for new construction related to infrastructure improvements. For example, these regulations and conditions would require gas and electric line construction to include best management practices that require construction areas to minimize dust generation, limit construction noise to daytime hours to limit impacts to sensitive receptors, and use modern equipment to limit emissions. Also, any such work would be subject to compliance with applicable regulations and standard conditions of approval for construction projects, including City permits/review for construction (e.g., grading permits, private development review, encroachment permits, etc.). Construction vehicles would consume fuel. As discussed in Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR the US EPA adopted the Heavy-Duty National Program to establish fuel efficiency and GHG emission standards in the heavy-duty highway vehicle sector, which includes combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). These standards include targets for gallons of fuel consumed per mile beginning in model year 2014. These standards are being extended through model year 2018 through current rulemaking by the US EPA. While construction activities require a commitment of energy sources, these efficiency standards improve energy security and innovation in clean energy technology and further the goal of conserving energy in the context of project development. As a result, adoption of the proposed project would result in *less-than-significant* impacts with respect to construction related impacts of future development.

Operational

The proposed increase in development would result in a long-term increase in energy demand, associated with the operation of lighting and space heating/cooling in the added building space, and vehicle travel. In addition, construction activities associated with development require the use of energy (e.g., electricity and fuel) for various purposes such as the operation of construction equipment and tools, as well as excavation, grading, demolition, and construction vehicle travel.

Development Energy Impacts

Proposed new development would be constructed using energy efficient modern building materials and construction practices, in accordance with CalGreen Building Code, CPUC's Long Term Energy Efficiency Strategic Plan (2008), and Chapter 12.18 of the Menlo Park Municipal Code which contains the Green Building Ordinance. The new buildings also would use new modern appliances and equipment, in accordance with the 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608). Under these requirements, future development under the proposed project would use recycled construction materials, environmentally sustainable building materials, building designs that reduce the amount of energy used in building heating and cooling systems as compared to conventionally built structures, and landscaping that incorporates water efficient irrigation systems, all of which would conserve energy.

As an infill effort, the proposed project inherently furthers objectives of energy conservation by focusing activities in areas of existing infrastructure and services. In addition, the proposed Land Use (LU) Element and Circulation (CIRC) Elements, which would be affirmed as part of the proposed project, and existing Section II, Open Space/Conservation (OSC) of the Open Space/Conservation, Noise and Safety Elements, contain goals, policies, and programs that would require local planning and development decisions to consider impacts to energy resources. The following General Plan goals, policies and programs would serve to increase energy conservation and minimize potential impacts associated with energy use:

- Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.
    - Policy LU-4.5: Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.
- Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.
    - Policy LU-6.9: Pedestrian and Bicycle Facilities. Provide well-designed pedestrian and bicycle facilities for safe and convenient multi-modal activity through the use of access easements along linear parks or paseos.
- Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.

- Policy LU-7.1: Sustainability. Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste.
- Policy LU-7.9: Green Building. Support sustainability and green building best practices through the orientation, design, and placement of buildings and facilities to optimize their energy efficiency in preparation of State zero-net energy requirements for residential construction in 2020 and commercial construction in 2030.
  - Program LU-7.A: Green Building and Maintenance. Employ green building and operation and maintenance best practices, including increased energy efficiency, use of renewable energy and reclaimed water, and install drought-tolerant landscaping for all projects.
  - Program LU-7.C: Sustainability Criteria. Establish sustainability criteria and metrics for resource use and conservation and monitor performance of projects of a certain minimum size.
  - Program LU-7.D: Performance Standards. Establish performance standards in the Zoning Ordinance that requires new development to employ environmentally friendly technology and design to conserve energy and water, and minimize the generation of indoor and outdoor pollutants.
  - Program LU-7.E: Greenhouse Gas Emissions. Develop a Greenhouse Gas (GHG) standard for development projects that would help reduce communitywide GHG emissions to meet City and Statewide reduction goals.
- Goal OSC-2: Provide parks and Recreation Facilities.
  - Policy OSC-2.7: Conservation of Resources at City Facilities. Reduce consumption of water, energy, landfilled waste, and fossil fuels in the construction, operations and maintenance of City owned and/or operated facilities.
- Goal OSCS-4: Promote sustainability and climate action planning.
  - Policy OSC-4.1: Sustainable Approach to Land Use Planning to Reduce Resource Consumption. Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher density residential and mixed-use development to be located adjacent to commercial centers and transit corridors, and (3) retail and office areas to be located within walking and biking distance of transit or existing and proposed residential developments.
  - Policy OSC-4.2: Sustainable Building. Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.
  - Policy OSC-4.3: Renewable Energy. Promote the installation of renewable energy technology, such as, on residences and businesses through education, social marketing methods, establishing standards and/or providing incentives.
  - Policy OSC-4.4: Vehicles Using Alternative Fuel. Explore the potential for installing infrastructure for vehicles that use alternative fuel, such as electric plug in recharging stations.

- Policy OSC-4.5: Energy Standards in Residential and Commercial Construction. Encourage projects to achieve a high level of energy conservation exceeding standards set forth in the California Energy Code for Residential and Commercial development.
- Policy OSC-4.9: Climate Action Planning. Undertake annual review and updates, as needed, to the City's Climate Action Plan (CAP).
- Policy OSC-4.10: Energy Upgrade California. Consider actively marketing and providing additional incentives for residents and businesses to participate in local, State, and/or Federal renewable or energy conservation programs.

- Goal CIRC-1: Provide and maintain a safe, efficient, attractive, use-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.
  - Policy CIRC-1.7: Bicycle Safety. Support and improve bicyclist safety through roadway maintenance and design efforts.
  - Policy CIRC-1.8: Pedestrian Safety. Maintain and create a connected network of safe sidewalks within the public right of way ensure that appropriate facilities, traffic control, and street lighting are provided for pedestrian safety and convenience, including for sensitive populations.
  - Policy CIRC-1.9: Safe Routes to Schools. Support Safe Routes to School programs to enhance the safety of school children who walk and bike to school.
- Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.
  - Policy CIRC-2.7: Walking and Biking. Provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate roadway design and maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan and the El Camino Real/Downtown Specific Plan.
  - Policy CIRC-2.11: Design of New Development. Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.
- Goal CIRC-5: Support local and regional transit that is efficient, frequent, convenient, and safe.
  - Policy CIRC-5.1: Transit Service and Ridership. Promote improved public transit service and increased transit ridership, especially to employment centers, commercial destinations, schools, and public facilities.
  - Policy CIRC-5.2: Transit Proximity to Activity Centers. Promote the clustering of as many activities as possible within easy walking distance of transit stops, and locate any new transit stops as close as possible to housing, jobs, shopping areas, open space, and parks.
  - Policy CIRC-5.3: Rail Service. Promote increasing the capacity and frequency of commuter rail service, including Caltrain; protect rail rights-of-way for future transit service; and support efforts to reactivate the Dumbarton Corridor for transit, pedestrian, bicycle, and emergency vehicle use.
    - Program CIRC-5.A: Long-Term Transit Planning. Work with appropriate agencies to agree on long-term peninsula transit service that reflects Menlo Park's desires and is not disruptive to the city.

- Goal CIRC-6: Provide a range of transportation choices for the Menlo Park Community.
  - Policy CIRC-6.1: Transportation Demand Management. Coordinate Menlo Park's transportation demand management efforts with other agencies providing similar services within San Mateo and Santa Clara Counties.
  - Policy CIRC-6.2: Funding Leverage. Continue to leverage potential funding sources to supplement City and private monies to support transportation demand management activities of the City and local employers.
  - Policy CIRC-6.3: Shuttle Service. Encourage increased shuttle service between employment centers and the Downtown Menlo Park Caltrain station.
  - Policy CIRC-6.4: Employers and Schools. Encourage employers and schools to promote walking, bicycling, carpooling, shuttles, and transit use.

Additionally, as part of the Zoning update, the project includes green and sustainable building standards in the Bayfront Area. These standards require all new buildings within the Bayfront Area to comply with specific green building requirements for LEED certification, providing outlets for Electric Vehicle charging, on-site renewable energy generation (electrical and natural gas), and enrollment in EPA Energy Star Building Portfolio Manager.

Future development under the proposed project, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to promote energy conservation and efficiency by implementing sustainable building practices and reducing automobile dependency. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the development of a Greenhouse Gas (GHG) standard for development projects and the coordination with appropriate agencies to agree on long-term peninsula transit service. Furthermore, continued implementation of the CAP, compliance with the CALGreen Building Code, and the other applicable state and local energy efficiency measures cited above, significant energy conservation and savings would be realized from future development under the proposed project. Therefore, adoption of the proposed project would result in *less-than-significant* impacts with respect to increase in natural gas and electrical service demands.

Transportation Energy Impacts

As an infill development, the proposed project inherently furthers objectives of energy conservation related to transportation by focusing activities in areas of existing infrastructure and services. Transportation features that are priorities of the proposed project are evident in the proposed Circulation element. These features promote non-motorized transportation within and to the anticipated development within the Bayfront Area, as well as the city-wide, thereby potentially reducing energy consumption that would otherwise be related to motorized vehicle use (i.e., automobiles). Chapter 4.13, Transportation and Circulation, of this Draft EIR, provides an evaluation of the expected traffic and transit trips generated by the proposed project. As discussed, the proposed project would generate an increase in typical weekday trips consisting of vehicular, transit and walk/bike trips that would vary between 2016 and 2040. As discussed above, the US EPA adopted standards that include targets for gallons of fuel consumed per mile beginning in model year 2014. These standards are being extended through model

year 2018 through current rulemaking by the US EPA. While future transportation would require a commitment of energy sources, these efficiency standards improve energy security and innovation in clean energy technology further the goal of conserving energy in the context of project development. As with impacts of future development discussed above, buildout of the proposed project and compliance with Zoning regulations and General Plan goals and policies listed above would ensure that adoption of the proposed project would result in *less-than-significant* impacts with respect to energy impacts from transportation.

Utility Scale Energy Impacts

The proposed project would be within the 70,000-square-mile PG&E service territory for electricity and natural gas generation, transmission and distribution. PG&E continues to expand its renewable energy portfolio. Due to the study area's size and location within an urban development, buildout of the proposed project would not significantly increase energy demands within the service territory and would not require new energy supply facilities. In addition, energy projections of energy providers within the State anticipate growth from development such as what would be allowed under the proposed project. As a result, as PG&E updates their long-range plans, they will incorporate the projected growth in Menlo Park. Where new transportation/transmission infrastructure is required, as discussed above under future construction energy impacts, new development under the proposed project would be subject to separate environmental review and would be required to comply with applicable regulations for construction projects, including construction permits/review for construction within public rights-of-way (e.g., grading permits, private development review, encroachment permits, etc.). Accordingly, the adoption of the proposed project would result in *less-than-significant* impacts with respect to new energy supply facilities and transportation/transmission infrastructure, or capacity-enhancing alterations to existing facilities.

Significance Without Mitigation: Less than significant.

4.14.5.4 CUMULATIVE IMPACT DISCUSSION

UTIL-14	**Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to energy conservation.**

The discussion under UTIL-13 described the proposed project's impacts in relationship to the PG&E service territory and therefore, includes a discussion of cumulative impacts.

Significance Without Mitigation: Less than significant.

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5. Alternatives to the Proposed Project

The following discussion is intended to inform the public and decision makers of feasible alternatives to the proposed project that would avoid or substantially lessen any significant effects of the proposed project.

The CEQA Guidelines set forth the intent and extent of alternatives analysis to be provided in an EIR. Section 15126.6(a) of the CEQA Guidelines states that:

> *An EIR shall describe a range of reasonable alternatives to the project, or the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.*

5.1 PURPOSE

The alternatives evaluated in this Draft EIR were developed consistent with Section 15126.6(b) of the CEQA Guidelines, which states that:

> *Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.*

5.2 PROJECT OBJECTIVES

As stated above, the range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the proposed project. The proposed project addresses growth in the Bayfront Area but also circulation citywide and will seek to accomplish the following objectives:

- Establish and achieve the community's vision.
- Realize economic and revenue potential.

- Directly involve Bayfront Area property owners (as land use changes are expected only in that area).
- Streamline development review.
- Improve mobility for all travel modes.
- Preserve neighborhood character.

5.3 SELECTION OF A REASONABLE RANGE OF ALTERNATIVES

Section 15126.6(c) of the State CEQA Guidelines states:

> *The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.*

5.3.1 ALTERNATIVE CONSIDERED AND REJECTED AS BEING INFEASIBLE

As described above, Section 15126.6(c) of the State CEQA Guidelines requires EIRs to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and briefly explain the reasons underlying the lead agency's determination. Section 15126.6(c) provides that among the factors that may be used to eliminate alternatives from detailed consideration in and EIR are (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. The following is a discussion of an alternative that was considered and rejected, along with the reasons it was not included in the analysis.

REDUCED RESIDENTIAL LAND USE ALTERNATIVE

The land uses proposed in the Bayfront Area represent buildout projections intended to achieve a balance between residential and non-residential land uses. Measures that local governments take to support shifts in land use patterns are anticipated to emphasize compact, low-impact growth, resulting in fewer Vehicles Miles Traveled (VMT).[1] The VMT estimates in the City/County Association of Governments of San Mateo County (C/CAG) model are sensitive to changes in land use. Generally, land uses that reflect a more balanced jobs-housing ratio in the C/CAG model result in lower per capita VMT. Reducing only residential land uses would potentially off-set the land use balance and therefore, result in greater VMT than the proposed project. Accordingly, this alternative was rejected.

[1] California Air Resources Board, 2008. *Climate Change Scoping Plan, a Framework for Change.*

This alternative was also rejected because it would not help meet the demand for high-density dwelling units as a result of increased employment from projected office, life science, and retail growth under the proposed project. Providing housing near these land uses helps reduce regional as well as local traffic trips and related adverse cumulative air quality and GHG emission impacts and by reducing housing, impacts to traffic, greenhouse gas emissions and air quality would be greater. For these reasons, a Reduced Residential Land Use Alternative was considered and rejected.

5.3.2 ALTERNATIVES ANALYSIS

In accordance with the CEQA Guidelines, three project alternatives and the comparative merits of the alternatives are discussed below.

All of the potential environmental impacts associated with adoption and implementation of the proposed project were found to be either less than significant without mitigation or less than significant with mitigation, with the exception of some impacts associated with air quality, greenhouse gas (GHG) emissions, population and housing (cumulative and temporary), and transportation and circulation, which were found to be significant and unavoidable with mitigation measures. The alternatives were selected because of their potential to further reduce and avoid these impacts.

The alternatives to be analyzed in comparison to the proposed project include:

- No Project Alternative: Current General Plan
- Reduced Non-Residential Intensity Alternative
- Reduced Intensity Alternative

The first alternative discussed is the CEQA-required "No Project" Alternative. The second alternative, the Reduced Non-Residential Intensity Alternative, assumes a 50 percent reduction in the amount of future net new non-residential development allowed in the Bayfront Area under the proposed project. The third alternative, the Reduced Intensity Alternative, assumes a 25 percent reduction in the amount of net new residential and non-residential development allowed in the Bayfront Area under the proposed project – therefore, the total number of population and employees would be 25 percent less than anticipated under the proposed project.

5.3.3 ASSUMPTIONS AND METHODOLOGY

The alternatives analysis is presented as a comparative analysis to the proposed project. The development intensity for the alternatives varies from the proposed project. The estimated buildout of each alternative, as well as the proposed project, is provided in Table 5-1.

ALTERNATIVES TO THE PROPOSED PROJECT

TABLE 5-1 COMPARISON OF ALTERNATIVES AND THE PROPOSED PROJECT

Category	Proposed Project: Current + General Plan[c]	Proposed Project: Proposed Bayfront Area	No Project Alternative[d]	Reduced Non-Residential Intensity Alternative[e]	Reduced Intensity Alternative[f]
BAYFRONT AREA					
Non-residential Square Feet	*1.4 million*	*2.3 million*	*1.4 million*	*2.6 million*	*3.1 million*
Hotel Rooms[a]	n/a	400	n/a	200	300
Residential Units	150	4,500	150	4,650	3,525
Population[b]	390	11,570	390	11,960	9,068
Employees	3,400	5,500	3,400	6,150	7,525
REMAINDER OF CITY					
Non-residential Square Feet	355,000	n/a	355,000	355,000	355,000
Hotel Rooms[a]	n/a	n/a	n/a	n/a	n/a
Residential Units	850	n/a	850	850	850
Population[b]	2,190	n/a	2,190	2,190	2,190
Employees	1,000	n/a	1,000	1,000	1,000
CITYWIDE TOTALS					
Non-Residential Square Feet	**1.8 million**	***2.3 million***	***1.8 million***	***2.9 million***	***3.5 million***
Hotel Rooms[a]	**0**	**400**	**0**	**200**	**300**
Residential Units	**1,000**	**4,500**	**1,000**	**5,500**	**4,375**
Population[b]	**2,580**	**11,570**	**2,580**	**14,150**	**11,258**
Employees	**4,400**	**5,500**	**4,400**	**7,150**	**8,525**

a. An unknown number of additional hotel rooms could be proposed under the current General project.
b. Assumes 2.57 persons per household per Association of Bay Area Governments (ABAG) *Projections 2013, Subregional Study Area Table*.
c. This represents the previously-approved and ongoing development potential under the existing General Plan.
d. This represents what could be built if the proposed project were not approved, which is the previously-approved and ongoing development potential under the existing General Plan.
e. The "Reduced Non-Residential Intensity Alternative" assumes a 50 percent reduction in the amount of non-residential development proposed in the Bayfront Area plus the previously-approved and ongoing development potential under the existing General Plan.
f. The "Reduced Intensity Alternative" assumes a 25 percent reduction in the amount of residential and non-residential development in the Bayfront Area plus the previously-approved and ongoing development potential under the existing General Plan.

The alternatives analysis assumes that all applicable mitigation measures recommended for the proposed project would apply to each alternative. The following analysis compares the potentially significant environmental impacts of the three alternatives with those of the project-related impacts for each of the environmental topics analyzed in detail in Chapter 4, Environmental Evaluation, of this Draft EIR. The impacts of each alternative are classified as greater, less, or essentially similar to (or comparable to) the level of impacts associated with the proposed project. Table 5-2 below, summarizes the relative impacts of each of the alternatives compared to the proposed project.

TABLE 5-2 COMPARISON OF IMPACTS FROM PROJECT ALTERNATIVES AND THE PROPOSED PROJECT

Topic	Proposed Project[a]	No Project Alternative	Reduced Non-Residential Intensity Alternative	Reduced Intensity Alternative
Aesthetics	LTS	>	=	=
Air Quality	SU	>	<	<
Biological Resources	LTS	<	<	<
Cultural Resources	LTS/M	<	=	=
Geology, Soils, and Seismicity	LTS	=	=	=
Greenhouse Gas Emissions	SU	>	<	=
Hazards and Hazardous Materials	LTS	<	<	<
Hydrology and Water Quality	LTS	=	=	=
Land Use and Planning	LTS	=	=	=
Noise	SU	<	<	<
Population and Housing	SU	<	=	<
Public Services and Recreation	LTS	<	<	<
Transportation and Circulation	SU	>	<	=
Utilities and Service Systems	LTS	<	<	<

a: The impacts listed in this column represent the highest significance determination for each respective threshold.

LTS Less Than Significant
LTS/M Less Than Significant with Mitigation
SU Significant and Unavoidable

< Less impact in comparison to the proposed project
= Similar impacts in comparison to the proposed project
> Greater impact in comparison to the proposed project

5.4 NO PROJECT ALTERNATIVE

5.4.1 DESCRIPTION

Pursuant to CEQA Guidelines Section 15126.6(e)(1), the No Project Alternative is required as part of the "reasonable range of alternatives" to allow decision makers to compare the impacts of approving the proposed project with the impacts of taking no action or not approving the proposed project. Consistent with CEQA Guidelines Section 15126.6(e)(3)(A), when the project is the revision of a plan, as in this case, the no project alternative will be the continuation of the existing plan. Per CEQA Guidelines Section 15126.6(e)(3)(C), the City of Menlo Park, acting as the lead agency, should analyze the impacts of the No Project Alternative by projecting what would reasonably be expected to occur in the foreseeable future if the proposed project were not approved, based on current plans and consistent with available infrastructure and community services. Implementation of the No Project Alternative assumes that the development buildout throughout the city would remain unchanged until the buildout horizon year 2040, which is the same horizon year of the proposed project. Table 5-1 above shows the remaining development buildout in the current General Plan under the "No Project Alternative" column.

Future development permitted under the No Project Alternative would not increase development potential in Menlo Park beyond what was considered in the existing General Plan and analyzed in the 2013 Housing Element Environmental Assessment, but rather would allow development of the remaining development buildout shown in Table 5-1. No General Plan land use or Zoning designation changes would be required to accommodate these uses.

As shown in Table 5-1, the No Project Alternative would result in 1.8 million square feet of non-residential space, 1,000 residential units, and no anticipated hotel development. The No Project Alternative would result in a population increase of 2,580 new residents, and 3,400 new employees in the city.

5.4.2 IMPACT DISCUSSION

The potential environmental impacts associated with the No Project Alternative when compared to the proposed project are described below.

5.4.2.1 AESTHETICS

As described in Chapter 4.1, Aesthetics, of this Draft EIR, the proposed project would result in less than significant impacts and no mitigation measures are required.

The City of Menlo Park does not designate scenic corridors or vistas, thus, same as the proposed project, previously-approved development under the No Project Alternative would not block views scenic vistas or scenic corridors. Therefore, impacts related to these topics would be similar to the proposed project.

Under the No Project Alternative, previously-approved development would be concentrated on locations either already developed and/or underutilized, and/or in close proximity to existing development. Development under the No Project Alternative would also be subject to architectural control review or

would be required to comply with design standards in the El Camino Real/Downtown Specific Plan and R-4-S zoning designations to ensure compatibility with adjoining land uses. Thus, unlike the proposed project, which includes design standards as part of the proposed Zoning for the Bayfront Area, development under this alternative would not provide the same level of design consideration related to the visual character or quality of a project site and its surrounding; thus, aesthetic impacts related to these topics would be greater to those of the proposed project.

Similar to the proposed project, the No Project Alternative would result in new lighting sources that could result in sources of glare. However, the future development under the No Project Alternative would be required to comply with CAL Green's best management practices and General Plan policies and Municipal Code provisions that ensure new land uses do not generate excessive light levels and reduce light and glare spillover from future development to surrounding land uses. Given that the No Project Alternative allows for lower intensity development than the proposed project, it is likely that the aesthetic impacts related to light or glare would be less than those under the proposed project.

Overall, impacts related to aesthetics would be *greater* than those of the proposed project under this alternative because no new design standards would be applied to the Bayfront Area.

5.4.2.2 AIR QUALITY

As described in Chapter 4.2, Air Quality, of this Draft EIR, the proposed project would result in three significant and unavoidable impacts even with implementation of Mitigation Measures AQ-2a, AQ-2b1, AQ-2b2, and AQ-5, and two significant impacts that would be mitigated to a less-than-significant level with the implementation of Mitigation Measures AQ-3a and AQ-3b.

Under the No Project Alternative, future development in the study area would continue to occur under the City's existing General Plan. However, under this alternative, future development would be less intense compared to the proposed project; therefore, would reduce overall air quality impacts associated with the construction and operation of future development from that of the proposed project. Although future development under the No Project Alternative would be less intense, operational and construction criteria air pollutant emissions would still generate a net increase in criteria air pollutant emissions. Furthermore, while, the proposed Mitigation Measures AQ-2a, AQ-2b1, AQ-2b2, AQ-3a, AQ-3b, and AQ-5 would apply to the No Project Alternative, the proposed new General Plan goals, policies, and programs, and new zoning regulations such as requiring a 20 percent reduction in vehicular traffic that would be adopted under the proposed project, which are intended to provide for greater opportunities to reduce VMT and protect and improve air quality, would not be implemented. As discussed further, under Section 5.4.2.6, Greenhouse Gas Emissions, below, the VMT per capita would be 19 miles under the No Project Alternative and 14 miles under the proposed project (see Table 4.13-13). For these reasons, while business-as-usual development under the No Project Alternative would result in less intense development, because of the higher VMT, air quality impacts under the No Project Alternative would be *greater* when compared to the proposed project.

5.4.2.3 BIOLOGICAL RESOURCES

As discussed in Chapter 4.3, Biological Resources, of this Draft EIR, the proposed project would result in seven significant-but-mitigable impacts and one less-than-significant impact. Implementation of

Mitigation Measure BIO-1 would require project-specific baseline biological resources assessments on sites containing natural habitat, which would be required to reduce impacts to biological resources.

Similar to the proposed project, future development under this alternative would occur in previously urbanized areas where special-status species are generally not expected to occur. Further, future development would still be required to comply with existing federal, State, and local regulations, such as Municipal Code Chapters 12.44 and 13.24, as well as the Migratory Bird Treaty Act, that serve to reduce or minimize potential impacts to biological resources. Although future development under the No Project Alternative and the proposed project would generally occur within the same previously urbanized study area, and would be subject to the same regulations protecting biological resources, the No Project Alternative would still result in less intense development overall; therefore, resulting in less potential for disturbance to biological resources associated with the construction and operation of future development.

Overall, impacts to biological resources under the No Project Alternative would be *less* when compared to the proposed project.

5.4.2.4 CULTURAL RESOURCES

As described in Chapter 4.4, Cultural Resources, of this Draft EIR, the proposed project would result in six significant-but-mitigable impacts. Implementation of Mitigation Measures CULT-1, CULT-2a, CULT-2b, CULT-3, and CULT-4 would reduce impact related to historical, archeological, paleontological, human remains, and tribal cultural resources.

Under the No Project Alternative, future development in the study area would continue to occur, but would be less intense than the proposed project. Similar to the proposed project, development under this alternative would involve ground-disturbing activities during construction of future structures which could affect cultural resources. Similar to the proposed project, future development under the No Project Alternative would be subject to existing federal, State, and local regulations laws to protect cultural resources, which would generally ensure less-than-significant impacts to cultural resources. In addition, under this alternative, Mitigation Measures CULT-1, CULT-2a, CULT-2b, CULT-3, and CULT-4 as recommended under the proposed project, would also be required under this alternative.

Overall, this alternative would result in less overall development within the study area; thus, the potential to impact a cultural resource would be *less* when compared to the proposed project.

5.4.2.5 GEOLOGY, SOILS, AND SEISMICITY

As described in Chapter 4.5, Geology, Soils, and Seismicity, of this Draft EIR, the proposed project would result in less-than-significant impacts.

Under the No Project Alternative, future development would result in less non-residential and residential development, thereby reducing potential new development that would occur within the study area compared to the proposed project. As such, fewer structures would be subject to the potential for damage from soil/geologic conditions, liquefaction, lateral spreading, or other geologic instabilities. However, future development under both the No Project Alternative and proposed project would be

subject to the same erosion control measures as specified in the City of Menlo Park Engineering Division's Grading and Drainage Control Guidelines, as well as the California Building Code (CBC) regulations relating to seismic safety, which would address and prevent hazards associated with geology, soils, and seismicity.

Although the No Project Alterative would result in less overall development, compliance with existing regulations related to geologic and seismic safety would apply similarly to both future development under the No Project Alternative and the proposed project; therefore, would result in *similar* impacts when compared to the proposed project.

5.4.2.6 GREENHOUSE GAS EMISSIONS

As described in Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR, the proposed project would result in two significant and unavoidable impacts with implementation of Mitigation Measure GHG-1.

The No Project Alternative would result in less non-residential and residential development within the study area when compared to the proposed project. As a result, GHG emissions associated with the construction and operation of less development would therefore reduce overall GHG emissions to that of future development anticipated under the proposed project.

The proposed project includes land uses that balance jobs and housing, and results in a Vehicles Miles Traveled (VMT) per capita of 14 miles, which is lower that the No Project Alternative where the VMT per capita would be 19 miles (see Table 4.13-13). Furthermore, the proposed goals, policies, and a programs of the Land Use (LU) and Circulation (CIRC) Elements that would require local planning and development decisions to consider impacts to GHG and proposed Zoning regulations that would promote the creation of a live/work/play environment with travel patterns that are oriented toward pedestrian, transit, and bicycle use, including identifying public paseos to improve connectivity on the Zoning map, and the requirement to prepare Transportation Demand Management (TDM) Plans to reduce trip generation by 20 percent below standard use rates, would not be adopted under the No Project Alternative.

Consequently, because the No Project Alternative would result in less development and would continue the business-as-usual land use balance, this alternative would result in *greater* GHG emissions than the proposed project.

5.4.2.7 HAZARDS AND HAZARDOUS MATERIALS

As discussed in Chapter 4.7, Hazards and Hazardous Materials, of this Draft EIR, the proposed project would result in six less-than-significant impacts, two significant-but-mitigable impacts, and one no impact conclusion. Implementation of Mitigation Measures HAZ-4a and HAZ-4b would reduce impacts related to sites with known hazardous materials.

As described in Chapter 4.7, the study area contains leaking underground storage tanks (LUST), as well as several locations that are listed under the Spills, Leaks, Investigation, and Cleanups (SLIC) Program, which investigates and regulates non-permitted discharges, also have been identified within the study area. However, the SLIC sites are found mostly in the downtown area and the northeastern portion of the study area, and most of these sites are listed as "Completed-Case Closed," with some of the sites still open undergoing site assessment, remediation action, or verification monitoring of remediation action.

Future development under the No Project Alternative and the proposed project that involves the handling, transport, use, or disposal of hazardous materials would be regulated pursuant to federal, State, and local laws. In addition, although the study area is located approximately 2 miles from Palo Alto Airport, no portions of the city are within the airport land use compatibility zones established by the Palo Alto Airport Comprehensive Land Use Plan. Further, the study area is located more than 2 miles from the San Carlos Airport; therefore, future development under both scenarios would not result in any airport hazards. As a result, future development under the No Project Alternative would not interfere with the use of the public or private use of nearby airports nor would future development expose people to hazards or risks related to airport use.

Overall, while the No Project Alternative would result in less overall development, compliance with existing federal, State, and local regulations related to the safe use, handling, disposal, transport, and generation of hazardous materials, would ensure that potential impacts related to hazards and hazardous materials be minimized. In addition, HAZ-4a and HAZ-4b would be required under both scenarios to reduce impacts to sites with known hazardous materials. Therefore, the No Project Alternative would result in *less* impacts when compared to the proposed project.

5.4.2.8 HYDROLOGY AND WATER QUALITY

As described in Chapter 4.8, Hydrology and Water Quality, of this Draft EIR, the proposed project would result in less-than-significant impacts.

Although the No Project Alternative would result in less development overall, future development would occur within previously urbanized areas and would be subject to the same existing federal, State, and local regulations relating to hydrology and water quality, similar to the proposed project. Compliance with existing regulations would ensure that pre- and post-construction impacts to water quality be minimized as future development occurs. As described in Chapter 4.8, Hydrology and Water Quality, of this Draft EIR, some dewatering of groundwater could occur during construction of future development in the Bayfront Area; however, would be at a shallow level where water supplies aren't drawn from. In addition, because future development under the No Project Alternative would occur primarily within already urbanized areas, development would connect to existing drainage systems already in place. Although there are 100-year flood zones within the Bayfront Area where housing could be placed, compliance with existing local regulations, such as requiring fill to elevate structures above flood level, and compliance with the Federal Emergency Management Agency's (FEMAs) flood regulations, would minimize potential flood impacts. Further, while there is Searsville Reservoir and Felt Lake where dams are located within the city, both of these are not expected to be threats as described in Chapter 4.8. Further, the Bayfront Area is not within either of these dam inundations zones.

Overall, hydrology and water quality impacts under the No Project Alternative would be *similar* when compared to the proposed project.

5.4.2.9 LAND USE AND PLANNING

As described in Chapter 4.9, Land Use and Planning, of this Draft EIR, the proposed project would result in two less-than-significant impacts and two significant-but-mitigatable impacts. Implementation of Mitigation Measure LU-2 would ensure the future projects in Menlo Park are consistent with the City's

General Plan policies. While the proposed project would aim to improve connectivity and would not create physical barriers within existing communities, the No Project Alternative also supports the integration of infill development and does not propose physical features that could divide a community.

Under the No Project Alternative, development would continue to occur throughout the study area under the existing General Plan and zoning code. Similar to the proposed project, future development would generally occur on underdeveloped or underutilized sites and would rely on existing infrastructure. The No Project Alternative also includes goals, policies and actions to promote cohesive neighborhoods included in the proposed project. Like the proposed project, the No Project Alternative does not propose any new major roadways or physical features, or propose development that would conflict with land uses in existing neighborhoods.

The proposed project was found to not conflict with any land use plans adopted for the purpose of avoiding or mitigating an environmental effect. Furthermore, the proposed project was found to be consistent with *Plan Bay Area* as a result of proposed development that is consistent with the one PDA identified in the city, as well as overall infill development, and land use and transportation policies that promote non-vehicular travel. Although the PDA designations are separate from the General Plan and would remain in place under the No Project Alternative, the No Project Alternative lacks a series of new and enhanced transit-oriented development- and circulation-related policies and actions aimed to improve circulation in the Bayfront Area that are included as part of the proposed project.

Further, because development under the No Project Alternative would occur under the previously adopted General Plan and Zoning Code, the enhanced General Plan Land Use and Circulation Elements goals and policies that better promote sustainability and circulation improvements would not be adopted.

Overall, because the No Project Alternative would result in development in the same setting and would be subject to the same existing land use regulations, including Mitigation Measure LU-2, which would ensure the future projects in Menlo Park are consistent with the City's General Plan policies, land use impacts when compared to the proposed project, would be *similar*.

5.4.2.10 NOISE

As described in Chapter 4.10, Noise, of this Draft EIR, the proposed project would result in three less-than-significant impacts and four significant-but-mitigable impacts. Implement Mitigation Measures NOISE-1a, NOISE-1b, NOISE-1c, NOISE-2a, NOISE-2b, and NOISE-4 would reduce noise impacts from construction and operation of future development in the study area.

Future development under the designations of the proposed project would be subject to the standards of the Municipal Code, including those relating to the interface between residential and non-residential land uses. As specific uses are proposed for particular sites, project-level design, permitting, and/or environmental review would serve to ensure that individual uses would comply with the provisions of the noise chapter. The No Project Alternative would also be subject to these applicable standards. Additionally, implement Mitigation Measures NOISE-1a, NOISE-1b, NOISE-1c, NOISE-2a, NOISE-2b, and NOISE-4, which would apply under both scenarios would reduce impacts from future development in the study area.

Similar to the proposed project, future development under this alternative would result in temporary and permanent increases to ambient noise levels attributed to the construction and operation of non-residential and residential land uses; however, the development under both scenarios would be located in already urbanized areas where similar uses already occur. Further, compliance with relevant General Plan Noise (N) Element policies and provisions of the Municipal Code, including those that restrict construction activities to occur during daytime hours, would serve to ensure that noise from construction impacts and stationary noise sources associated with development of new land uses under the No Project Alternative would not result in significant permanent increases in the ambient noise level in the study and vicinity.

There are no areas of Menlo Park which fall within an airport land use plan for any of the airports located in close proximity to the study area, thus, future development under the No Project Alternative and the proposed project would not expose people to excessive aircraft noise levels and impacts would be less than significant. In addition, there are no airstrips within Menlo Park, thus, there would be no impact related to excess noise levels of a private airstrip.

In summary, noise related impact from future development under the No Project Alternative would be *less* than that of the proposed project.

5.4.2.11 POPULATION AND HOUSING

As described in Chapter 4.11, Population and Housing, of this Draft EIR, growth under the proposed project would exceed the ABAG's 2013 projections. However, the General Plan serves as the City's constitution for the physical development of the city, thus, the General Plan goals and policies will provide the framework to adequately plan orderly development under the proposed project and the impact would be less than significant. However, when considered in a regionally cumulative context, impacts were found to be significant and unavoidable until the regional growth projections for the Bay Area are updated.

No new land use designations proposed under the project are located on sites where residential land uses currently exist; thus, no displacement of existing housing units would occur and impacts, including cumulative impacts, would be less than significant. In addition, there are no plans for removal of existing housing under the proposed project; thus, displacement of people would not occur and impacts would be less than significant.

Under the No Project Alternative, future development would continue to occur in the study area under the City's existing General Plan; however, less non-residential and residential development would occur and would not result in hotel development. As shown above in Table 5-1, population and housing growth in the Bayfront Area would be significantly less than anticipated under the proposed project. Because no new development potential would occur under the No Project Alternative, no regional growth would occur where adequately planning has not also occurred.

Overall, the impacts related to population and housing would be *less* than that of the proposed project.

5.4.2.12 PUBLIC SERVICES AND RECREATION

As described in Chapter 4.12, Public Services and Recreation, of this Draft EIR, impacts to fire protection services, police services, parks, schools, and libraries, under the proposed project, were found to be less than significant.

Fire and Police Services

As discussed in Chapter 4.12, Public Services and Recreation, the proposed projects would not require the expansion of the Menlo Park Fire Protection District (MPFPD) facilities; however, when considered in a cumulative setting, the project would contribute to the need for expansion of Station 77. Impacts were found to be less than significant as no plans are available to evaluate potential impacts and once plans are available, the expansion project would be subject to separate environmental review, as needed. Developers of future projects in Menlo Park would be required to pay the MPFPD's developer impact fees under both scenarios; thus, would contribute to the ability of the MPFPD to provide adequate fire protection services. In addition, the proposed project would not require not require the expansion of Menlo Park Police Department (MPPD) facilities. The No Project Alternative would result in fewer residents, and therefore, would result in less demand on the MPFPD and the MPPD. Thus, the impacts under the No Project Alternative would be *less* than the proposed project.

Parks and Recreation Services

The proposed project would not result in substantial adverse physical impacts associated with the provision of or need for new or physically altered parks; would not result in substantial physical deterioration of existing neighborhood and regional parks or other recreational facilities; and would not include or require the construction or expansion of recreational facilities. The No Project Alternative would result in fewer residents; thus fewer primary users of the parks and recreational services, and therefore, the impacts under the No Project Alternative would be *less* than the proposed project.

Schools

Buildout of the No Project Alternative would occur over the course of 24 years, and like the proposed project, would result in a gradual increase in demand for school services. Like development under the proposed project, development under the No Project Alternative would be subject to development impact fees in accordance with the provisions of Senate Bill 50. The payment of development impact fees is deemed to fully mitigate the impacts of new development on school facilities, per California Government Code Section 65995.

In summary, while the No Project Alternative would generate less residential growth and subsequently fewer students, impacts would be still be *similar* when compared to the proposed project given the future development under each scenario would be required to pay development impact fees to fully mitigate impacts to schools.

Libraries

The proposed project would not require the physical expansion of library facilities; however, when considered in a cumulative setting, the project would contribute to the need for expansion of the library. The No Project Alternative would generate fewer residents; thus fewer primary users of the library and fewer demands on library facilities and resources would result. Therefore, impacts to library services would be *less* than the proposed project.

5.4.2.13 TRANSPORTATION AND CIRCULATION

As discussed in Chapter 4.13, Transportation and Circulation, of this Draft EIR, the proposed project would exceed acceptable level of service standards at intersections and roadway segment capacity at roadway segments in the study area even with implementation of mitigation measures TRANS-1a and TRANS-1b. Implementation of Mitigation Measure TRANS-1b would provide the funding by requiring future developers to pay their fair share of the infrastructure necessary to reduce impacts.

As shown in Section 4.13.1.5, 2040 No Project, in Chapter 4.13, implementation of the No Project Alternative would also result in intersections that exceed level of service standards and roadway segments that exceed capacity in the study area (see Table 4.13-9 and 4.12-10). Because Mitigation Measure TRANS-1a and TRANS-1b could also apply to the No Project Alternative, impacts in this regard would be considered similar under both scenarios.

The proposed project includes land uses that balance jobs and housing, and results in a Vehicles Miles Traveled (VMT) per capita of 14 miles, which is lower that the No Project Alternative where the VMT per capita would be 19 miles (see Table 4.13-13). Therefore, impacts related to VMT would be greater under this alternative.

Chapter 4.13 finds that the proposed project would conflict with adopted transportation policies, plans, or programs regarding public transit, and bicycle and pedestrian facilities and requires implementation of Mitigation Measures TRANS-6a through TRANS-6c, which similar to Mitigation Measure TRANS-1b, require the City to secure funding for future improvements that could potentially reduce these impacts. These would also be required under the No Project Alternative. The proposed project contains policies supporting transit; it also includes infrastructure improvements and guiding policies that encourage and anticipate increased transit use. Similarly, the proposed project proposes substantial improvements to pedestrian and bicycle infrastructure. The No Project Alternative would similarly conflict with adopted policies, but it would also lack the infrastructure improvements and guiding policies that support transit, bicycles, and pedestrians that are called for in the proposed project. As described in Chapter 4.9, Land Use and Planning, of this Draft EIR, while many of the goals and policies in the City's current General Plan (No Project) are germane to current conditions, the updates to the Circulation Elements (proposed project) integrate extensive community input on strategies that would be effective in creating the most functional circulation system possible.

Finally, through the City's comprehensive development review process and compliance with City Codes, the proposed project would not cause impacts related to inadequate emergency access and hazards, and it would not result in a change in air traffic patterns. Development allowed under the No Project Alternative would be subject to the same development review process and City Codes, and it would not

impact regional air travel, so emergency access and air traffic pattern impacts would also be similar to those of the proposed project.

Overall, while the No Project Alternative would not include the provisions of the updated Circulation Element, impacts under the No Project Alterative would be *greater* when compared to the proposed project given both scenarios would warrant the same level of improvements to update the circulation system to consider all modes of transportation and the No Project Alterative results in a greater VMT per capita.

5.4.2.14 UTILITIES AND SERVICE SYSTEMS

As described in Chapter 4.13, Utilities and Service Systems, of this Draft EIR, impacts to water, sanitary wastewater, solid waste, stormwater infrastructure, and energy conservation, under the proposed project, were found to be less than significant.

Water

Implementation of the proposed project would have sufficient water supplies from existing entitlements, conservation plans and resources. In addition, the proposed project would not require the construction of new water facilities or expansion of existing facilities on its own, but when considered in a cumulative context, the current water storage facilities need to provide adequate water pressure in the Bayfront Area would be required. Because this is an existing condition, the impact under the No Project Alternative would be the same when compared to the proposed project. Under the No Project Alternative, less non-residential and residential development would occur; thus, impacts to the water supply and infrastructure under the No Project Alternative would be *less* than those of the proposed project.

Wastewater

Wastewater generated from potential future development under the proposed project would not exceed the wastewater treatment requirements or capacity of the SVCW WWTP. In addition, the proposed project would not require the construction of new or expanded wastewater treatment facilities and West Bay Sanitary District (WBSD) has adequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments. Under the No Project Alternative, less non-residential and residential development would occur; thus, impacts related to wastewater under the No Project Alternative would be *less* than those of the proposed project.

Solid Waste

The impacts to adequate landfill capacity under the proposed project were found to be less than significant, but significant-but-mitigable in a cumulative setting. This is due to the fact that the Ox Mountain landfill is near capacity and the proposed project together with the other users of this landfill could result in inadequate landfill capacity. Implementation of Mitigation Measure UTIL-10 would be required under both scenarios, which would reduce the impact to a less-than-significant level. As part of the Zoning update, the proposed project includes green and sustainable building standards in the Bayfront Area that require all applicants to submit a zero-waste management plan to the City. The zero-waste management plan must clearly outline the applicants plan to reduce, recycle, and compost waste from

demolition, construction and occupancy phases of the building. Zero waste is defined as 90 percent overall diversion of non-hazardous waste from landfill and incineration. While these new Zoning standards would not be adopted under the No Project Alternative, the No Project Alternative would result in less non-residential and residential development, and therefore, less solid waste would be generated. Thus, impacts under the No Project Alternative would be *less* than those of the proposed project.

Energy

Implementation of the proposed project would result in a less-than-significant impact related to natural gas and electrical service demands, and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities., The proposed General Plan goals, policies and programs, and Zoning regulations that would increase energy conservation and minimize potential impacts associated with energy us would not be adopted under the No Project Alternative. Specifically, as part of the Zoning update, the proposed project includes green and sustainable building standards in the Bayfront Area. These standards require all new buildings within the Bayfront Area to comply with specific green building requirements for LEED certification, providing outlets for Electric Vehicle charging, on-site renewable energy generation (electrical and natural gas), and enrollment in EPA Energy Star Building Portfolio Manager. However, because the No Project Alternative would result in less non-residential and residential development, and thus, overall less energy use, impacts under the No Project Alternative would be *less* than those of the proposed project.

5.4.3 RELATIONSHIP OF THE ALTERNATIVE TO THE OBJECTIVES

Under the No Project Alternative, the proposed project would not be implemented and therefore, does not meet the intent of the project objectives prepared during the ConnectMenlo process. Specifically, the General Plan goals, policies and programs, and Zoning regulations that serve to improve mobility for all travel modes and directly involve Bayfront Area property owners (as land use changes are expected only in that area) would not be achieved. Also, the No Project Alternative would not establish and achieve the community's vision as determined under the ConnectMenlo process.

5.5 REDUCED NON-RESIDENTIAL INTENSITY ALTERNATIVE

5.5.1 DESCRIPTION

Under the Reduced Non-Residential Intensity Alternative, all non-residential development under the proposed project would be reduced by 50 percent. In addition to the residential development and the 50 percent reduced non-residential development under the proposed project, the Reduced Non-Residential Intensity Alternative would include the ongoing development potential under the existing General Plan. Potential development under the existing General Plan would not be reduced. As shown above in Table 5-1 under the "Reduced Non-Residential Intensity Alternative" column, this alternative would result in 2.9 million square feet of non-residential space, 200 hotel rooms, and 5,500 residential units, which could result in up to 14,150 new residents and 7,150 new jobs. All other components under the proposed project as described under Section 3.7 of Chapter 3, Project Description, of this Draft EIR, would occur,

such as an update to the City's Zoning Ordinance for the Bayfront Area to ensure consistency with the General Plan Update and previously adopted ordinances and policies.

Further, the Reduced Non-Residential Intensity Alternative assumes that the same recommended mitigation measures identified throughout Chapters 4.1 through 4.14 for the proposed project would apply under this alternative.

5.5.2 IMPACT DISCUSSION

The potential environmental impacts associated with the Reduced Non-Residential Intensity Alternative are described below and are compared to the proposed project.

5.5.2.1 AESTHETICS

As described in Chapter 4.1, Aesthetics, of this Draft EIR, the proposed project would result in less than significant impacts and no mitigation measures are required.

The City of Menlo Park does not designate scenic corridors or vistas. Similar to the proposed project, development under the Reduced Non-Residential Intensity Alternative would not block views scenic vistas or scenic corridors. Thus, aesthetic impacts related to these topics would be *similar* to the proposed project.

Development under the proposed project would not degrade the existing visual character or quality of the site and its surrounding. Similar to the proposed project, development under the Reduced Non-Residential Intensity Alternative would be concentrated on locations either already developed and/or underutilized, and/or in close proximity to existing development. Development under the Reduced Non-Residential Intensity Alternative would also be subject to architectural control review or would be required to comply with proposed new design standards in the Bayfront Area to ensure compatibility with adjoining land uses. Thus, aesthetic impacts related to these topics would be *similar* to the proposed project.

Similar to the proposed project, the Reduced Non-Residential Intensity Alternative would result in new lighting sources that could result in sources of glare. New development under the Reduced Non-Residential Intensity Alternative would be required to comply with CAL Green's best management practices and General Plan policies and Municipal Code provisions that ensure new land uses do not generate excessive light levels and reduce light and glare spillover from future development to surrounding land uses. Therefore, it is likely that impacts related to light or glare under the Reduced Non-Residential Intensity Alternative would be *similar* than those under the proposed project.

5.5.2.2 AIR QUALITY

As described in Chapter 4.2, Air Quality, of this Draft EIR, the proposed project would result in three significant and unavoidable impacts even with implementation of Mitigation Measures AQ-2a, AQ-2b1, AQ-2b2, and AQ-5, and two significant impacts that would be mitigated to a less-than-significant level with the implementation of Mitigation Measures AQ-3a and AQ-3b.

ALTERNATIVES TO THE PROPOSED PROJECT

Development under the proposed project would generate a substantial net increase in criteria air pollutant emissions that would exceed the Bay Area Air Quality Management District (BAAQMD) regional significance thresholds. Operational criteria air pollutant emissions would be generated from on-site area sources (e.g., landscaping fuel, consumer products), vehicle trips generated by the proposed project, and energy use (e.g., natural gas used for cooking and heating). Construction emissions associated with individual development projects under the proposed project would generate an increase in criteria air pollutants and Toxic Air Contaminants (TACs). Impacts associated with these effects were found to be significant and unavoidable. In addition, new development allowed under the proposed project such as industrial land uses, chemical processing facilities, chrome-plating facilities, dry cleaners, and gas stations would have the potential to generate substantial stationary sources of emissions and would require a permit from BAAQMD for emissions of TACs. Impacts associated with these effects were found to be less than significant.

As discussed further, under Section 5.5.2.6, Greenhouse Gas Emissions, below, the VMT per capita would be 14 miles under the proposed project (see Table 4.13-13). While development under the Reduced Non-Residential Intensity Alternative would result in less non-residential development but maintain the same level of residential as the proposed project, both scenarios have the potential to better balance the existing land use to job balance in the study area. Accordingly, air quality impacts from VMT under the Reduced Non-Residential Intensity Alternative would be *similar* when compared to the proposed project.

The Reduced Non-Residential Intensity Alternative would allow for a 50 percent reduction of non-residential development in the Bayfront Area. Although development resulting from the Reduced Non-Residential Intensity Alternative would be less intense when compared to the proposed project, it is likely that the operational and construction criteria air pollutant emissions would still generate a substantial net increase in criteria air pollutant emissions. In addition, it is anticipated that the Reduced Non-Residential Intensity Alternative would have the potential to generate substantial stationary sources of emissions requiring a permit from BAAQMD for emissions of TACs. Therefore, the impacts to air quality under the Reduced Non-Residential Intensity Alternative would be *less* than the proposed project.

5.5.2.3 BIOLOGICAL RESOURCES

As discussed in Chapter 4.3, Biological Resources, of this Draft EIR, the proposed project would result in seven significant-but-mitigable impacts and one less-than-significant impact. Implementation of Mitigation Measure BIO-1 would require project-specific baseline biological resources assessments on sites containing natural habitat, which would be required to reduce impacts to biological resources.

Development under the proposed project could result in an impact to special-status species in the study area; however, compliance with Municipal Code Chapters 12.44 and 13.24, and federal and State laws and implementation of the General Plan goals, policies, and programs in the existing Open Space/Conservation, Noise and Safety Element, and proposed Land Use Element, would reduce potential impacts to a less-than-significant level. Similarly, compliance with existing Open Space/Conservation, Noise and Safety Element policies would ensure that development under the proposed project would not conflict with any local plans or policies and reduce any potential impacts to sensitive natural communities, federally protected wetlands, sensitive wildlife movement corridors, and cumulative impacts to a less-than-significant level.

Future development under the Reduced Non-Residential Intensity Alternative would also need to comply with existing Open Space/Conservation, Noise and Safety Element policies, therefore potential impacts to sensitive natural communities, federally protected wetlands, sensitive wildlife movement corridors, and cumulative impacts would similar to the proposed project. In addition, development under the Reduced Non-Residential Intensity Alternative would need to comply with proposed policies in the Land Use Element in addition to Municipal Code Chapters 12.44 and 13.24, and federal and State laws in order to the impacts to special-status species in the study area. Thus, impacts to sensitive natural communities would be similar under the Reduced Non-Residential Intensity Alternative.

Overall, impacts to biological resources under the Reduced Non-Residential Intensity Alternative would be *less* when compared to the proposed project.

5.5.2.4 CULTURAL RESOURCES

As described in Chapter 4.4, Cultural Resources, of this Draft EIR, the proposed project would result in six significant-but-mitigable impacts. Implementation of Mitigation Measures CULT-1, CULT-2a, CULT-2b, CULT-3, and CULT-4 would reduce impact related to historical, archeological, paleontological, human remains, and tribal cultural resources.

Under the Reduced Non-Residential Intensity Alternative, future development in the study area would continue to occur, but would be less intense than the proposed project. Similar to the proposed project, development under this alternative would involve ground-disturbing activities during construction of future structures which could affect cultural resources. Similar to the proposed project, future development under the Reduced Non-Residential Intensity Alternative would be subject to existing federal, State, and local regulations laws to protect cultural resources, which would generally ensure less-than-significant impacts to cultural resources. In addition, under this alternative, Mitigation Measures CULT-1, CULT-2a, CULT-2b, CULT-3, and CULT-4 as recommended under the proposed project, would also be required under this alternative.

Future development under the Reduced Non-Residential Intensity Alternative would need to comply with federal and State laws, the Zoning Ordinance, the General Plan goals, policies, and programs in the existing Open Space/Conservation, Noise and Safety Element, therefore potential impacts to buried archaeological deposits, geological features, human remains, tribal cultural resources, and architectural resources, under the Reduced Non-Residential Intensity Alternative would be *similar* to the proposed project.

5.5.2.5 GEOLOGY, SOILS, AND SEISMICITY

As described in Chapter 4.5, Geology, Soils, and Seismicity, of this Draft EIR, the proposed project would result in less-than-significant impacts.

Under the Reduced Non-Residential Intensity Alternative, future development would result in less non-residential but the same amount of residential development, thereby reducing potential new development that would occur within the study area compared to the proposed project. As such, fewer structures would be subject to the potential for damage from soil/geologic conditions, liquefaction, lateral spreading, or other geologic instabilities. However, future development under both the Reduced Non-

Residential Intensity Alternative and proposed project would be subject to the same erosion control measures as specified in the City of Menlo Park Engineering Division's Grading and Drainage Control Guidelines, as well as the California Building Code (CBC) regulations relating to seismic safety, which would address and prevent hazards associated with geology, soils, and seismicity.

Although the Reduced Non-Residential Intensity Alternative would result in less non-residential development, compliance with existing regulations related to geologic and seismic safety would apply similarly to both future development under the Reduced Non-Residential Intensity Alternative and the proposed project; therefore, would result in *similar* impacts when compared to the proposed project.

5.5.2.6 GREENHOUSE GAS EMISSIONS

As described in Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR, the proposed project would result in two significant and unavoidable impacts with implementation of Mitigation Measure GHG-1.

Development under the proposed project would generate a substantial increase in GHG emissions resulting in a significant impact. The proposed project would be consistent with the *Plan Bay Area* and the City's CAP; however, additional state and federal measures are necessary to achieve the aggressive targets established for 2050 in Executive Order S-03-05. Therefore, the impact would be significant. Mitigation Measure GHG-1 would ensure that the City updates the CAP to identify a post-2020 GHG reduction goal to align with the upcoming CARB Scoping Plan Update for statewide 2030 GHG emissions reductions target and identify a GHG reduction goal for the proposed project horizon year. However, at this time there are no post-2020 federal and state measures that would assist the City in achieving the efficiency target at the proposed project year. Therefore, the impacts in this respect would remain significant and unavoidable.

The proposed project includes land uses that balance jobs and housing, and results in a Vehicles Miles Traveled (VMT) per capita of 14 miles, which is lower that the No Project Alternative where the VMT per capita would be 19 miles (see Table 4.13-13). This is generally due to the existing imbalance in types of land use. As previously described, the VMT estimates in the City/County Association of Governments of San Mateo County (C/CAG) model are sensitive to changes in land use. Generally, land uses that reflect a more balanced jobs-housing ratio in the C/CAG model result in lower per capita VMT. Reducing only one type of land uses would potentially off-set the land use balance and therefore, result in greater VMT. However, because the Reduced Non-Residential Intensity Alternative continues the same level of residential development as the proposed project, yet reduces the non-residential component, this shift continues to improve the existing imbalance; thus, theoretically improving VMT. Furthermore, the proposed goals, policies, and a programs of the Land Use (LU) and Circulation (CIRC) Elements that would require local planning and development decisions to consider impacts to GHG and proposed Zoning regulations that would promote the creation of a live/work/play environment with travel patterns that are oriented toward pedestrian, transit, and bicycle use, including identifying public paseos to improve connectivity on the Zoning map, and the requirement to prepare Transportation Demand Management (TDM) Plans to reduce trip generation by 20 percent below standard use rates, would be adopted under the this alternative.

Future development under the Reduced Non-Residential Intensity Alternative would result in 50 percent less non-residential square footage, hotel rooms, and subsequently, employees, and could reduce VMT. Therefore, the impacts related to GHG emissions could be *less* than those of the proposed project.

5.5.2.7 HAZARDS AND HAZARDOUS MATERIALS

As discussed in Chapter 4.7, Hazards and Hazardous Materials, of this Draft EIR, the proposed project would result in six less-than-significant impacts, two significant-but-mitigable impacts, and one no impact conclusion. Implementation of Mitigation Measures HAZ-4a and HAZ-4b would reduce impacts related to sites with known hazardous materials.

As described in Chapter 4.7, the study area contains leaking underground storage tanks (LUST), as well as several locations that are listed under the Spills, Leaks, Investigation, and Cleanups (SLIC) Program, which investigates and regulates non-permitted discharges, also have been identified within the study area. However, the SLIC sites are found mostly in the downtown area and the northeastern portion of the study area, and most of these sites are listed as "Completed-Case Closed," with some of the sites still open undergoing site assessment, remediation action, or verification monitoring of remediation action.

Future development under the Reduced Non-Residential Intensity Alternative and the proposed project that involves the handling, transport, use, or disposal of hazardous materials would be regulated pursuant to federal, State, and local laws. In addition, although the study area is located approximately 2 miles from Palo Alto Airport, no portions of the city are within the airport land use compatibility zones established by the Palo Alto Airport Comprehensive Land Use Plan. Further, the study area is located more than 2 miles from the San Carlos Airport; therefore, future development under both scenarios would not result in any airport hazards. As a result, future development under the Reduced Non-Residential Intensity Alternative would not interfere with the use of the public or private use of nearby airports nor would future development expose people to hazards or risks related to airport use.

Overall, while the Reduced Non-Residential Intensity Alternative would result in less non-residential development, compliance with existing federal, State, and local regulations related to the safe use, handling, disposal, transport, and generation of hazardous materials, would ensure that potential impacts related to hazards and hazardous materials be minimized. In addition, HAZ-4a and HAZ-4b would be required under both scenarios to reduce impacts to sites with known hazardous materials.

Given that development under the Reduced Non-Residential Intensity Alternative would result in a 50 percent reduction in non-residential development, impacts would be *less* than the proposed project.

5.5.2.8 HYDROLOGY AND WATER QUALITY

As described in Chapter 4.8, Hydrology and Water Quality, of this Draft EIR, the proposed project would result in less-than-significant impacts.

Although the Reduced Non-Residential Intensity Alternative would result in less non-residential development, future development would occur within previously urbanized areas and would be subject to the same existing federal, State, and local regulations relating to hydrology and water quality, similar to

the proposed project. Compliance with existing regulations would ensure that pre- and post-construction impacts to water quality be minimized as future development occurs.

As described in Chapter 4.8, Hydrology and Water Quality, of this Draft EIR, some dewatering of groundwater could occur during construction of future development in the Bayfront Area; however, would be at a shallow level where water supplies aren't drawn from. In addition, because future development under the Reduced Non-Residential Intensity Alternative would occur primarily within already urbanized areas, development would connect to existing drainage systems already in place.

Although there are 100-year flood zones within the Bayfront Area where housing could be placed, compliance with existing local regulations, such as requiring fill to elevate structures above flood level, and compliance with the Federal Emergency Management Agency's (FEMAs) flood regulations, would minimize potential flood impacts. Furthermore, while there is Searsville Reservoir and Felt Lake where dams are located within the city, both of these are not expected to be threats as described in Chapter 4.8. Also, the Bayfront Area is not within either of these dam inundations zones.

Overall, hydrology and water quality impacts under the Reduced Non-Residential Intensity Alternative would be *similar* when compared to the proposed project.

5.5.2.9 LAND USE AND PLANNING

As described in Chapter 4.9, Land Use and Planning, of this Draft EIR, the proposed project would result in two less-than-significant impacts and two significant-but-mitigatable impacts. Implementation of Mitigation Measure LU-2 would ensure the future projects in Menlo Park are consistent with the City's General Plan policies. While the proposed project would aim to improve connectivity and would not create physical barriers within existing communities, the Reduced Non-Residential Intensity Alternative also supports the integration of infill development and does not propose physical features that could divide a community.

Development under the proposed project would be required to be consistent with the General Plan polices and Zoning Ordinance that promote cohesive and compatible neighborhoods and prevent new development from dividing existing uses where different land uses abut one another. The proposed project, and accordingly, the Reduced Non-Residential Intensity Alternative by location, would not conflict with and adopted habitat conservation plans or natural community conservation plans within the Menlo Park.

The proposed project was found to not conflict with any land use plans adopted for the purpose of avoiding or mitigating an environmental effect. Furthermore, the proposed project was found to be consistent with *Plan Bay Area* as a result of proposed development that is consistent with the one PDA identified in the city, as well as overall infill development, and land use and transportation policies that promote non-vehicular travel.

Overall, because the Reduced Non-Residential Intensity Alternative would result in development in the same setting and would be subject to the same existing land use regulations, including Mitigation Measure LU-2, which would ensure the future projects in Menlo Park are consistent with the City's General Plan policies, land use impacts when compared to the proposed project, would be *similar*.

5.5.2.10 NOISE

As described in Chapter 4.10, Noise, of this Draft EIR, the proposed project would result in three less-than-significant impacts and four significant-but-mitigable impacts. Implement Mitigation Measures NOISE-1a, NOISE-1b, NOISE-1c, NOISE-2a, NOISE-2b, and NOISE-4 would reduce noise impacts from construction and operation of future development in the study area.

Future development under the designations of the proposed project would be subject to the standards of the Municipal Code, including those relating to the interface between residential and non-residential land uses. As specific uses are proposed for particular sites, project-level design, permitting, and/or environmental review would serve to ensure that individual uses would comply with the provisions of the noise chapter. Development under the Reduced Non-Residential Intensity Alternative would also be subject to these applicable standards. Additionally, implement Mitigation Measures NOISE-1a, NOISE-1b, NOISE-1c, NOISE-2a, NOISE-2b, and NOISE-4, which would apply under both scenarios would reduce impacts from future development in the study area.

Similar to the proposed project, future development under this alternative would result in temporary and permanent increases to ambient noise levels attributed to the construction and operation of non-residential and residential land uses; however, the development under both scenarios would be located in already urbanized areas where similar uses already occur. Further, compliance with relevant General Plan Noise (N) Element policies and provisions of the Municipal Code, including those that restrict construction activities to occur during daytime hours, would serve to ensure that noise from construction impacts and stationary noise sources associated with development of new land uses under the Reduced Non-Residential Intensity Alternative would not result in significant permanent increases in the ambient noise level in the study and vicinity.

There are no areas of Menlo Park which fall within an airport land use plan for any of the airports located in close proximity to the study area, thus, future development under the Reduced Non-Residential Intensity Alternative and the proposed project would not expose people to excessive aircraft noise levels and impacts would be less than significant. In addition, there are no airstrips within Menlo Park, thus, there would be no impact related to excess noise levels of a private airstrip.

The Reduced Non-Residential Intensity Alternative would result in a 50 percent reduction of non-residential development in the Bayfront Area and would be subject to the same regulatory setting as the proposed project. Therefore, the impacts related to noise would be *less* when compared to the proposed project.

5.5.2.11 POPULATION AND HOUSING

As described in Chapter 4.11, Population and Housing, of this Draft EIR, growth under the proposed project would exceed the ABAG's 2013 projections. However, the General Plan serves as the City's constitution for the physical development of the city, thus, the General Plan goals and policies will provide the framework to adequately plan orderly development under the proposed project and the impact would be less than significant. However, when considered in a regionally cumulative context, impacts were found to be significant and unavoidable until the regional growth projections for the Bay Area are updated. Under the Reduced Non-Residential Intensity Alternative, while the employment projections

would be reduced, the proposed residential buildout would be the same as the proposed project; therefore, impacts would be similar with respect to regional growth projections.

No new land use designations proposed under the project, or under the Reduced Non-Residential Intensity Alternative, are located on sites where residential land uses currently exist; thus, no displacement of existing housing units would occur. In addition, there are no plans for removal of existing housing under either scenario; thus, the displacement of people would not occur and impacts would be less than significant.

The Reduced Non-Residential Intensity Alternative would result in a 50 percent reduction of non-residential development in the Bayfront Area. In addition to the development under Reduced Non-Residential Intensity Alternative, the development potential under the General Plan would be carried forward to the 2040 horizon year. Thus, the same amount of residential development is anticipated under the Reduced Non-Residential Intensity Alternative. Therefore, impacts related to population and housing would be *similar* than the proposed project.

5.5.2.12 PUBLIC SERVICES AND RECREATION

As described in Chapter 4.12, Public Services and Recreation, of this Draft EIR, impacts to fire protection services, police services, parks, schools, and libraries, under the proposed project, were found to be less than significant.

Fire and Police Services

As discussed in Chapter 4.12, Public Services and Recreation, the proposed projects would not require the expansion of the Menlo Park Fire Protection District (MPFPD) facilities; however, when considered in a cumulative setting, the project would contribute to the need for expansion of Station 77. Impacts were found to be less than significant as no plans are available to evaluate potential impacts; however, once plans are available, the expansion project would be subject to separate environmental review, as needed. Developers of future projects in Menlo Park would be required to pay the MPFPD's developer impact fees under both scenarios; thus, would contribute to the ability of the MPFPD to provide adequate fire protection services. In addition, the proposed project would not require not require the expansion of Menlo Park Police Department (MPPD) facilities. The Reduced Non-Residential Intensity Alternative would result in fewer non-residential land uses, but the same amount of residential development, and therefore, would result in less demand on the MPFPD and the MPPD. Thus, the impacts under the Reduced Non-Residential Intensity Alternative would be *less* than the proposed project.

Parks and Recreation Services

The proposed project would not result in substantial adverse physical impacts associated with the provision of or need for new or physically altered parks; would not result in substantial physical deterioration of existing neighborhood and regional parks or other recreational facilities; and would not include or require the construction or expansion of recreational facilities. The Reduced Non-Residential Intensity Alternative would result in the same number of residents as the proposed project; thus, the same number of primary users of the parks and recreational services. Accordingly, the impacts under the Reduced Non-Residential Intensity Alternative would be *similar* to those of the proposed project.

Schools

Buildout of the Reduced Non-Residential Intensity Alternative would occur over the course of 24 years, and like the proposed project, would result in a gradual increase in demand for school services with the same amount of students. Like development under the proposed project, development under the Reduced Non-Residential Intensity Alternative would be subject to development impact fees in accordance with the provisions of Senate Bill 50. The payment of development impact fees is deemed to fully mitigate the impacts of new development on school facilities, per California Government Code Section 65995.

In summary, while the Reduced Non-Residential Intensity Alternative would generate less residential growth and subsequently fewer students, impacts would be still be *similar* when compared to the proposed project given the future development under each scenario would be required to pay development impact fees to fully mitigate impacts to schools.

Libraries

The proposed project would not require the physical expansion of library facilities; however, when considered in a cumulative setting, the proposed project would contribute to the need for expansion of the library. The Reduced Non-Residential Intensity Alternative would generate the same number of residents as the proposed project; thus, the same number of primary users of the library and the same demands on library facilities and resources would result. Therefore, impacts to library services would be *similar* than the proposed project.

5.5.2.13 TRANSPORTATION AND CIRCULATION

As discussed in Chapter 4.13, Transportation and Circulation, of this Draft EIR, the proposed project would exceed acceptable level of service standards at intersections and roadway segment capacity at roadway segments in the study area even with implementation of mitigation measures TRANS-1a and TRANS-1b. Implementation of Mitigation Measure TRANS-1b would provide the funding by requiring future developers to pay their fair share of the infrastructure necessary to reduce impacts. Because Mitigation Measure TRANS-1a and TRANS-1b could also apply to the Reduced Non-Residential Intensity Alternative, impacts in this regard would be considered similar under both scenarios.

The proposed project includes a land use to job balance that results in a Vehicles Miles Traveled (VMT) per capita of 14 miles. The VMT estimates are sensitive to changes in land use. Generally, land uses that reflect a more balanced jobs-housing ratio result in lower per capita VMT; therefore, while no model runs have been prepared for this alternative, it is likely the VMT would be further reduced under the Reduced Non-Residential Intensity Alternative due the additional housing under this alternative to help support correcting this imbalance. See Section 5.5.2.6, Greenhouse Gas Emissions, above.

Chapter 4.13 finds that the proposed project would conflict with adopted transportation policies, plans, or programs regarding public transit, and bicycle and pedestrian facilities and requires implementation of Mitigation Measures TRANS-6a through TRANS-6c, which similar to Mitigation Measure TRANS-1b, require the City to secure funding for future improvements that could potentially reduce these impacts. These would also be required under the Reduced Non-Residential Intensity Alternative. The proposed project

contains policies supporting transit; it also includes infrastructure improvements and guiding policies that encourage and anticipate increased transit use. Similarly, the proposed project proposes substantial improvements to pedestrian and bicycle infrastructure. The Reduced Non-Residential Intensity Alternative would similarly conflict with adopted policies, and would also include the infrastructure improvements and guiding policies that support transit, bicycles, and pedestrians that are called for in the proposed project. Therefore, impacts to alternative modes of transportation would be similar under both scenarios.

Finally, through the City's comprehensive development review process and compliance with City Codes, the proposed project would not cause impacts related to inadequate emergency access and hazards, and it would not result in a change in air traffic patterns. Development allowed under the Reduced Non-Residential Intensity Alternative would be subject to the same development review process and City Codes, and it would not impact regional air travel, so emergency access and air traffic pattern impacts would also be similar to those of the proposed project.

Overall, because the Reduced Non-Residential Intensity Alternative would include the provisions of the updated Circulation Element, but with less non-residential development yet the same level of residential development, which could help to correct the existing land use imbalance, impacts under the Reduced Non-Residential Intensity Alternative would be *less* when compared to the proposed project.

5.5.2.14 UTILITIES AND SERVICE SYSTEMS

As described in Chapter 4.13, Utilities and Service Systems, of this Draft EIR, impacts to water, sanitary wastewater, solid waste, stormwater infrastructure, and energy conservation, under the proposed project, were found to be less than significant.

Water

Implementation of the proposed project would have sufficient water supplies from existing entitlements, conservation plans and resources. In addition, the proposed project would not require the construction of new water facilities or expansion of existing facilities on its own, but when considered in a cumulative context, the current water storage facilities need to provide adequate water pressure in the Bayfront Area would be required. Because this is an existing condition, the impact under the Reduced Non-Residential Intensity Alternative would be the same when compared to the proposed project. Under the Reduced Non-Residential Intensity Alternative, less non-residential would occur; thus, impacts to the water supply and infrastructure under the Reduced Non-Residential Intensity Alternative would be *less* than those of the proposed project.

Wastewater

Wastewater generated from potential future development under the proposed project would not exceed the wastewater treatment requirements or capacity of the SVCW WWTP. In addition, the proposed project would not require the construction of new or expanded wastewater treatment facilities and West Bay Sanitary District (WBSD) has adequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments. Under the Reduced Non-Residential Intensity Alternative, 50 percent less non-residential would occur; thus, impacts related to wastewater under the Reduced Non-Residential Intensity Alternative would be *less* than those of the proposed project.

Solid Waste

The impacts to adequate landfill capacity under the proposed project were found to be less than significant, and significant-but-mitigable in a cumulative setting. This is due to the fact that the Ox Mountain landfill is near capacity and the proposed project together with the other users of this landfill could result in inadequate landfill capacity. Implementation of Mitigation Measure UTIL-10 would be required under both scenarios, which would reduce the impact to a less-than-significant level. The Reduced Non-Residential Intensity Alternative would result in 50 percent less non-residential, and therefore, less solid waste would be generated. Thus, impacts under the Reduced Non-Residential Intensity Alternative would be *less* than those of the proposed project.

Energy

Implementation of the proposed project would result in a less-than-significant impact related to natural gas and electrical service demands, and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities. The Reduced Non-Residential Intensity Alternative would result in 50 percent less non-residential. Thus, impacts under the Reduced Non-Residential Intensity Alternative would be *less* than those of the proposed project.

5.5.3 RELATIONSHIP OF THE ALTERNATIVE TO THE OBJECTIVES

Under the Reduced Non-Residential Intensity Alternative the total number of non-residential square footage, hotel rooms, and employees would be 50 percent less than anticipated under the proposed project. Because this alternative would only result in a 50 percent reduction of non-residential development, the Reduced Non-Residential Intensity Alternative would generally meet all of the project objectives. However, it is unlikely that this alternative would realize the full economic and revenue potential objective set forth by the proposed project.

5.6 REDUCED INTENSITY ALTERNATIVE

5.6.1 DESCRIPTION

Under the Reduced Intensity Alternative, the net new development in the Bayfront Area under the proposed project would be reduced by 25 percent. Potential development under the existing General Plan would not be reduced. As shown above in Table 5-1 under the “Reduced Intensity Alternative” column, this alternative would result in 3.5 million square feet of non-residential space, 300 hotel rooms, and 4,375 residential units, which could generate up to 11,258 new residents and 8,525 new jobs. All other components proposed by the proposed project as described under Section 3.7 of Chapter 3, Project Description, of this Draft EIR, would occur, such as an update to the City’s Zoning Ordinance for the Bayfront Area to ensure consistency with the General Plan Update and previously adopted ordinances and policies.

Further, the Reduced Intensity Alternative assumes that the same recommended mitigation measures identified throughout Chapters 4.1 through 4.14 for the proposed project would apply under this alternative

5.6.2 IMPACT DISCUSSION

The potential environmental impacts associated with the Reduced Intensity Alternative are described below and are compared to the proposed project.

5.6.2.1 AESTHETICS

As described in Chapter 4.1, Aesthetics, of this Draft EIR, the proposed project would result in less than significant impacts and no mitigation measures are required.

The City of Menlo Park does not designate scenic corridors or vistas. Similar to the proposed project, development under the Reduced Intensity Alternative would not block views scenic vistas or scenic corridors. Thus, aesthetic impacts related to these topics would be *similar* to the proposed project.

Development under the proposed project would not degrade the existing visual character or quality of the site and its surrounding. Similar to the proposed project, development under the Reduced Intensity Alternative would be concentrated on locations either already developed and/or underutilized, and/or in close proximity to existing development. Development under the Reduced Intensity Alternative would also be subject to architectural control review or would be required to comply with enumerated design standards and the proposed design standards that would be applicable to the proposed Bayfront Area Zoning district's to ensure compatibility with adjoining land uses. Thus, aesthetic impacts related to these topics would be *similar* to the proposed project.

Similar to the proposed project, the Reduced Intensity Alternative would result in new lighting sources that could result in sources of glare. New development under the Reduced Intensity Alternative would be required to comply with CAL Green's best management practices and General Plan policies and Municipal Code provisions that ensure new land uses do not generate excessive light levels and reduce light and glare spillover from future development to surrounding land uses. Therefore, impacts related to light or glare under the Reduced Intensity Alternative would be *similar* than those under the proposed project.

5.6.2.2 AIR QUALITY

As described in Chapter 4.2, Air Quality, of this Draft EIR, the proposed project would result in three significant and unavoidable impacts even with implementation of Mitigation Measures AQ-2a, AQ-2b1, AQ-2b2, and AQ-5, and two significant impacts that would be mitigated to a less-than-significant level with the implementation of Mitigation Measures AQ-3a and AQ-3b.

Development under the proposed project would generate a substantial net increase in criteria air pollutant emissions that would exceed the Bay Area Air Quality Management District (BAAQMD) regional significance thresholds. Operational criteria air pollutant emissions would be generated from on-site area sources (e.g., landscaping fuel, consumer products), vehicle trips generated by the proposed project, and energy use (e.g., natural gas used for cooking and heating). Construction emissions associated with

individual development projects under the proposed project would generate an increase in criteria air pollutants and Toxic Air Contaminants (TACs). Impacts associated with these effects were found to be significant and unavoidable. In addition, new development allowed under the proposed project such as industrial land uses, chemical processing facilities, chrome-plating facilities, dry cleaners, and gas stations would have the potential to generate substantial stationary sources of emissions and would require a permit from BAAQMD for emissions of TACs. Impacts associated with these effects were found to be less than significant.

As discussed further, under Section 5.6.2.6, Greenhouse Gas Emissions, below, the VMT per capita would be 14 miles under the proposed project (see Table 4.13-13). While development under the Reduced Intensity Alternative would result in 25 percent less non-residential and residential development from that of the proposed project, the Reduced Intensity scenarios have the potential to exacerbate the current imbalance the existing land use to job balance in the study area. Accordingly, air quality impacts from VMT under the Reduced Intensity Alternative would be greater when compared to the proposed project.

The Reduced Intensity Alternative would allow for a 25 percent reduction of residential and non-residential development in the Bayfront Area. Although development resulting from the Reduced Intensity Alternative would be less intense when compared to the proposed project, it is likely that the operational and construction criteria air pollutant emissions would still generate a substantial net increase in criteria air pollutant emissions. In addition, it is anticipated that the Reduced Intensity Alternative would have the potential to generate substantial stationary sources of emissions requiring a permit from BAAQMD for emissions of TACs.

Therefore, because the overall development potential is less than the proposed project, the impacts to air quality under the Reduced Intensity Alternative would also be *less* than the proposed project.

5.6.2.3 BIOLOGICAL RESOURCES

As discussed in Chapter 4.3, Biological Resources, of this Draft EIR, the proposed project would result in seven significant-but-mitigable impacts and one less-than-significant impact. Implementation of Mitigation Measure BIO-1 would require project-specific baseline biological resources assessments on sites containing natural habitat, which would be required to reduce impacts to biological resources.

Development under the proposed project could result in an impact to special-status species in the study area; however, compliance with Municipal Code Chapters 12.44 and 13.24, and federal and State laws and implementation of the General Plan goals, policies, and programs in the existing Open Space/Conservation, Noise and Safety Element, and proposed Land Use Element, would reduce potential impacts to a less-than-significant level. Similarly, compliance with existing Open Space/Conservation, Noise and Safety Element policies would ensure that development under the proposed project would not conflict with any local plans or policies and reduce any potential impacts to sensitive natural communities, federally protected wetlands, sensitive wildlife movement corridors, and cumulative impacts to a less-than-significant level.

Future development under the Reduced Intensity Alternative would also need to comply with existing Open Space/Conservation, Noise and Safety Element policies, therefore potential impacts to sensitive natural communities, federally protected wetlands, sensitive wildlife movement corridors, and cumulative

impacts would similar to the proposed project. In addition, development under the Reduced Intensity Alternative would need to comply with proposed policies in the Land Use Element in addition to Municipal Code Chapters 12.44 and 13.24, and federal and State laws in order to the impacts to special-status species in the study area. Thus, impacts to sensitive natural communities would be *similar* under the Reduced Intensity Alternative.

Overall, impacts to biological resources under the Reduced Intensity Alternative would be *less* when compared to the proposed project.

5.6.2.4 CULTURAL RESOURCES

As described in Chapter 4.4, Cultural Resources, of this Draft EIR, the proposed project would result in six significant-but-mitigable impacts. Implementation of Mitigation Measures CULT-1, CULT-2a, CULT-2b, CULT-3, and CULT-4 would reduce impact related to historical, archeological, paleontological, human remains, and tribal cultural resources.

Under the Reduced Intensity Alternative, future development in the study area would continue to occur, but would be less intense than the proposed project. Similar to the proposed project, development under this alternative would involve ground-disturbing activities during construction of future structures which could affect cultural resources. Similar to the proposed project, future development under the Reduced Intensity Alternative would be subject to existing federal, State, and local regulations laws to protect cultural resources, which would generally ensure less-than-significant impacts to cultural resources. In addition, under this alternative, Mitigation Measures CULT-1, CULT-2a, CULT-2b, CULT-3, and CULT-4 as recommended under the proposed project, would also be required under this alternative.

Future development under the Reduced Intensity Alternative would need to comply with federal and State laws, the Zoning Ordinance, the General Plan goals, policies, and programs in the existing Open Space/Conservation, Noise and Safety Element, therefore potential impacts to buried archaeological deposits, geological features, human remains, tribal cultural resources, and architectural resources, under the Reduced Intensity Alternative would be *similar* to the proposed project.

5.6.2.5 GEOLOGY, SOILS, AND SEISMICITY

As described in Chapter 4.5, Geology, Soils, and Seismicity, of this Draft EIR, the proposed project would result in less-than-significant impacts.

Under the Reduced Intensity Alternative, future development would result in 25 percent less residential and non-residential development, thereby reducing potential new development that would occur within the study area compared to the proposed project. As such, fewer structures would be subject to the potential for damage from soil/geologic conditions, liquefaction, lateral spreading, or other geologic instabilities. However, future development under both the Reduced Intensity Alternative and proposed project would be subject to the same erosion control measures as specified in the City of Menlo Park Engineering Division's Grading and Drainage Control Guidelines, as well as the California Building Code (CBC) regulations relating to seismic safety, which would address and prevent hazards associated with geology, soils, and seismicity.

Although the Reduced Intensity Alternative would result in 25 percent less residential and non-residential development, compliance with existing regulations related to geologic and seismic safety would apply similarly to both future development under the Reduced Intensity Alternative and the proposed project; therefore, would result in *similar* impacts when compared to the proposed project.

5.6.2.6 GREENHOUSE GAS EMISSIONS

As described in Chapter 4.6, Greenhouse Gas Emissions, of this Draft EIR, the proposed project would result in two significant and unavoidable impacts with implementation of Mitigation Measure GHG-1.

Development under the proposed project would generate a substantial increase in GHG emissions resulting in a significant impact. The proposed project would be consistent with the *Plan Bay Area* and the City's CAP; however, additional state and federal measures are necessary to achieve the aggressive targets established for 2050 in Executive Order S-03-05. Therefore, the impact would be significant. Mitigation Measure GHG-1 would ensure that the City updates the CAP to identify a post-2020 GHG reduction goal to align with the upcoming CARB Scoping Plan Update for statewide 2030 GHG emissions reductions target and identify a GHG reduction goal for the proposed project horizon year. However, at this time there are no post-2020 federal and state measures that would assist the City in achieving the efficiency target at the proposed project year. Therefore, the impacts in this respect would remain significant and unavoidable.

The proposed project includes land uses that balance jobs and housing, and results in a Vehicles Miles Traveled (VMT) per capita of 14 miles, which is lower that the No Project Alternative where the VMT per capita would be 19 miles (see Table 4.13-13). This is generally due to the existing imbalance in types of land use. As previously described, the VMT estimates in the City/County Association of Governments of San Mateo County (C/CAG) model are sensitive to changes in land use. Generally, land uses that reflect a more balanced jobs-housing ratio in the C/CAG model result in lower per capita VMT. Reducing both residential and non-residential land uses equally maintains the same imbalance, which would result in greater VMT similar to the No Project scenario.

The proposed goals, policies, and a programs of the Land Use (LU) and Circulation (CIRC) Elements that would require local planning and development decisions to consider impacts to GHG and proposed Zoning regulations that would promote the creation of a live/work/play environment with travel patterns that are oriented toward pedestrian, transit, and bicycle use, including identifying public paseos to improve connectivity on the Zoning map, and the requirement to prepare Transportation Demand Management (TDM) Plans to reduce trip generation by 20 percent below standard use rates, would be adopted under the this alternative.

While, future development under the Reduced Intensity Alternative would result in 25 percent less residential and non-residential development, because VMT would not necessarily be reduced with an even land use reduction, GHG emissions impacts are considered *similar* to those of the proposed project.

5.6.2.7 HAZARDS AND HAZARDOUS MATERIALS

As discussed in Chapter 4.7, Hazards and Hazardous Materials, of this Draft EIR, the proposed project would result in six less-than-significant impacts, two significant-but-mitigable impacts, and one no impact

conclusion. Implementation of Mitigation Measures HAZ-4a and HAZ-4b would reduce impacts related to sites with known hazardous materials.

As described in Chapter 4.7, the study area contains leaking underground storage tanks (LUST), as well as several locations that are listed under the Spills, Leaks, Investigation, and Cleanups (SLIC) Program, which investigates and regulates non-permitted discharges, also have been identified within the study area. However, the SLIC sites are found mostly in the downtown area and the northeastern portion of the study area, and most of these sites are listed as "Completed-Case Closed," with some of the sites still open undergoing site assessment, remediation action, or verification monitoring of remediation action.

Future development under the Reduced Intensity Alternative and the proposed project that involves the handling, transport, use, or disposal of hazardous materials would be regulated pursuant to federal, State, and local laws. In addition, although the study area is located approximately 2 miles from Palo Alto Airport, no portions of the city are within the airport land use compatibility zones established by the Palo Alto Airport Comprehensive Land Use Plan. Further, the study area is located more than 2 miles from the San Carlos Airport; therefore, future development under both scenarios would not result in any airport hazards. As a result, future development under the Reduced Intensity Alternative would not interfere with the use of the public or private use of nearby airports nor would future development expose people to hazards or risks related to airport use.

Overall, while the Reduced Intensity Alternative would result in less non-residential development, compliance with existing federal, State, and local regulations related to the safe use, handling, disposal, transport, and generation of hazardous materials, would ensure that potential impacts related to hazards and hazardous materials be minimized. In addition, HAZ-4a and HAZ-4b would be required under both scenarios to reduce impacts to sites with known hazardous materials.

Given that development under the Reduced Intensity Alternative would result in a 25 percent reduction in residential and non-residential development, impacts would be *less* than the proposed project.

5.6.2.8 HYDROLOGY AND WATER QUALITY

As described in Chapter 4.8, Hydrology and Water Quality, of this Draft EIR, the proposed project would result in less-than-significant impacts.

Although the Reduced Intensity Alternative would result in 25 percent less residential and non-residential development, future development would occur within previously urbanized areas and would be subject to the same existing federal, State, and local regulations relating to hydrology and water quality, similar to the proposed project. Compliance with existing regulations would ensure that pre- and post-construction impacts to water quality be minimized as future development occurs.

As described in Chapter 4.8, Hydrology and Water Quality, of this Draft EIR, some dewatering of groundwater could occur during construction of future development in the Bayfront Area; however, would be at a shallow level where water supplies aren't drawn from. In addition, because future development under the Reduced Intensity Alternative would occur primarily within already urbanized areas, development would connect to existing drainage systems already in place.

Although there are 100-year flood zones within the Bayfront Area where housing could be placed, compliance with existing local regulations, such as requiring fill to elevate structures above flood level, and compliance with the Federal Emergency Management Agency's (FEMAs) flood regulations, would minimize potential flood impacts. Furthermore, while there is Searsville Reservoir and Felt Lake where dams are located within the city, both of these are not expected to be threats as described in Chapter 4.8. Also, the Bayfront Area is not within either of these dam inundations zones.

Overall, hydrology and water quality impacts under the Reduced Intensity Alternative would be *similar* when compared to the proposed project.

5.6.2.9 LAND USE AND PLANNING

As described in Chapter 4.9, Land Use and Planning, of this Draft EIR, the proposed project would result in two less-than-significant impacts and two significant-but-mitigatable impacts. Implementation of Mitigation Measure LU-2 would ensure the future projects in Menlo Park are consistent with the City's General Plan policies. While the proposed project would aim to improve connectivity and would not create physical barriers within existing communities, the Reduced Intensity Alternative also supports the integration of infill development and does not propose physical features that could divide a community.

Development under the proposed project would be required to be consistent with the General Plan polices and Zoning Ordinance that promote cohesive and compatible neighborhoods and prevent new development from dividing existing uses where different land uses abut one another. The proposed project, and accordingly, the Reduced Intensity Alternative by location, would not conflict with and adopted habitat conservation plans or natural community conservation plans within the Menlo Park.

The proposed project was found to not conflict with any land use plans adopted for the purpose of avoiding or mitigating an environmental effect. Furthermore, the proposed project was found to be consistent with *Plan Bay Area* as a result of proposed development that is consistent with the one PDA identified in the city, as well as overall infill development, and land use and transportation policies that promote non-vehicular travel.

Overall, because the Reduced Intensity Alternative would result in development in the same setting and would be subject to the same existing land use regulations, including Mitigation Measure LU-2, which would ensure the future projects in Menlo Park are consistent with the City's General Plan policies, land use impacts, when compared to the proposed project, would be *similar*.

5.6.2.10 NOISE

As described in Chapter 4.10, Noise, of this Draft EIR, the proposed project would result in three less-than-significant impacts and four significant-but-mitigable impacts. Implement Mitigation Measures NOISE-1a, NOISE-1b, NOISE-1c, NOISE-2a, NOISE-2b, and NOISE-4 would reduce noise impacts from construction and operation of future development in the study area.

Future development under the designations of the proposed project would be subject to the standards of the Municipal Code, including those relating to the interface between residential and non-residential land uses. As specific uses are proposed for particular sites, project-level design, permitting, and/or

environmental review would serve to ensure that individual uses would comply with the provisions of the noise chapter. Development under the Reduced Intensity Alternative would also be subject to these applicable standards. Additionally, implement Mitigation Measures NOISE-1a, NOISE-1b, NOISE-1c, NOISE-2a, NOISE-2b, and NOISE-4, which would apply under both scenarios would reduce impacts from future development in the study area.

Similar to the proposed project, future development under this alternative would result in temporary and permanent increases to ambient noise levels attributed to the construction and operation of non-residential and residential land uses; however, the development under both scenarios would be located in already urbanized areas where similar uses already occur. Further, compliance with relevant General Plan Noise (N) Element policies and provisions of the Municipal Code, including those that restrict construction activities to occur during daytime hours, would serve to ensure that noise from construction impacts and stationary noise sources associated with development of new land uses under the Reduced Intensity Alternative would not result in significant permanent increases in the ambient noise level in the study and vicinity.

There are no areas of Menlo Park which fall within an airport land use plan for any of the airports located in close proximity to the study area, thus, future development under the Reduced Intensity Alternative and the proposed project would not expose people to excessive aircraft noise levels and impacts would be less than significant. In addition, there are no airstrips within Menlo Park, thus, there would be no impact related to excess noise levels of a private airstrip.

The Reduced Intensity Alternative would result in a 25 percent less residential and non-residential in the Bayfront Area and would be subject to the same regulatory setting as the proposed project. Therefore, the impacts related to noise would be *less* when compared to the proposed project.

5.6.2.11 POPULATION AND HOUSING

As described in Chapter 4.11, Population and Housing, of this Draft EIR, growth under the proposed project would exceed the ABAG's 2013 projections. However, the General Plan serves as the City's constitution for the physical development of the city, thus, the General Plan goals and policies will provide the framework to adequately plan orderly development under the proposed project and the impact would be less than significant. However, when considered in a regionally cumulative context, impacts were found to be significant and unavoidable until the regional growth projections for the Bay Area are updated to consider the proposed project. Under the Reduced Intensity Alternative, the proposed residential buildout would be the 25 percent less than the proposed project; therefore, impacts would be less with respect to regional growth projections.

No new land use designations proposed under the project, or under the Reduced Intensity Alternative, are located on sites where residential land uses currently exist; thus, no displacement of existing housing units would occur. In addition, there are no plans for removal of existing housing under either scenario; thus, the displacement of people would not occur and impacts would be less than significant.

The Reduced Intensity Alternative would result in a 25 percent less residential and non-residential development in the Bayfront Area. In addition to the development under Reduced Intensity Alternative, the development potential under the General Plan would be carried forward to the 2040 horizon year.

Thus, less residential development is anticipated under the Reduced Intensity Alternative. Therefore, impacts related to population and housing would be *less* than the proposed project.

5.6.2.12 PUBLIC SERVICES AND RECREATION

As described in Chapter 4.12, Public Services and Recreation, of this Draft EIR, impacts to fire protection services, police services, parks, schools, and libraries, under the proposed project, were found to be less than significant.

Fire and Police Services

As discussed in Chapter 4.12, Public Services and Recreation, the proposed projects would not require the expansion of the Menlo Park Fire Protection District (MPFPD) facilities; however, when considered in a cumulative setting, the project would contribute to the need for expansion of Station 77. Impacts were found to be less than significant as no plans are available to evaluate potential impacts; however, once plans are available, the expansion project would be subject to separate environmental review, as needed. Developers of future projects in Menlo Park would be required to pay the MPFPD's developer impact fees under both scenarios; thus, would contribute to the ability of the MPFPD to provide adequate fire protection services. In addition, the proposed project would not require not require the expansion of Menlo Park Police Department (MPPD) facilities. The Reduced Intensity Alternative would result in 25 percent less residential and non-residential land uses; therefore, would result in less demand on the MPFPD and the MPPD. Thus, the impacts under the Reduced Intensity Alternative would be *less* than the proposed project.

Parks and Recreation Services

The proposed project would not result in substantial adverse physical impacts associated with the provision of or need for new or physically altered parks; would not result in substantial physical deterioration of existing neighborhood and regional parks or other recreational facilities; and would not include or require the construction or expansion of recreational facilities. The Reduced Intensity Alternative would result in fewer residents; thus fewer primary users of the parks and recreational services, and therefore, the impacts under the Reduced Intensity Alternative would be *less* than the proposed project.

Schools

Buildout of the Reduced Intensity Alternative would occur over the course of 24 years, and like the proposed project, would result in a gradual increase in demand for school services with the 25 percent fewer students. Like development under the proposed project, development under the Reduced Intensity Alternative would be subject to development impact fees in accordance with the provisions of Senate Bill 50. The payment of development impact fees is deemed to fully mitigate the impacts of new development on school facilities, per California Government Code Section 65995.

In summary, while the Reduced Intensity Alternative would generate less residential growth and subsequently fewer students, impacts would be still be *similar* when compared to the proposed project

given the future development under each scenario would be required to pay development impact fees to fully mitigate impacts to schools.

Libraries

The proposed project would not require the physical expansion of library facilities; however, when considered in a cumulative setting, the proposed project would contribute to the need for expansion of the library. The Reduced Intensity Alternative would generate the fewer residents from the proposed project; thus, the fewer primary users of the library and the fewer demands on library facilities and resources would result. Therefore, impacts to library services would be *less* than the proposed project.

5.6.2.13 TRANSPORTATION AND CIRCULATION

As discussed in Chapter 4.13, Transportation and Circulation, of this Draft EIR, the proposed project would exceed acceptable level of service standards at intersections and roadway segment capacity at roadway segments in the study area even with implementation of mitigation measures TRANS-1a and TRANS-1b. Implementation of Mitigation Measure TRANS-1b would provide the funding by requiring future developers to pay their fair share of the infrastructure necessary to reduce impacts. Because Mitigation Measure TRANS-1a and TRANS-1b could also apply to the Reduced Intensity Alternative, impacts in this regard would be considered similar under both scenarios.

The proposed project includes a land use to job balance that results in a Vehicles Miles Traveled (VMT) per capita of 14 miles. The VMT estimates are sensitive to changes in land use. Generally, land uses that reflect a more balanced jobs-housing ratio result in lower per capita VMT; therefore, while no model runs have been prepared for this alternative, it is likely the VMT could be higher than that of the proposed project under the this alternative due the balanced reduction in housing and jobs which could continue to exacerbate this current imbalance. Therefore, VMT impacts under this alternative are considered to be greater than those of the proposed project under this alternative.

Chapter 4.13 finds that the proposed project would conflict with adopted transportation policies, plans, or programs regarding public transit, and bicycle and pedestrian facilities and requires implementation of Mitigation Measures TRANS-6a through TRANS-6c, which similar to Mitigation Measure TRANS-1b, require the City to secure funding for future improvements that could potentially reduce these impacts. These would also be required under the Reduced Intensity Alternative. The proposed project contains policies supporting transit; it also includes infrastructure improvements and guiding policies that encourage and anticipate increased transit use. Similarly, the proposed project proposes substantial improvements to pedestrian and bicycle infrastructure. The Reduced Intensity Alternative would similarly conflict with adopted policies, and would also include the infrastructure improvements and guiding policies that support transit, bicycles, and pedestrians that are called for in the proposed project. Therefore, impacts to alternative modes of transportation would be similar under both scenarios.

Finally, through the City's comprehensive development review process and compliance with City Codes, the proposed project would not cause impacts related to inadequate emergency access and hazards, and it would not result in a change in air traffic patterns. Development allowed under the Reduced Intensity Alternative would be subject to the same development review process and City Codes, and it would not

impact regional air travel, so emergency access and air traffic pattern impacts would also be similar to those of the proposed project.

Overall, because the Reduced Intensity Alternative would include the provisions of the updated Circulation Element, but with equally less residential and non-residential development, which could exacerbate the existing land use imbalance and greater per capita VMT than the proposed project, impacts under the Reduced Intensity Alternative would be *similar* when compared to the proposed project.

5.6.2.14 UTILITIES AND SERVICE SYSTEMS

As described in Chapter 4.13, Utilities and Service Systems, of this Draft EIR, impacts to water, sanitary wastewater, solid waste, stormwater infrastructure, and energy conservation, under the proposed project, were found to be less than significant.

Water

Implementation of the proposed project would have sufficient water supplies from existing entitlements, conservation plans and resources. In addition, the proposed project would not require the construction of new water facilities or expansion of existing facilities on its own, but when considered in a cumulative context, the current water storage facilities need to provide adequate water pressure in the Bayfront Area would be required. Because this is an existing condition, the impact under the Reduced Intensity Alternative would be the same when compared to the proposed project. Under the Reduced Intensity Alternative, less residential and non-residential development would occur; thus, impacts to the water supply and infrastructure under the Reduced Intensity Alternative would be *less* than those of the proposed project.

Wastewater

Wastewater generated from potential future development under the proposed project would not exceed the wastewater treatment requirements or capacity of the SVCW WWTP. In addition, the proposed project would not require the construction of new or expanded wastewater treatment facilities and West Bay Sanitary District (WBSD) has adequate capacity to serve the proposed project's projected demand in addition to the provider's existing commitments. Under the Reduced Intensity Alternative, 25 percent less residential and non-residential would occur; thus, impacts related to wastewater under the Reduced Intensity Alternative would be *less* than those of the proposed project.

Solid Waste

The impacts to adequate landfill capacity under the proposed project were found to be less than significant, and significant-but-mitigable in a cumulative setting. This is due to the fact that the Ox Mountain landfill is near capacity and the proposed project together with the other users of this landfill could result in inadequate landfill capacity. Implementation of Mitigation Measure UTIL-10 would be required under both scenarios, which would reduce the impact to a less-than-significant level. The Reduced Intensity Alternative would result in 25 percent less residential and non-residential development,

and therefore, less solid waste would be generated. Thus, impacts under the Reduced Intensity Alternative would be *less* than those of the proposed project.

Energy

Implementation of the proposed project would result in a less-than-significant impact related to natural gas and electrical service demands, and would not require new energy supply facilities and transmission infrastructure or capacity enhancing alterations to existing facilities. The Reduced Intensity Alternative would result in 25 percent less residential and non-residential development. Thus, impacts under the Reduced Intensity Alternative would be *less* than those of the proposed project.

5.6.3 RELATIONSHIP OF THE ALTERNATIVE TO THE OBJECTIVES

Under the Reduced Intensity Alternative the total number of residential and non-residential square footage, hotel rooms, and employees would be 25 percent less than anticipated under the proposed project. Because this alternative would only result in a 25 percent reduction of non-residential development, the Reduced Intensity Alternative would generally meet all of the project objectives. However, it is unlikely that this alternative would realize the full economic and revenue potential objective set forth by the proposed project.

5.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

In addition to the discussion and comparison of impacts of the proposed project and the alternatives, Section 15126.6 of the CEQA Guidelines requires that an "environmentally superior" alternative be selected and the reasons for such a selection be disclosed. In general, the environmentally superior alternative is the alternative that would be expected to generate the least amount of significant impacts. Identification of the environmentally superior alternative is an informational procedure and the alternative selected may not be the alternative that best meets the goals or needs of Menlo Park. The project under consideration cannot be identified as the environmentally superior alternative. Additionally, in accordance with State CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the "No Project" Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

As shown in Table 5-2, the No Project Alternative would, in comparison to the project, result in reduced environmental impacts related to biological resources, cultural resources, hazards and hazardous materials, noise, population and housing (cumulative), public services, and utilities and service systems, but would ultimately result in greater impacts related to aesthetics, air quality, greenhouse gas emissions and transportation and traffic. Neither the Reduced Non-Residential Alternative nor the Reduced Intensity Alternative would result in greater impacts when compared to the proposed project. Therefore, as shown on Table 5-2, the Reduced Non-Residential Intensity Alternative would be the environmentally superior alternative because it would result in fewer significant impacts than the Reduced Intensity Alternative. This is in part because the equal reduction of jobs and housing in the Reduced Intensity Alternative would maintain the imbalance that currently exists in the city, which could result in a higher VMT than both the proposed project and the Reduced Non-Residential Intensity Alternative.

6. *CEQA-Mandated Assessment*

This chapter provides an overview of the impacts of the proposed project based on the analyses presented in Chapters 4 through 5 of this Draft Environmental Impact Report (Draft EIR). The topics covered in this chapter include growth inducement, unavoidable significant impacts, and significant irreversible changes. A more detailed analysis of the effects the proposed project would have on the environment and proposed mitigation measures to minimize significant impacts are provided in Chapters 4.1 through 4.14, of this Draft EIR.

6.1 IMPACTS FOUND NOT TO BE SIGNIFICANT

California Environmental Quality Act (CEQA) Guidelines Section 15128 allows for no analysis of environmental issues for which there is no likelihood of significant impact. This section explains the reasoning by which it was determined that impacts to agriculture and forestry, and mineral resources, as a result of adoption and implementation of the proposed project would be less than significant.

6.1.1 AGRICULTURAL AND FORESTRY RESOURCES

The proposed project is located within the City of Menlo Park, which is an urbanized city. Maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency categorize lands within Menlo Park as Urban and Built-Up Land.[1] There are no agricultural lands classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the City of Menlo Park. In addition, the California Land Conservation (Williamson) Act 2014 State Report does not identify lands in San Mateo County that are under Williamson Act contract.[2] Therefore, future development as a result of adoption and implementation of the proposed project would not conflict with lands under Williamson Act contract.

According to 2006 mapping data from the California Department of Forestry and Fire Protection, the City of Menlo Park does not contain any woodland or forestland cover;[3] therefore, the City does not contain land zoned for Timberland Production nor does the Menlo Park Zoning Map identify any areas zoned for Timberland Production.[4] Consequently, there would be no impacts with regard to agriculture and forestry resources.

[1] California Resources Agency, Farmland Mapping and Monitoring Program, San Mateo County Important Farmland 2012, ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/smt12.pdf, accessed on November 18, 2015.

[2] California Department of Conservation, 2015, California Land Conservation (Williamson) Act 2014 Status Report, page 35.

[3] California Department of Forestry and Fire Protection Fire and Resource Assessment Program, Land Cover Map, http://frap.fire.ca.gov/data/frapgismaps/pdfs/fvegwhr13b_map.pdf, accessed on November 18, 2015.

[4] City of Menlo Park Website, General Plan Land Use & Zoning Map, April 2015, http://www.menlopark.org/DocumentCenter/View/187, accessed on November 18, 2015.

6.1.2 MINERAL RESOURCES

Although the adoption and implementation of the proposed project would result in future development within the project area, buildout would not result in the loss of known mineral resources or substantially limit the availability of mineral resources over the long term. Industrial-scale solar salt production form sea water has occurred in the vicinity of Menlo Park since the 1800s. The nearest salt ponds are located directly adjacent to the west of the project area in Redwood City; however, ongoing salt production operations would not be affected by the proposed project given that it is outside of the project area. As a result, there would be no impact to mineral resources as a result of adoption and implementation of the proposed project.

6.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. As detailed in Chapters 4.3 through 4.12 of this Draft EIR, environmental impacts associated with the proposed project were found to be significant and unavoidable as shown in Table 6-1.

TABLE 6-1 SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROPOSED PROJECT

AIR QUALITY
Impact AQ-2a: : Despite implementation of the proposed project policies identified in Table 4.2-8 in Chapter 4, Air Quality, of this Draft EIR, criteria air pollutant emissions associated with the proposed project would cause a substantial net increase in emissions that exceeds the Bay Area Air Quality Management District (BAAQMD) regional significance thresholds.
Impact AQ-2b: Despite implementation of the proposed project policies, criteria air pollutant emissions associated with the proposed project construction activities would generate a substantial net increase in emissions that exceeds the Bay Area Air Quality Management District (BAAQMD) regional significance thresholds.
Impact AQ-5: Despite implementation of the General Plan policies, criteria air pollutant emissions associated with the General Plan would generate a substantial net increase in emissions that exceeds the Bay Area Air Quality Management District (BAAQMD) regional significance thresholds.
Greenhouse Gas Emissions
Impact GHG-1: The proposed project would result in a substantial increase in GHG emissions from existing conditions by the proposed General Plan horizon year 2040 and would not achieve the 2040 efficiency target, which is based on a trajectory to the 2050 goal of an 80 percent reduction from 1990 levels pursuant to Executive Order S-03-05. Additional state and federal actions are necessary to ensure that state and federally regulated sources (i.e., sources outside the City's jurisdictional control) take similar aggressive measures to ensure the deep cuts needed to achieve the 2050 target.
Impact GHG-2: While the proposed project supports progress toward the long term-goals identified in Executive Order B-30-15 and Executive Order S-03-05, it cannot yet be demonstrated that Menlo Park will achieve GHG emissions reductions that are consistent with a 40 percent reduction below 1990 levels by 2030 or an 80 percent reduction below 1990 levels by the year 2050 based on existing technologies and currently adopted policies and programs.
Population and Housing
Impact POP-4: Implementation of the proposed project, in combination with past, present, and reasonably foreseeable projects, would result in a significant cumulative impacts with respect to population and housing.

TABLE 6-1 SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROPOSED PROJECT

Transportation and Circulation
Impact TRANS-1a: Implementation of the proposed project would exceed the City's current impact thresholds under the 2040 Plus Project conditions at some roadway segments in the study area.
Impact TRANS-1b: Implementation of the proposed project would result in increased delay to peak hour motor vehicle traffic exceeding the significance threshold at some of the study intersections.
Impact TRANS-2: Implementation of the proposed project would result in impacts to Routes of Regional Significance.
Impact TRANS-6a: Implementation of the proposed project would not provide adequate pedestrian or bicycle facilities to connect to the area-wide circulation system.
Impact TRANS-6b: The project would generate a substantial increase in transit riders that cannot be adequately serviced by existing public transit services, and the project would generate demand for transit services at sites more than one-quarter mile from existing public transit routes.

6.3 GROWTH INDUCEMENT

Section 15126.2(d) of the CEQA Guidelines requires that an EIR discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Typical growth inducing factors might be the extension of urban services or transportation infrastructure to a previously unserved or under-served area, or the removal of major barriers to development.

This section evaluates the proposed project's potential to create such growth inducements. As Section 15126.2(d) requires, "[i[t must not be assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment." In other words, negative impacts associated with growth inducement occur only where the projected growth would cause significant adverse environmental impacts.

Growth-inducing impacts fall into two general categories: direct or indirect. Direct growth-inducing impacts are generally associated with providing urban services to an undeveloped area. Indirect, or secondary growth-inducing impacts consist of growth induced in the region by additional demands for housing, goods, and services associated with the population increase caused by, or attracted to, a new project.

Further, while implementation of the proposed project would induce growth, as discussed in detail in Chapter 4.11, Population and Housing, of this Draft EIR, the proposed project would be consistent with the regional planning objectives established for the Bay Area. While the project itself implements policies and programs to accommodate the project's projected growth, it would exceed the current regional planning as projected by the Association of Bay Area Governments (ABAG). However, ABAG prepares forecasts of the region's population and employment every two to four years. Amongst other sources, ABAG's projections take into account local planning documents for the nine-county region, such as the City of Menlo Park's General Plan. As such, while the proposed project exceeds the regional projections, both the General Plan and regional forecasts are long-range planning tools that assist local governments to identify policies that address changing environments. Accordingly, following adoption of the proposed project, the regional forecasts would take into account the new growth potential for Menlo Park; thus,

bringing the two long-range planning tools into better alignment. Additionally, this additional growth would come incrementally over a period of approximately 24 years and a policy framework is in place to ensure adequate planning occurs to accommodate it. The proposed project results in mixed-used development near transportation facilities and employment centers, and implements energy and water conservation requirements related to existing and new development, thereby, minimizing commitment and consumption of non-renewable resources, to the extent practicable.

6.3.1 DIRECT IMPACTS

The proposed project is a plan-level document and does not propose any specific development; however, implementation of the proposed project would induce growth by increasing the development potential in the study area as shown in Table 3-2 in Chapter 3, Project Description, of this Draft EIR.

As shown in Table 3-2, the remaining and approved buildout potential is 1.8 million square feet of non-residential space, 0 hotel rooms and 1,000 residential units, and up to 2,580 new residents and 4,400 new employees. The proposed net new growth for the Bayfront Area is 2.3 million square feet of non-residential space, 400 hotel rooms and 4,500 residential units, and up to 11,570 new residents and 5,500. When combined, the proposed net new development potential of the Bayfront Area plus the current General Plan development potential (but not including Facebook Campus Expansion or other cumulative projects) for the 2040 horizon year is 4.1 million square feet of non-residential space, 400 hotel rooms and 5,500 residential units, and up to 14,150 new residents and 9,900.

State law requires the City to promote the production of housing to meet its fair share of the regional housing needs distribution made by ABAG. While the City currently meets it fair-share housing obligations, the housing under the proposed project would support any needed housing related to the proposed commercial/industrial.

In addition, the type of growth envisioned by the proposed project would be concentrated in the previously developed Bayfront Area in a highly urbanized part of Menlo Park. In addition, the study area includes the El Camino Real and Downtown PDA Transit Station Area Priority Development Area (PDA) as identified under the *Plan Bay Area* and designated sites previously identified as Housing Sites in the Housing Element. The growth envisioned under the proposed project would result in regional benefits by promoting growth that encourages less automobile dependence and supports regional transit systems, which could have associated air quality and noise effects. Encouraging infill growth in designated areas would help to reduce development pressures on lands outside the city boundary.

6.3.2 INDIRECT IMPACTS

The proposed project is considered growth inducing because it encourages new growth in the urbanized areas of Menlo Park. Development in these areas would consist of infill development on underutilized sites, sites that have been previously developed, and that are vacant and have been determined to be suitable for development. However, infrastructure is largely in place and commercial or office growth would be required to comply with the City's General Plan, Zoning regulations and standards for public services and utilities; secondary effects associated with this growth do not represent a new significant

environmental impact which has not already been addressed in the individual resource chapters of this EIR.

Additional population and employment growth would occur incrementally over a period of approximately 24 years and would be consistent with the regional planning objectives established for the Bay Area. The new potential growth that would occur under the proposed project is planned for

6.4 SIGNIFICANT AND IRREVERSIBLE CHANGES

Section 15126.2(c) of the CEQA Guidelines requires an EIR to discuss the extent to which the proposed project would commit nonrenewable resources to uses that future generations would probably be unable to reverse. The three CEQA-required categories of irreversible changes are discussed below.

6.4.1 CHANGES IN LAND USE THAT COMMIT FUTURE GENERATIONS

As described in detail in Chapter 3, Project Description, of this Draft EIR, the proposed project generally maintains the land use pattern of the existing General Plan and introduces new land uses in the Bayfront Area. The current General Plan provided development allocations for buildout of the city through the year 2023. The proposed project includes increased density and heights at some locations, but future development under the proposed project would be located on land that is generally urbanized or on infill sites and sites in developed areas that are underutilized. Once future development under the proposed project occurs, it would not be feasible to return the developed land to its existing (pre-project) condition. Therefore, at least some of the development allowed under the proposed project would most likely lead to irreversible changes in land use.

6.4.2 IRREVERSIBLE DAMAGE FROM ENVIRONMENTAL ACCIDENTS

Irreversible changes to the physical environment could occur from accidental release of hazardous materials associated with development activities; however, compliance with the applicable regulations and General Plan goals, policies, and programs and implementation of Mitigation Measures HAZ-4a and HAZ-4b, as discussed in Chapter 4.7, Hazards and Hazardous Materials, would reduce this potential impact to a less-than-significant level. Therefore, irreversible damage is not expected to result from the adoption and implementation of the proposed project.

6.4.3 LARGE COMMITMENT OF NONRENEWABLE RESOURCES

Implementation of development allowed under the proposed project would result in the commitment of limited, renewable resources such as lumber and water. In addition, development allowed by the proposed project would irretrievably commit nonrenewable resources for the construction of buildings, infrastructure, and roadway improvements. These nonrenewable resources include mined minerals such

as sand, gravel, steel, lead, copper, and other metals. Future buildout under implementation of the proposed Project also represents a long-term commitment to the consumption of fossil fuels, natural gas, and gasoline. Increased energy demands would be used for construction, lighting, heating, and cooling of residences, and transportation of people within, to, and from Menlo Park. However, as shown in Section 4.14.1, Water; Section 4.14.3, Solid Waste; and Section 4.14.4, Energy Conservation, of Chapter 4.14, Utilities and Service Systems, of this Draft EIR, several regulatory measures and General Plan policies and strategies encourage energy and water conservation, alternative energy use, waste reduction, alternatives to automotive transportation, and green building.

Future development, as a result of increased development allocation under the project, would be required to comply with all applicable building and design requirements, the proposed Zoning Ordinance, including those set forth in Title 24 relating to energy conservation. In compliance with CALGreen, the State's Green Building Standards Code, future development would be required to reduce water consumption by 20 percent, divert 50 percent of construction waste from land-fills, and install low pollutant-emitting materials.

Therefore, while the construction and operation of future development, as a result of increased development allocations under the proposed project, would involve the use of nonrenewable resources, compliance with applicable standards and regulations and implementation of General Plan policies would reduce the use of nonrenewable resources to the maximum extent practicable; therefore, the proposed project would not represent a large commitment of nonrenewable resources in comparison to a business as usual situation.

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ORGANIZATIONS AND PERSONS CONSULTED

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8. List of Acronyms and Abbreviations

The following is a complete list of the acronyms and abbreviations referenced in this Draft EIR. While the name will be spelled out the first time it is used in each chapter of this Draft EIR, this chapter provides a quick reference for common acronyms used throughout the document.

AAQS	Ambient Air Quality Standard
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACM	Asbestos-Containing Materials
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AF	Acre-foot
AFY	Acre-feet per Year
AMR	American Medical Response
APA	American Planning Association
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
AWR	Applied Water Resources
BAAQMD	Bay Area Air Quality Management District
BAWSCA	Bay Area Water Supply and Conservation Agency
BAU	Business As Usual
BCDC	San Francisco Bay Conservation and Development Commission
BGS	Below Ground Surface
BMPs	Best Management Practices
C_3H_4O	Acrolein
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
CalARP	California Accidental Release Prevention Program
CalEEMod	California Emissions Estimator Model
Cal EMA	California Emergency Management Agency
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CalWater	California Water Service Company
CA MUTCD	California Manual on Uniform Traffic Control Devices for Streets and Highways
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board

LIST OF ACRONYMS AND ABBREVIATIONS

CARE	Bay Area Air Quality Management District's Community Air Risk Evaluation
CBC	California Building Code
C/CAG	City/County Association of Governments of San Mateo County
CCR	California Code of Regulations
CDF	California Department of Finance
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbon
CF_4	Perfluoromethane
C_2F_6	Perfluoroethane
C_4F_{10}	Perfluorobutane
C_6F_{14}	Perfluoro-2-methylpentane
CFR	Code of Federal Regulations
CGEU	California Gas and Electric Utilities
CH_4	Methane
CHBC	California Historic Building Code
CLUP	Comprehensive Airport/Land Use Plan
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	CO_2-equivalence
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWSC	California Water Service Company
dB	Decibel
dBA	A-weighted Decibel
DCA	Dichloroethane
DCE	Dichloroethene
DDC	Drill Displacement Columns
DEIR	Draft Environmental Impact Report
DOF	Department of Finance
DPM	Diesel Particulate Matter
DPR	California Department of Parks and Recreation
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EDD	Employment Development Department
EIR	Environmental Impact Report
EOC	Emergency Operations Center
EPA	United States Environmental Protection Agency

LIST OF ACRONYMS AND ABBREVIATIONS

ESA	Environmental Site Assessment
ESL	Environmental Screening Level
FAA	Federal Aviation Administration
FAR	Floor Area Ratio
FEMA	Federal Emergency Management Agency
FEIR	Final Environmental Impact Report
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FMP	Fire Management Plan
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GHG	Greenhouse Gas
GPCD	Gallons per Capita Day
GPD	Gallons of Water per Day
GWH	Gigawatt Hours
GWP	Global Warming Potential
H_2O	Water/Water Vapor
H_2S	Hydrogen Sulfide
HCD	California Department of Housing and Community Development
HCFC	Hydrochlorofluorocarbons
HCM	Highway Capacity Manual
HFC	Hydrofluorocarbons
HRA	Health Risk Assessment
I-280	Interstate 280
I-880	Interstate 880
IBC	International Building Code
IPCC	International Panel on Climate Change
ISG	Individual Service Guarantees
IS/MND	Initial Study/ Mitigated Negative Declaration
ISO	Insurance Services Office
LBP	Lead-Based Paint
LCFS	Low Carbon Fuel Standard
L_{dn}	Day-Night Sound Level
LEHD	Longitudinal Employer-Household Dynamics
LEPC	Local Emergency Planning Committee
L_{eq}	Equivalent Continuous Noise Level
L_n	Statistical Sound Level
LOS	Level of Service
LQG	Large Quantity Generator
LTS	Less Than Significant
LTSW/M	Less Than Significant with Mitigation
LUST	Leaking Underground Storage Tank
MBTA	Migratory Bird Treaty Act

LIST OF ACRONYMS AND ABBREVIATIONS

mgd	Million Gallons per Day
MLC	Most Likely Candidate
MMI	Modified Mercalli Intensity Scale
MMT	Million metric tons
MPD	Mid-Peninsula District
MPH	Miles per Hour
MPO	Metropolitan Planning Organization
MRP	Municipal Regional Permit
MS4	Municipal Separate Storm Sewer System
MT	Metric Tons
MTC	Metropolitan Transportation Commission
MTZ	Mutual Threat Zone
Mw	Moment Magnitude
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
ND	Negative Declaration
NETR	Nationwide Environmental Title Research, LLC
NOA	Notice of Availability
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
N_2O	Nitrous Oxide
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NPS	National Park Service
O_3	Ozone
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OPR	Governor's Office of Planning and Research
Pb	Lead
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethylene
PDA	Priority Development Area
PFC	Perfluorocarbons
PG&E	Pacific Gas and Electric Company
PM	Particulate Matter
$PM_{2.5}$	Fine Inhalable Particulate Matter
PM_{10}	Coarse Inhalable Particulate Matter
ppd	Pounds per person per day
PPG	Parts per Billion
PPM	Parts per Million
PPV	Peak Particle Velocity

LIST OF ACRONYMS AND ABBREVIATIONS

PRC	Public Resource Code
PVC	Polyvinyl Chloride
RCRA	Resource Conservation and Recovery Act of 1976
RHNA	Regional Housing Need Allocation
RMP	Risk Management Plan
RMS	Root-mean-square
ROG	Reactive Organic Gases
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RWP	Remediation Work Plan
RWQCB	Regional Water Quality Control Board
RWS	Regional Water System
SB	Senate Bill
SBSA	South Bayside System Authority
SBWMA	South Bay Waste Management Authority
SCS	Sustainable Communities Strategy
SERC	State Emergency Response Commission
SEMS	Standardized Emergency Management System
SF_6	Sulfur Hexafluoride
SHPO	State Historic Preservation Officer
SMCBI	San Mateo County Business Inventory
SMCEH	San Mateo County Environmental Health
SMCSD	San Mateo County Sheriff's Department
SMCWPPP	San Mateo Countywide Stormwater Pollution Prevention Program
SMEHD	San Mateo County Environmental Health Department
SO_2	Sulfur Dioxide
SO_4	Sulfates
SO_x	Sulfur Oxides
SOI	Sphere of Influence
SP	Service Population
SPCC	Spill Prevention Control and Countermeasure
SPL	Sound Pressure Level
SR	State Route
SQG	Small Quantity Generator of hazardous wastes
SRDC	Shoreway Recycling and Disposal Center
SRO	Single Room Occupancy
SSC	Species of Special Concern
SSFD	South San Francisco District
SU	Significant and Unavoidable
SVCW	Silicon Valley Clean Water
SVOC	Semi-Volatile Organic Compounds
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants

LIST OF ACRONYMS AND ABBREVIATIONS

TCE	Trichloroethylene
TDM	Traffic Demand Management
TDS	Total Dissolved Solids
TIA	Traffic Impact Analysis
TMDL	Total Maximum Daily Load
TOD	Transit-Oriented Development
TPH-MO	Total Petroleum Hydrocarbons as Motor Oil
TRI	Toxic Release Inventory
UFP	Ultrafine Particulate
USACE	United States Army Corps of Engineers
USCB	US Census Bureau
US DOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tanks
VdB	Decibel relative to one micro-inch per second
VHFSZ	Very High Fire Severity Zone
VOC	Volatile Organic Compound
WRCC	Western Regional Climate Center
WSA	Water Supply Assessment
WSCP	Water Shortage Contingency Plan
WSIP	Water System Improvement Plan
$\mu g/m^3$	Micrograms per cubic meter