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**SAN RAFAEL**  
**GENERAL PLAN 2020**

*General Plan Update*

***Draft Environmental Impact  
Report***

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*CITY OF SAN RAFAEL  
COMMUNITY DEVELOPMENT  
DEPARTMENT*

*State Clearinghouse No. 2003052031*

*FEBRUARY 2004*



# **SAN RAFAEL GENERAL PLAN 2020 DRAFT ENVIRONMENTAL IMPACT REPORT**

## **TABLE OF CONTENTS**

	<i>Page</i>
<b><i>I. Introduction</i></b>	
I.1 The San Rafael General Plan 2020 Community Process	I - 1
I.2 EIR Requirement	I - 2
I.3 EIR Objectivity	I - 3
I.4 Information Used to Prepare the EIR	I - 4
I.5 Public Review and Comment	I - 5
I.6 Agencies Expected to Use the EIR	I - 5
I.7 Report Organization	I - 7
<b><i>II. Summary</i></b>	
II.1 Project Summary	II - 2
II.2 Summary of Impacts and Mitigations	II - 3
II.3 Evaluation of Project Alternatives	II - 28
<b><i>III. Project Description</i></b>	
III.1 Project Location	III - 1
III.2 Project Objectives	III - 1
III.3 Description of Draft General Plan 2020	III - 4
III.4 Population, Employment, and Housing Projections	III - 17
<b><i>IV. Environmental Setting, Impacts, and Mitigation Measures</i></b>	
IV.1 Land Use, Population, Employment, and Housing	IV.1 - 1
IV.2 Transportation and Circulation	IV.2 - 1
IV.3 Air Quality	IV.3 - 1
IV.4 Noise	IV.4 - 1
IV.5 Public Services and Utilities	IV.5 - 1
IV.6 Cultural Resources	IV.6 - 1
IV.7 Visual Quality	IV.7 - 1
IV.8 Biological Resources	IV.8 - 1
IV.9 Geology, Soils, and Seismicity	IV.9 - 1
IV.10 Hydrology, Water Quality, and Flood Hazards	IV.10 - 1
IV.11 Agriculture	IV.11 - 1
<b><i>V. Impact Overview</i></b>	
V.1 Impacts of No Significance	V - 1
V.2 Significant Unavoidable Environmental Impacts	V - 3

	<b>Page</b>
V.3 Significant Irreversible Environmental Changes	V - 6
V.4 Growth Inducing Impacts	V - 7
V.5 Cumulative Impacts	V - 7
 <b>VI. Project Alternatives</b>	
VI.1 Alternative 1 – No Project / No Development	VI - 1
VI.2 Alternative 2 – No Project / No Action / General Plan 2000	VI - 8
VI.3 Alternative 3 – Reduced Development	VI - 17
VI.4 Alternatives Considered but not Included	VI - 23
VI.5 Environmentally Superior Alternative	VI - 24
 <b>VII. Report Preparation</b>	
VII.1 Report Preparers	VII - 1
VII.2 People and Organizations Consulted	VII - 2
VII.3 Bibliography	VII - 3
 <b>VIII. Appendices</b>	
VIII.1 Initial Study	
VIII.2 Responses to NOP	
VIII.3 Transportation Data	
VIII.4 Special Status Species	
VIII.5 Marin Municipal Water District Response Letter	

## **LIST OF EXHIBITS**

<b>Exhibit</b>	<b>Page</b>
II.2-1 Summary of Impacts and Mitigation Measures	II - 3
III.1-1 Regional Location	III - 2
III.1-2 San Rafael Planning Area	III - 3
III.3-1 Draft General Plan 2020 Land Use Map	III - 6
III.3-2 Proposed Land Use Changes	III - 8
III.3-3 Location of Proposed Land Use Changes	III - 10
III.3-4 General Plan Land Use Designations, Existing and Proposed	III - 11
III.4-1 Population, Households, and Employment – San Rafael Planning Area	III - 17
III.4-2 Projected Development, San Rafael General Plan 2020	III - 18
IV.1-1 Proposed Changes to Land Use Categories	IV.1 - 3

<b>Exhibit</b>	<b>Page</b>
IV.1-2 Nonresidential Development, San Rafael General Plan 2020	IV.1 - 3
IV.1-3 General Plan Land Use Designations, Existing and Proposed	IV.1 - 4
IV.1-4 Population, Households, and Employment – San Rafael Planning Area	IV.1 - 6
IV.2-1 San Rafael Roadways and Arterials	IV.2 - 3
IV.2-2 Level of Service Descriptions for Signalized Intersections	IV.2 - 5
IV.2-3 LOS Criteria for Signalized and Unsignalized Intersections	IV.2 - 6
IV.2-4 Existing and Baseline Operating Conditions at Unsignalized Intersections	IV.2 - 7
IV.2-5 Existing and Baseline Operating Conditions at Signalized Intersections	IV.2 - 8
IV.2-6 LOS Criteria for Roadway Segments	IV.2 - 9
IV.2-7 Existing and Baseline Operating Conditions on Roadway Segments	IV.2 - 10
IV.2-8 Level of Service for CMA Roadways	IV.2 - 11
IV.2-9 Marin County Congestion Management Agency Level of Service, Existing and Baseline Conditions	IV.2 - 12
IV.2-10 Congestion Management Agency Mainline Freeway Segments	IV.2 - 13
IV.2-11 Freeway Mainline Level of Service, Existing Conditions	IV.2 - 14
IV.2-12 Intersection Level of Service -- Baseline and General Plan 2020, Without Improvements and With Improvements	IV.2 - 23
IV.2-13 Impacted Intersections, Without Construction of Roadway Improvements	IV.2 - 26
IV.2-14 Draft General Plan 2020 Circulation Element Major Planned Circulation Improvements	IV.2 - 27
IV.2-15 Impacted City Roadway Segments, Under Baseline and Draft General Plan 2020	IV.2 - 33
IV.2-16 Segments That Would Improve Under Draft General Plan 2020	IV.2 - 34
IV.2-17 Marin County Congestion Management Agency Level of Service Baseline and Draft General Plan 2020 Conditions	IV.2 - 36
IV.2-18 Freeway Mainline Operations under Existing Conditions and Draft General Plan 2020 Conditions	IV.2 - 39
IV.3-1 Transportation Control Measures (TCMs) to be Supported by City General Plans	IV.3 - 5
IV.4-1 Existing and Future Traffic Noise Levels	IV.4 - 4
IV.4-2 Existing Airport Noise Contours	IV.4 - 9
IV.4-4 Existing Heliport Noise Contours	IV.4 - 10
IV.5-1 Projected MMWD Water Supply and Demand Comparison	IV.5 - 24
IV.9-1 Modified Mercalli Scale	IV.9 - 7
IV.9-2 Approximate Earthquake Magnitude and Distances (km) for a Mercalli Scale Intensity Value VII within San Rafael Planning Area (Average Peak Acceleration = 0.10-0.15g)	IV.9 - 8
VI.1-1 Nonresidential Development, San Rafael General Plan 2020 EIR Alternatives	VI - 2
VI.1-2 Population and Households, San Rafael General Plan 2020 EIR Alternatives, San Rafael Planning Area	VI - 2
VI.5-1 Impact Comparison	VI - 29



## ***I. INTRODUCTION***





## **I. INTRODUCTION**

This draft Environmental Impact Report (EIR) describes the potential environmental effects that could result from implementation of the proposed San Rafael *General Plan 2020 (Draft General Plan 2020)*, which provides policy guidelines for the San Rafael Planning Area to direct growth and development to the year 2020.

The California Environmental Quality Act (CEQA) charges public agencies with the responsibility of avoiding or minimizing environmental damage where feasible. As part of this responsibility, public agencies are required to balance various public objectives, including economic, environmental, and social issues. An EIR is integral to that process, informing decision-makers and the general public what significant effects might result from a proposed project. In addition, the document identifies possible means of minimizing any significant effects and presents reasonable alternatives to the project. In making its decision about the project, the lead agency, in this case the City of San Rafael, must consider the information in this EIR along with any other available information.

### **I.1 THE SAN RAFAEL GENERAL PLAN 2020 COMMUNITY PROCESS**

To develop the work program for the update of *General Plan 2000*, the San Rafael Community Development Department held a series of outreach meetings between January and August 1998, meeting with 49 community groups and over 600 people. Participants were asked what issues need to be addressed in the General Plan update, how to publicize the work of the General Plan Steering Committee and how to involve the community in the project. Several preliminary themes emerged from the meetings: traffic, the high cost of housing, enthusiasm for the recent changes Downtown, and quality of life issues. The suggestions from the meetings were used to draft a work program for the Planning Commission's review and adoption by the City Council.

In May 2000, the City Council appointed a 19-member Steering Committee to "prepare a recommended General Plan for the City of San Rafael." As part of that charge, Council asked that *San Rafael General Plan 2000* be updated to reflect recent neighborhood plans and visions, and changed circumstances in the community. The Steering Committee members were appointed as community members involved in a wide variety of activities throughout the city. Over the next three years, the Steering Committee held 39 meetings in neighborhoods throughout the city.

As part of the community process, the Committee first prepared the *General Plan Report Card* on the accomplishments of *General Plan 2000* and reviewed trends occurring in the city and region.<sup>1</sup> In the fall of 2000, the Steering Committee members met with community groups to identify the most important planning issues in San Rafael. The meetings revealed that people generally felt San Rafael was doing very well with public safety; and that the top planning issues were traffic, education, housing needs, and the transportation system. The Steering Committee also held three visioning sessions to discuss the future of San Rafael. The results from the visioning sessions were used to draft

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<sup>1</sup> *General Plan Report Card*, City of San Rafael, September 23, 2000.

the vision statement outlining the City’s aspirations for the future and to prepare draft General Plan goals.

In December 2000, the City Council appointed 45 people representing a broad range of San Rafael’s different constituencies to assist the Steering Committee in preparing “citywide policy recommendations to implement the General Plan goals.” Four Task Groups were formed: Quality of Community Life, Getting Around Town, Economic Vitality, and Neighborhoods and Homes. The Task Groups wrote draft policies and provided an opportunity for community members to review and comment on the draft policy directions being developed. The Task Groups presented their recommendations to the City Council in June 2001.

The Steering Committee next turned its focus to land use and traffic modeling. In January 2002 the committee hosted a Community Design Charrette to obtain information and ideas from other community members regarding their visions for future development and change in San Rafael.<sup>2</sup> In this charette six potential ‘change’ areas, the Canalfront, Loch Lomond, Marin Square, Medway, Northgate, and Woodland Avenue, were studied. Mixed-use, live/work and affordable housing emerged as a major land use in all six areas. With this information, the Steering Committee tested future land use scenarios for traffic congestion, evaluated housing opportunity sites, drafted fifteen General Plan elements, and met with community groups.

In addition to hosting community meetings and speaking with civic and neighborhood groups throughout the planning process, the Steering Committee publicized its work through San Rafael’s *City Focus* newsletter, and through the City website by including information about meetings, draft documents and ways to provide input. In August 2003, the Steering Committee presented its recommended *Draft General Plan 2020* to the City Council.

## **I.2 EIR REQUIREMENT**

Environmental review in compliance with CEQA is required as part of the City’s consideration of *Draft General Plan 2020*. An Initial Study, completed by the City of San Rafael on May 5, 2003, confirmed the need for an EIR and determined the topics for analysis (also called impact areas). The Initial Study is included in **Appendix VIII.1, Initial Study**. The Initial Study identified the following areas as potentially being significantly impacted by the project:

- Land Use, Population, Employment and Housing
- Transportation and Circulation
- Air Quality
- Noise
- Public Services and Utilities
- Cultural Resources
- Visual Quality
- Biological Resources
- Geology, Soils, and Seismicity
- Hydrology, Water Quality, and Flood Hazards
- Agriculture

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<sup>2</sup> A charrette is a short, intensive planning and design process.

In compliance with CEQA, the City of San Rafael sent a Notice of Preparation (NOP) on May 5, 2003 to government agencies, special service districts, organizations, and individuals with an interest in or jurisdiction over the project. This step ensured early consultation on the scope of the EIR. The comment period lasted for 30 days after receipt of the NOP, at which point the Planning Commission held a public scoping meeting for the project on May 27, 2003.

This EIR has been prepared in accordance with the California Environmental Quality Act, including the *CEQA Statutes* (Public Resources Code §§ 21000-21178.1), *State CEQA Guidelines*, and relevant court decisions.

### **A PROGRAM EIR**

CEQA distinguishes between project and program EIRs, defining a program EIR as one that addresses a series of actions that can be characterized as one large project and can be related

- geographically
- as logical parts in the chain of contemplated actions
- in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
- as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways.

This EIR is a program EIR, and thereby evaluates the environmental impacts of *Draft General Plan 2020* on a general level rather than a project-specific level. Its analysis is considered the first tier of environmental review, creating the foundation on which future, project-specific CEQA documents can build. Tiering, another CEQA concept, envisions agency decision-making as focusing first on the general impacts of large land areas and then focusing subsequent environmental review on project-specific issues.

As tiering is defined, future site-specific projects might be able to use the impact conclusions drawn in this EIR without needing a new EIR. To qualify a project must:

- be consistent with the *General Plan 2020* (projects requiring general plan amendments or rezoning cannot use tiering),
- be consistent with applicable local land use plans and zoning for the area in which the future project is located, and
- not trigger the need for a subsequent EIR or supplement to an EIR.

### **I.3 EIR OBJECTIVITY**

In accordance with the California Environmental Quality Act (CEQA), this EIR:

- assesses the expected impacts of the ultimate environmental changes resulting from the implementation of the policies in the *Draft General Plan 2020*,

- identifies mitigation measures that could avoid or minimize potentially significant environmental impacts, and
- evaluates alternatives to the proposed project.

If an EIR determines that there will be significant impacts as the result of a project, agencies with authority over the project must take one or more of the following actions:

- Require changes to the project that would avoid or substantially reduce significant impacts
- Approve one of the project alternatives instead of the project, and/or
- Adopt a written statement of overriding considerations that finds that specific economic, social, or other considerations make the EIR's mitigation measures or project alternative(s) infeasible

The EIR is a factual, objective, public-disclosure document that takes no position on the merits of the project, but rather provides information on which decisions about the project can be based. The EIR has been prepared according to the professional standards and practices of the EIR consultants' individual disciplines and in conformance with the legal requirements and informational expectations of CEQA and the State and local guidelines in place to implement it. EIR authors are listed in *Section VII.1, Report Preparers*.

#### **I.4 INFORMATION USED TO PREPARE THE EIR**

The *State CEQA Guidelines* permit any person to submit information to assist in the preparation of an EIR, but require independent review of the information to ensure that it accurately reflects the lead agency's judgment about the environmental impacts of the project. The following sources, along with others referenced in *Section VII.3, Bibliography* were relied upon in the preparation of this EIR:

##### **San Rafael General Plan 2020 Background Report**

The City of San Rafael hosted a significant community process preparing the General Plan 2020 (see *Section I.1, The San Rafael General Plan 2020 Community Process* above). As part of the process, a *San Rafael General Plan 2020 Background Report (Background Report)* was prepared with the assistance of independent consultants.

##### **City of San Rafael Draft General Plan 2020**

This is the document analyzed in this EIR. See *Chapter III, Project Description* for a complete description of this document.

##### **City of San Rafael General Plan 2000 Final Environmental Impact Report**

This document analyzes the potential impacts of the *General Plan 2000*. It includes the Draft EIR, and the Draft EIR addendum.

##### **City of San Rafael General Plan 2000**

This is the existing General Plan for the City of San Rafael. This document is currently used by the City Staff to guide development within the City.

**Marin Municipal Water District Urban Water Management Plan 2000**

This is the most current Urban Water Management Plan for the Marin Municipal Water District (MMWD), which serves the Planning Area. This document was prepared in accordance with the requirements of AB 2853 – Urban Water Management Plan Act.

**I.5 PUBLIC REVIEW AND COMMENT**

Copies of the *Draft General Plan 2020* and this EIR are available through the City of San Rafael Community Development Department, the San Rafael Public Library, and online at <http://www.cityofsanrafael.org/generalplan/>. The City of San Rafael will also circulate the document to public agencies, relevant organizations, and interested individuals.

Comments may be submitted in writing or orally at a public hearing to be held by the City of San Rafael on Tuesday, February 24, 2004. Comments should be focused on the adequacy and completeness of the EIR or should address questions about the environmental consequences of project implementation. In this case, “adequacy” is defined as the EIR’s thoroughness in addressing significant environmental effects, identifying mitigation measures for those impacts, and supplying enough information for public officials to make decisions about the merits of the project. In order to keep the documents succinct and useful as decision-making tools, the *State CEQA Guidelines* charge that EIRs focus on a project’s significant impacts and not address every imaginable less-than-significant effect.

The 45-day public review period begins on Monday, February 9, 2004 and ends on Wednesday, March 24, 2004. Comments on the EIR should be sent or delivered to:

Community Development Department, Planning Division  
Attn: Evelyn Buchwitz  
City of San Rafael  
P.O. Box 151560  
San Rafael, CA 94915-1560

Comments on the EIR may also be sent via fax to 415-485-3184, or via the internet at “Comment on the Draft General Plan 2020/Draft EIR” at <http://www.cityofsanrafael.org/generalplan/>. After the close of the public review period, a Final EIR will be prepared that contains all the comments received by the City during the public review period and responses to those comments. That document will be distributed to public agencies and the general public that commented on the Draft EIR so those parties can review the Final EIR before the City certifies it as complete.

No action can be taken on the *Draft General Plan 2020* until the Final EIR is certified; however, City acceptance of the EIR upon certification does not signal or require approval of the project studied.

**I.6 AGENCIES EXPECTED TO USE THE EIR**

The City of San Rafael, in addition to preparing its own General Plan, is also affected by plans made for the area by federal, State, regional, and other local agencies. It is important for the success of any plan that it be coordinated with other organizations making plans for the same area. This is especially

true in San Rafael where several important services, such as water supply, sewage treatment, and regional freeways, are the primary responsibility of other agencies. These agencies may include, but are not limited to, the following:

*Federal Agencies*

- National Marine Fisheries Service
- U.S. Army Corps of Engineers
- U.S. Department of Housing and Urban Development
- U.S. Department of Transportation, Federal Highway Administration
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. General Services Administration

*State Agencies*

- California Air Resources Board
- California Department of Conservation, California Geological Survey
- California Department of Fish and Game
- California Department of Health
- California Department of Housing and Community Development
- California Department of Parks and Recreation
- California Department of Parks and Recreation, Office of Historic Preservation
- California Department of Transportation (Caltrans District 4)
- California Energy Commission
- California Governor's Office of Planning and Research
- California Native American Heritage Commission
- California State Lands Commission
- California Transportation Commission
- California Water Resources Control Board (San Francisco Bay Region)
- Office of Noise Control

*Regional Agencies*

- Association of Bay Area Governments
- Bay Area Air Quality Management District
- California Water Resources Control Board (San Francisco Bay Region)
- Golden Gate Bridge, Highway and Transportation District
- Metropolitan Transportation Commission
- San Francisco Bay Conservation and Development Commission
- Sonoma Marin Area Rail Transit District

*Local Agencies*

- City of Novato
- City of San Rafael
- Central Marin Sanitation Agency
- County of Marin
- County of Marin, Community Development Agency
- County of Marin, Open Space District
- Dixie School District
- Las Gallinas Valley Sanitary District

- Marin Congestion Management Agency
- Marin County Local Agency Formation Commission (LAFCO)
- Marin County Transit District
- Marin Municipal Water District
- Marinwood Community Services District
- San Rafael City School District
- Town of Larkspur
- Town of San Anselmo

## **I.7 REPORT ORGANIZATION**

After this introduction, the EIR is organized into the following sections.

### ***Chapter II – Summary***

Outlines the proposed project and provides, in table format, a listing of the impacts, mitigation, and level of significance after mitigation.

### ***Chapter III – Project Description***

Describes the project in greater detail, provides an overview of the *Draft General Plan 2020* process and objectives, discusses the *Draft General Plan 2020*'s relationship to other area and regional plans, and introduces the *Draft General Plan 2020*'s growth projections.

### ***Chapter IV – Environmental Setting, Impacts, and Mitigation Measures***

Provides the environmental analysis for each of the 11 impact areas, listing the setting and relevant *Draft General Plan 2020* policies, environmental impacts, levels of significance, mitigation measures, and level of significance after mitigation.

### ***Chapter V – Impact Overview***

Beyond the impact discussion in Chapter IV, this section lists impacts of no significance, significant unavoidable impacts, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts.

### ***Chapter VI – Project Alternatives***

Discusses the project alternatives and their associated environmental impacts. This chapter also identifies the environmentally superior alternative.

### ***Chapter VII – Report Preparation***

Lists report preparers, people and organizations consulted, and bibliography.

### ***Chapter VIII – Appendices***

Includes all appendices to the EIR, including the initial study, and responses to the NOP.

Due to the different nature of the two documents and their functions, the *Draft General Plan 2020* elements and the EIR impact areas do not correspond directly. The table below lists the *Draft General Plan 2020* elements and the corresponding EIR impact area(s) in which the element is discussed in Chapter IV.

<b>General Plan Element</b>	<b>EIR Impact Area(s)</b>
Air and Water Quality	Air Quality; and Hydrology, Water Quality and Flood Hazards
Circulation	Transportation and Circulation; and Air Quality
Conservation	Air Quality; Biological Resources; Geology, Soils and Seismicity; Hydrology, Water Quality and Flood Hazards; and Agriculture
Culture and the Arts	Cultural Resources
Community Design	Land Use, Population, Employment and Housing; and Visual Quality
Economic Vitality	Land Use, Population, Employment and Housing
Governance	Land Use, Population, Employment and Housing
Housing	Land Use, Population, Employment and Housing
Infrastructure	Transportation and Circulation; and Public Services and Utilities
Land Use	Land Use, Population, Employment and Housing; and Agriculture
Neighborhoods	Land Use, Population, Employment and Housing
Noise	Transportation and Circulation; and Noise
Parks and Recreation	Land Use, Population, Employment and Housing; Public Services and Utilities; Biological Resources
Safety	Public Services and Utilities; Geology, Soils and Seismicity; and Hydrology, Water Quality and Flood Hazards

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## **Vocabulary**

The following terms are used in this EIR as prescribed in the CEQA Guidelines.

***Cumulative Impact/Cumulatively Significant***

Effects that, when considered with related effects, have a significant impact.

***Less- than-Significant Impact***

A change or effect directly or indirectly attributable to the project which would not exceed the threshold(s) of significance as defined for that impact area.

***Mitigation Measure***

Mitigation measures are measures that are intended to eliminate, reduce, or compensate for impacts identified as significant or potentially significant. Impacts identified as less-than-significant would not require mitigation.



***Significance Criteria***

Criteria by which an impact is declared significant and in need of mitigation. These criteria are typically based on the description in Appendix G of the CEQA Guidelines, which generally describes circumstances when impacts would be considered significant. Where possible, the criteria are based on state, regional or local standards.

***Significant Impact***

An impact that exceeds the threshold of significance as defined for that impact area and can be mitigated to a less-than-significant level.

***Significant Unavoidable Impact***

A significant impact that cannot be mitigated to a less-than-significant level. These include impacts that could be partly mitigated but could not be reduced to a less-than-significant level.



## ***II. SUMMARY***



## **II. SUMMARY**

This section summarizes the findings of the EIR. It highlights the project's effects, identifies the alternatives studied, and presents the impact overview discussions required by the California Environmental Quality Act (CEQA).

This EIR considers full project buildout and assesses the effects of implementing the project alone and combined with other cumulative development expected in the vicinity. Exhibit II.2-1, presented in the second section of this chapter, summarizes the environmental impacts identified in **Chapter VI, Environmental Setting, Impacts, and Mitigation Measures** where the impacts are discussed in detail. The following levels of significance were used to identify impacts in Exhibit II.2-1 and elsewhere in the EIR:

### **Significant Unavoidable Impact (SU)**

This is a significant (or potentially significant) impact which cannot be mitigated to a less-than-significant level. These include impacts that could be partly mitigated but could not be reduced to a less-than-significant level. (A potentially significant impact is identified when not enough information is known to determine if the impact would be significant.)

### **Significant Impact (S)**

This is an impact that exceeds the threshold of significance as defined for that impact area and can be mitigated to a less-than-significant level.

### **Less-than-Significant Impact (LTS)**

This is a change or effect directly or indirectly attributable to the project which would not exceed the threshold(s) of significance as defined for that impact area.

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

## II.1 PROJECT SUMMARY

San Rafael's current General Plan, *General Plan 2000*, was adopted in 1988. In 1998 the City determined that a comprehensive update of the *General Plan 2000* was needed to address changed conditions since adoption of the 1988 plan to maintain a plan current in policy, program implementation, and budget direction.

The proposed project is a comprehensive update of the *General Plan 2000*. The following is a list of the topical elements that have been prepared or updated in the *Draft General Plan 2020*:

- *Air and Water Quality*
- *Circulation*
- *Conservation*
- *Culture and the Arts*
- *Community Design*
- *Economic Vitality*
- *Governance*
- *Housing*
- *Infrastructure*
- *Land Use*
- *Neighborhoods*
- *Noise*
- *Parks and Recreation*
- *Safety*

The Air and Water Quality, Conservation, Culture and the Arts, Community Design, Economic, Governance and Infrastructure Elements are new elements of the *Draft General Plan 2020*. Several of these elements are addressed in the *General Plan 2000* as follows: Conservation policies are located in the Natural Environment Element; Community Design policies are located in the Land Use, Downtown, Francisco Boulevard West, East San Rafael, Canal, Bayfront and Marin Island, and the Montecito/Happy Valley sections; and Infrastructure policies are located in the Land Use Element. The existing Neighborhood Element has been revised to consolidate the *General Plan 2000* policies as well as the policies in the eight existing neighborhood plans. The new Neighborhood Element replaces all existing neighborhood plans.

A more detailed project description and background is contained in *Chapter III, Project Description*.

**II.2 SUMMARY OF IMPACTS AND MITIGATIONS**

**Exhibit II.2-1  
Summary of Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measure</b>	<b>Significance After Mitigation</b>
<b>Land Use, Population, Employment, and Housing</b>			
<i>IV.1-1 Conflict with Applicable Land Use or Other Plans</i> Development under the <i>Draft General Plan 2020</i> would not conflict with other adopted plans. This would be a less-than-significant impact.	LTS	None required.	LTS
<i>IV.1-2 Incompatible Land Uses and Changes to Neighborhood Character</i> Development consistent with the <i>Draft General Plan 2020</i> would result in changes in land use type, density, scale, and character in numerous City neighborhoods. Policies and programs in the <i>Draft General Plan 2020</i> would reduce potential conflicts between new and existing uses, including design and traffic conflicts. This would be a less-than-significant impact.	LTS	None required.	LTS
<i>IV.1-3 Growth and Concentration of Population</i> Development consistent with the <i>Draft General Plan 2020</i> would not induce substantial growth and concentration of the City's population. This would be a less-than-significant impact.	LTS	None required.	LTS
<i>IV.1-4 Employment Growth Rate</i> Development consistent with the <i>Draft General Plan 2020</i> would add additional jobs to the Planning Area. This would be a less-than-significant impact.	LTS	None required.	LTS

**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measure</b>	<b>Significance After Mitigation</b>
<p><i>IV.1-5 Jobs-to-Housing Ratio</i> Development consistent with the <i>Draft General Plan 2020</i> would slightly decrease the jobs-to-housing ratio. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<b>Transportation and Circulation</b>			
<p><i>IV.2-1 Level of Service at Intersections Improved to Acceptable Levels with Draft General Plan 2020</i> Implementation of the <i>Draft General Plan 2020</i> without improvements would result in unacceptable LOS at intersections. However, <i>Draft General Plan 2020</i> improvements would result in acceptable LOS at these intersections. Therefore, this would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.2-2 Level of Service at Second Street and A Street with Draft General Plan 2020</i> Implementation of the proposed <i>Draft General Plan 2020</i> without <i>Draft General Plan 2020</i> improvements would result in LOS F in the AM and PM at this intersection, and with <i>Draft General Plan 2020</i> improvements would result in LOS C in the AM, and LOS E in the PM at this intersection. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.2-3 Level of Service at Third Street and Union Street from Draft General Plan 2020</i> Implementation of the proposed <i>Draft General Plan 2020</i> would result in increased delay, and degradation in intersection LOS. Intersection LOS would change from acceptable LOS under Baseline conditions to unacceptable LOS under the proposed project. This would be a significant impact.</p>	S	<i>Mitigation Measure IV.2-3</i> There are no additional feasible mitigation measures that would further reduce this impact.	SU

LTS = Less-Than-Significant; S = Significant; SU = Significant Unavoidable (unmitigatable to a less-than-significant level)



**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measure</b>	<b>Significance After Mitigation</b>
<p><i>IV.2.4 Level of Service at Lincoln Avenue and US 101 Southbound Ramps with Draft General Plan 2020</i></p> <p>Implementation of the proposed <i>Draft General Plan 2020</i> would result in increased traffic volumes, delay, and degrade intersection LOS. <i>Draft General Plan 2020</i> would result in a change in intersection LOS for the PM peak hour from E under Baseline conditions to LOS F under the proposed project. This would be a significant impact.</p>	S	<p><i>Mitigation Measure IV.2.4</i></p> <p>There are no additional feasible mitigation measures that would further reduce this impact.</p>	SU
<p><i>IV.2.5 Level of Service at Mission Avenue and Irwin Street with Draft General Plan 2020</i></p> <p>Implementation of the proposed <i>Draft General Plan 2020</i> would result in increased traffic volumes and delay at this intersection; the intersection would continue to operate at LOS F with additional delay. This would be a significant impact.</p>	S	<p><i>Mitigation Measure IV.2.5</i></p> <p>There are no additional feasible mitigation measures that would further reduce this impact.</p>	SU
<p><i>IV.2.6 Unacceptable City Roadway Segment Level of Service Resulting from Draft General Plan 2020</i></p> <p>Implementation of the proposed <i>Draft General Plan 2020</i> would result in LOS on some City roadway segments degrading from acceptable to unacceptable LOS. This degradation would occur despite implementation of improvements included in <i>Draft General Plan 2020</i>. Therefore, this would be considered a significant impact.</p>	S	<p><i>Mitigation Measure IV.2.6</i></p> <p>There are no additional feasible mitigation measures that would further reduce this impact.</p>	SU
<p><i>IV.2.7 City Roadway Segment Level of Service Resulting from Draft General Plan 2020</i></p> <p>Implementation of the proposed <i>Draft General Plan 2020</i> would result in the continuation of traffic operations at LOS E or F on some City roadway segments. However, implementation of <i>Draft General Plan 2020</i> would not worsen traffic operations to the point of exceeding significance thresholds. Therefore, this would be a less-than-significant impact.</p>	LTS	None required.	LTS

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.2-8 Congestion Management Agency Arterial Levels of Service</i> Implementation of the project would result in increased traffic volumes, delay, and a minor decrease in LOS along some arterials for which the Congestion Management Agency has established LOS standards. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.2-9 Level of Service along US 101 and I-580 Mainlines Resulting from Draft General Plan 2020</i> Implementation of <i>Draft General Plan 2020</i> would cause some freeway segments to deteriorate below LOS E. This would be a significant project specific impact. This would also be a significant cumulative impact.</p>	S	<p><i>Mitigation Measure IV.2-9</i> There are no additional feasible mitigation measures that would further reduce this impact.</p>	SU
<p><i>IV.2-10 Level of Service on Freeway Off-ramps Resulting from General Plan 2020</i> Implementation of <i>Draft General Plan 2020</i> would cause some queues on freeway off-ramps to extend into the ramp's deceleration area or onto the freeway, or to exceed existing lane storage. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.2-11 Removal of On-Street Parking Spaces along Las Gallinas Avenue</i> Implementation of the proposed land uses in <i>Draft General Plan 2020</i> would result in increased traffic volumes, delay, and a decrease in intersection LOS. Improvements would be needed to intersections. Some improvements include the removal of on-street parking spaces to accommodate an additional travel lane to provide more capacity for traffic. These improvements have been included as part of the proposed project. The removal of on-street parking spaces would be a less-than-significant impact.</p>	LTS	None required.	LTS

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measure</b>	<b>Significance After Mitigation</b>
<p><i>IV.2-12 Removal of On-Street Parking Spaces along Grand Avenue</i> Implementation of the proposed land uses in <i>Draft General Plan 2020</i> would result in increased traffic volumes, delay, and a decrease in intersection LOS. Improvements would be needed to intersections. Some improvements include the removal of on-street parking spaces during the peak period to accommodate additional turn lanes and travel lanes, which would provide more capacity for the increase traffic volumes. These improvements have been included as part of the proposed project. The removal of on-street parking spaces would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.2-13 Removal of On-Street Parking Spaces along Lincoln Avenue</i> Implementation of the proposed land uses in <i>Draft General Plan 2020</i> would result in increased traffic volumes, delay, and a decrease in intersection LOS. Improvements would be needed to intersections. Some improvements include the removal of on-street parking spaces during the peak period to accommodate an additional travel lane, which would provide more capacity for the increase traffic volumes. These improvements have been included as part of the proposed project. The removal of on-street parking spaces would be a significant impact.</p>	S	<p><i>Mitigation Measure IV.2-13</i> There are no feasible mitigation measures that would further reduce this impact.</p>	SU
<p><i>IV.2-14 Parking in Newly-Developed Areas Citywide</i> Implementation of the proposed land uses in <i>Draft General Plan 2020</i> would result in new land use development. This development would result in the demand for additional parking supply. However, the zoning code would require adequate new parking for new development. This would be a less-than-significant impact.</p>	LTS	None required.	LTS

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.2-15 Increased Demand for Bicycle and Pedestrian Facilities under Draft General Plan 2020</i></p> <p>Implementation of the proposed land uses in <i>Draft General Plan 2020</i> would result in increased urban land uses and, therefore, demand for bicycle and pedestrian facilities. However, implementation of policies included in <i>Draft General Plan 2020</i> would result in improvements in bicycle and pedestrian facilities. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.2-16 Increased Demand for Transit Services under Draft General Plan 2020</i></p> <p>Implementation of the <i>Draft General Plan 2020</i> would result in increased demand for transit services. However, implementation of policies included in <i>Draft General Plan 2020</i> would result in improvements in transit service. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<b>Air Quality</b>			
<p><i>IV.3-1 Consistency with Clean Air Plan</i></p> <p>The project is consistent with the BAAQMD Thresholds of Significance that population not exceed ABAG projections and VMT should not increase faster than population. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.3-2 Consistency with Clean Air Plan Transportation Control Measures</i></p> <p>The <i>Draft General Plan 2020</i> policies would support regional TCMs that are to be implemented by Cities. This would be a less-than-significant impact.</p>	LTS	None required.	LTS

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.3-3 Odor/Toxics Buffer Zones</i> The Draft General Plan 2020 policies and land use maps would provide adequate buffer zones around existing and proposed land uses that could emit odor and toxic contaminants, but do not establish buffer zones from major mobile sources of toxic contaminants. This impact would be potentially significant.</p>	S	<p><i>Mitigation Measure IV.3-3</i> The following wording should be added to Program AW-2a <b>Sensitive Receptors</b>: Project review for sensitive receptors (facilities or land uses that include members of the population sensitive to the effects of air pollutants, such as children, the elderly and people with illnesses) proposed within 500 feet from the edge of the closest traffic lane of U.S. Highway 101 or I-580 should include an analysis of mobile source toxic air contaminant health risks, based on appropriate air dispersion modeling. Project review should include an evaluation of the adequacy of the setback from the highway and, if necessary, identify design mitigation measures to reduce health risks to acceptable levels.</p>	LTS
<b>Noise</b>			
<p><i>IV.4-1 Increased Traffic Noise</i> Existing noise sensitive land uses would be exposed to minor increases in noise levels from traffic. In addition, roadway improvement projects have the potential to generate noise impacts due to increased traffic noise. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.4-2 Increased Rail Noise</i> Existing noise sensitive land uses could be exposed to substantially increased noise levels from rail activity. This would be a significant impact.</p>	S	<p><i>Mitigation Measure IV.4-2</i> SMART shall conduct a detailed noise assessment and implement appropriate mitigation measures to reduce potential noise and vibration impacts to an acceptable level under City and FTA Guidelines for any rail project within its right-of-way in the Planning Area.</p>	SU
<p><i>IV.4-3 Stationary Noise Sources</i> Existing noise sensitive land use would be exposed to substantially increased noise levels from stationary noise sources. This would be a less-than-significant impact.</p>	LTS	None required.	LTS

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measure</b>	<b>Significance After Mitigation</b>
<i>IV.4.4 Increased Airport Noise</i> Existing noise sensitive land uses would not be exposed to increased noise levels from the private use San Rafael Airport. This would be a less-than-significant impact.	LTS	None required.	LTS
<i>IV.4.5 Future Noise Sensitive Development</i> Future noise sensitive development could potentially be exposed to noise levels greater than those considered normally acceptable. This would be a less-than-significant impact.	LTS	None required.	LTS
<b>Public Services and Utilities</b>			
<i>IV.5.1 Fire Protection and Emergency Services</i> Development consistent with the <i>Draft General Plan 2020</i> would increase the demand for fire protection and emergency services, which would require one additional paramedic unit. This would be a less-than-significant impact.	LTS	None required.	LTS
<i>IV.5.2 Wildland Fires</i> Development consistent with the <i>Draft General Plan 2020</i> would not significantly increase the potential for wildland/urban interface problems. This would be a less-than-significant impact.	LTS	None required.	LTS
<i>IV.5.3 Release of Hazardous Materials</i> Development consistent with the <i>Draft General Plan 2020</i> could cause a release of hazardous materials. This would be a significant impact.	S	<i>Mitigation Measure IV.5-3</i> A new implementing program (S-11b) shall be prepared and incorporated into Policy S-11 of the <i>Draft General Plan 2020</i> that requires remediation and cleanup in order to develop on sites where hazardous materials have impacted soil or groundwater. At a minimum, remediation and clean up of contaminated sites shall be in accordance with regional and local standards. The required level of remediation and clean-up shall be determined by the Fire Department based on the intended use of the site and health risk to the public. The time frame for this program shall be implemented in the short term and maintained on an ongoing basis.	SU

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**Exhibit II.2-1 (continued)  
 Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.5-4 Hazardous Materials, Substances, or Waste Near Schools</i>                      The <i>Draft General Plan 2020</i> land use map would allow development of industrial facilities that transport, store, use, emit, or dispose of hazardous materials within one quarter mile of existing school sites. This would be a significant impact.</p>	<p>S</p>	<p><i>Mitigation Measure IV.5-4</i>                      A new implementing program (S-9a) shall be prepared and incorporated into Policy S-9 of the <i>Draft General Plan 2020</i> that would require the City to survey existing industrial facilities within 1/4 mile of the schools. The survey would be used to determine the presence of hazardous materials and evaluate the risk of an accidental release that could adversely effect the health and safety of students and school staff. In addition, the City shall adopt a policy in the <i>Draft General Plan 2020</i> that would restrict siting of businesses or expansion of businesses (including hazardous waste repositories, incinerators or other hazardous waste disposal facilities) that have the potential for a significant hazardous materials release within one quarter mile of schools. The time frame for this policy and program shall require short-term implementation.</p>	<p>LTS</p>
<p><i>IV.5-5 Exposure to Underground Hazardous Wastes</i>                      Sites impacted by hazardous materials or petroleum products are located throughout the City. With continued compliance with hazardous materials laws and regulations, as well as implementation of applicable <i>Draft General Plan 2020</i> policies and programs, this would be a less-than-significant impact.</p>	<p>LTS</p>	<p>None required.</p>	<p>LTS</p>

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.5-6 Police Services</i></p> <p>Development consistent with the <i>Draft General Plan 2020</i> would generate demand for police services beyond the existing capacity of the San Rafael Police Department. This would be a significant impact.</p>	<p>S</p>	<p><i>Mitigation Measure IV.5-6(a)</i></p> <p>In order to meet the existing and projected future needs of the San Rafael Police Department, the City shall amend program <b>S-38a Public Safety Facilities</b> to assure that the San Rafael Police Department takes the following actions:</p> <ul style="list-style-type: none"> <li>• Determine the department’s existing and projected facility needs;</li> <li>• Obtain the necessary funding for the needed improvements; and</li> <li>• Purchase, construct, and/or renovate the necessary additional facilities.</li> </ul> <p><i>Mitigation Measure IV.5-6(b)</i></p> <p>The <i>Draft General Plan 2020</i> includes a number of policies and programs that would help limit potential impacts related to the construction of the needed police facilities. For example, Policy <b>CON-6 Creek and Drainage Setbacks</b> would reduce potential impacts to creeks and riparian habitats by requiring future development be sited a minimum of 25 feet (or up to 100 feet in certain circumstances) from the top of banks for all creeks. Policies <b>AW-8 Reduce Pollution from Urban Runoff</b> and <b>AW-9 Erosion and Sediment Control</b> would reduce potential water quality impacts due to erosion at construction sites by requiring and enforcing on-site runoff and sediment control. Program <b>N-10b Mitigation for Construction Activity Noise</b> would, through environmental review, minimize the exposure of neighboring properties to excessive noise levels from construction-related activities. Policy <b>AW-4 Particulate Matter Pollution Reduction</b>, and Program <b>AW-4a Project Review</b> would, through project review, help reduce particulate matter pollution due to construction activities.</p>	<p>SU</p>

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.5-7 Schools</i> Development consistent with the <i>Draft General Plan 2020</i> would not generate demand for school services beyond the existing public school capacity. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.5-8 Parks</i> Population increases consistent with the <i>Draft General Plan 2020</i> would not exceed current service standards for recreational facilities; however, the existing deficiency in certain types of park facilities would be further exacerbated, thereby requiring the construction of new facilities. This would be a significant impact.</p>	S	<p><i>Mitigation Measure IV.5-8</i> The <i>Draft General Plan 2020</i> includes a number of policies and programs that would help limit potential impacts related to the construction of the needed recreational facilities. For example, Policy <b>CON-6 Creek and Drainage Setbacks</b> would reduce potential impacts to creeks and riparian habitats by requiring future development be sited a minimum of 25 feet (or up to 100 feet in certain circumstances) from the top of banks for all creeks. Policies <b>AW-8 Reduce Pollution from Urban Runoff</b> and <b>AW-9 Erosion and Sediment Control</b> would reduce potential water quality impacts due to erosion at construction sites by requiring and enforcing on-site runoff and sediment control. Program <b>N-10b Mitigation for Construction Activity Noise</b> would, through environmental review, minimize the exposure of neighboring properties to excessive noise levels from construction-related activities. Policy <b>AW-4 Particulate Matter Pollution Reduction</b>, and Program <b>AW-4a Project Review</b> would, through project review, help reduce particulate matter pollution due to construction activities.</p>	SU

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**Exhibit II.2-1 (continued)  
 Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.5-9 Library Services</i>                      Development consistent with the <i>Draft General Plan 2020</i> could increase the demand for library services. This would be a significant impact.</p>	<p>S</p>	<p><i>Mitigation Measure IV.5-9</i>                      The <i>Draft General Plan 2020</i> includes a number of policies and programs that would help limit potential impacts related to the construction of the needed library facilities. For example, Policy <b>CON-6 Creek and Drainage Setbacks</b> would reduce potential impacts to creeks and riparian habitats by requiring future development be sited a minimum of 25 feet (or up to 100 feet in certain circumstances) from the top of banks for all creeks. Policies <b>AW-8 Reduce Pollution from Urban Runoff</b> and <b>AW-9 Erosion and Sediment Control</b> would reduce potential water quality impacts due to erosion at construction sites by requiring and enforcing on-site runoff and sediment control. Program <b>N-10b Mitigation for Construction Activity Noise</b> would, through environmental review, minimize the exposure of neighboring properties to excessive noise levels from construction-related activities. Policy <b>AW-4 Particulate Matter Pollution Reduction</b>, and Program <b>AW-4a Project Review</b> would, through project review, help reduce particulate matter pollution due to construction activities.</p>	<p>SU</p>
<p><i>IV.5-10 Wastewater Treatment Capacity – North of Puerto Suello Hill</i>                      Development consistent with the <i>Draft General Plan 2020</i> would not generate wastewater flows that exceed the treatment capacity of the Las Gallinas Valley Sanitary District facilities. This would be a less-than-significant project specific impact. This would also be a less-than-significant cumulative impact.</p>	<p>LTS</p>	<p>None required.</p>	<p>LTS</p>

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measure</b>	<b>Significance After Mitigation</b>
<p><i>IV.5-11 Wastewater Treatment Capacity – South of Puerto Suello Hill</i></p> <p>Development consistent with the <i>Draft General Plan 2020</i> could generate wastewater flows that exceed treatment capacity of the Central Marin Sanitation Agency. This would be a significant project specific impact. This would also be a significant cumulative impact.</p>	<p>S</p>	<p><i>Mitigation Measure IV.5-11(a)</i></p> <p>The CMSA shall conduct and complete a Capacity Management Alternative Study to determine the scope of needed improvements, costs, and expected benefits. The study shall include an analysis of storage alternatives at the CMSA treatment plant and the collection system to contain the peak flows. The study shall also identify feasible plant improvements, including increasing the number of treatment tanks, expanding the effluent pond, or building additional tanks to hold inflow, that shall be studied as part of the Capacity Management Study. In conjunction with the Capacity Management Study, the CMSA member agencies, including the San Rafael Sanitation District, shall conduct a condition assessment of their respective collection systems and develop planning documents for controlling stormwater infiltration inflow into sewer lines, which impacts peak flow conditions. Upon completion of the study, the CMSA Commission shall determine which improvements to pursue and the sources of funding.</p> <p><i>Mitigation Measure IV.5-11(b)</i></p> <p>The <i>Draft General Plan 2020</i> includes a number of policies and programs that would help limit potential impacts related to the construction of the needed wastewater treatment facilities. For example, Policy <b>CON-6 Creek and Drainage Setbacks</b> would reduce potential impacts to creeks and riparian habitats by requiring future development be sited a minimum of 25 feet (or up to 100 feet in certain circumstances) from the top of banks for all creeks. Policies <b>AW-8 Reduce Pollution from Urban Runoff</b> and <b>AW-9 Erosion and Sediment Control</b> would reduce potential water quality impacts due to erosion at construction sites by requiring and enforcing on-site runoff and sediment control. Program <b>N-10b Mitigation for Construction Activity Noise</b> would, through environmental review, minimize the exposure of neighboring properties to excessive noise levels from construction-related activities. Policy <b>AW-4 Particulate Matter Pollution Reduction</b>, and Program <b>AW-4a Project Review</b> would, through project review, help reduce particulate matter pollution due to construction activities.</p>	<p>SU</p>

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.5-12 Water Supply</i> Development consistent with the <i>Draft General Plan 2020</i> could increase the demand for water in the Planning Area. This would be a significant project specific impact. This would also be a significant cumulative impact.</p>	<p>S</p>	<p><i>Mitigation Measure IV.5-12(a)</i> In order to meet the projected water demand and reduce existing and projected water supply impacts the MMWD shall:</p> <ul style="list-style-type: none"> <li>• Continue to research water conservation opportunities;</li> <li>• Research new water supply sources; and</li> <li>• Construct the necessary facilities or infrastructure improvements.</li> </ul> <p>As explained above, the MMWD has begun the planning process for a desalination plant and has researched funding opportunities. Potential startup would be in 2007. MMWD also has aggressive water conservation programs in place. These programs shall be continued.</p> <p><i>Mitigation Measure IV.5-12(b)</i> In order to limit potential impacts related to the construction of the water supply facilities and improvements required in Mitigation Measure IV.5-11(a), MMWD shall implement the policies and programs included in the <i>Draft General Plan 2020</i> that are intended to reduce construction-related impacts.</p> <p>For example, Policy <b>CON-6 Creek and Drainage Setbacks</b> would reduce potential impacts to creeks and riparian habitats by requiring future development be sited a minimum of 25 feet (or up to 100 feet in certain circumstances) from the top of banks for all creeks. Policies <b>AW-8 Reduce Pollution from Urban Runoff</b> and <b>AW-9 Erosion and Sediment Control</b> would reduce potential water quality impacts due to erosion at construction sites by requiring and enforcing on-site runoff and sediment control. Program <b>N-10b Mitigation for Construction Activity Noise</b> would, through environmental review, minimize the exposure of neighboring properties to excessive noise levels from construction-related activities. Policy <b>AW-4 Particulate Matter Pollution Reduction</b>, and Program <b>AW-4a Project Review</b> would, through project review, help reduce particulate matter pollution due to construction activities.</p>	<p>SU</p>

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measure</b>	<b>Significance After Mitigation</b>
<i>IV.5-13 Landfill Capacity</i> Development consistent with the <i>Draft General Plan 2020</i> could result in increased waste generation. However, there is expected to be sufficient landfill capacity to accommodate this increase. This would be a less-than-significant impact.	LTS	None required.	LTS
<i>IV.5-14 Electricity, Natural Gas, and Gasoline Demand</i> Development consistent with the <i>Draft General Plan 2020</i> would not increase the demand for electricity or gas beyond the capacity of these service providers. This would be a less-than-significant impact.	LTS	None required.	LTS
<b>Cultural Resources</b>			
<i>IV.6-1 Impacts on Archaeological and Prehistoric Resources</i> Development consistent with the <i>Draft General Plan 2020</i> has the potential to result in the disturbance of subsurface archaeological and prehistoric resources. However, the <i>Draft General Plan 2020</i> would not change the requirements of the City's existing Archaeological Resource Protection Ordinance. Therefore this would be a less-than-significant impact.	LTS	None required.	LTS
<i>IV.6-2 Impacts on Historic or Cultural Resources</i> Development consistent with the <i>Draft General Plan 2020</i> would not result in the disturbance of historic or cultural resources. This would be a less-than-significant impact.	LTS	None required.	LTS

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><b>Visual Quality</b></p> <p><i>IV.7-1 Scenic Resources</i> Development consistent with the <i>Draft General Plan 2020</i> could impact scenic vistas and visual natural resources within the Planning Area. However, the development review and design review processes already in place in the City, combined with new policies outlined in the <i>Draft General Plan 2020</i> would limit the impact of new height allowances. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.7-2 Conflicts with Adjoining Development</i> Development consistent with the <i>Draft General Plan 2020</i> could potentially conflict with adjoining development relative to height within the Planning Area. However, the design review processes already in place in the City, combined with the new design guidelines outlined in the <i>Draft General Plan 2020</i> would limit the impact of potential conflicts. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.7-3 Visual Setting and Character of the City</i> Development consistent with the updated General Plan could alter or degrade the visual setting or character of the city. However, the design review process already in place in the City, combined with numerous policies in the <i>Draft General Plan 2020</i>, would limit the impact of potential impacts to the visual setting and character of the city. This would be a less-than-significant impact.</p>	LTS	None required.	LTS

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**Exhibit II.2-1 (continued)  
 Summary of Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measure</b>	<b>Significance After Mitigation</b>
<p>IV.7.4 <i>Nighttime Lighting and Glare</i>                      Development consistent with the <i>Draft General Plan 2020</i> could create new sources of light or glare and increase nighttime lighting in the area. This would be a significant impact.</p>	<p>S</p>	<p><i>Mitigation Measure IV.7.4</i>                      In order to minimize light trespass and greater overall light levels in the city, new development and projects making significant parking lot improvements or proposing new lighting shall be required to prepare a lighting plan for review by City planning staff. A new implementing program should be added in the General Plan – <b>CD-21b Lighting Plan</b> (Timeframe: Short Term) to require a design guidelines to include the following provisions for lighting plans:</p> <ul style="list-style-type: none"> <li>• All light sources should be fully shielded from off-site view.</li> <li>• All lights to be downcast except where it can be proved to not adversely affect other parcels.</li> <li>• Escape of light to the atmosphere should be minimized.</li> <li>• Low intensity, indirect light sources should be encouraged, except where other types of lighting is warranted for public safety reasons.</li> <li>• On-demand lighting systems should be encouraged.</li> <li>• Mercury, metal halide, and similar intense and bright lights should not be permitted except where their need is specifically approved and their source of light is restricted.</li> </ul>	<p>LTS</p>

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><b>Biological Resources</b></p> <p><i>IV.8-1 Special-Status Plant and Animal Species</i></p> <p>Implementation of the <i>Draft General Plan 2020</i> could affect a number of federally or state listed plant and animal species directly through incidental take or indirectly through habitat destruction. This would be a significant impact.</p>	<p>S</p>	<p><i>Mitigation Measure IV.8-1</i></p> <p>Two new implementing programs shall be added to the General Plan 2020: <b>CON-14b</b> Surveys to require that vacant sites are surveyed for the presence or absence of relevant special status species prior to development approval; and <b>CON-14c</b> Minimization to require that where impacts to special status species are deemed unavoidable, potential impacts to the identified species are minimized through design, construction, and operation of the project. Compensation measures could include on-site set asides or off-site acquisitions (e.g. conservation easements, deed restrictions, etc.) that would be required if project impacts result in direct loss or indirect impacts that cannot be mitigated in other ways. This might also involve species-specific enhancement restoration efforts for the mitigation lands.</p> <p>If special status plant and animal species are determined to be absent based on appropriately timed protocol level surveys (were applicable), consistent with <b>CON-14b</b>, or the project was able to avoid significant impacts to these species, then further mitigation, as outlined in proposed program <b>CON-14c</b> would not be warranted. When surveys conducted as outlined above establish the presence of one or more special status species, and impacts to these species are deemed unavoidable, site-specific mitigation, as outlined in proposed program <b>CON-14c</b> may need to be implemented.</p>	<p>LTS</p>

LTS = Less-Than-Significant; S = Significant; SU = Significant Unavoidable (unmitigatable to a less-than-significant level)



**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.8-2 Sensitive Natural Communities</i> A number of sensitive natural communities would be affected by the implementation of the <i>Draft General Plan 2020</i> either directly in undeveloped areas designated for development or indirectly by intensifying the land use adjacent to current undeveloped lands. This would be a significant impact.</p>	S	<p><i>Mitigation Measure IV.8-2</i> In order to reduce impacts to oak savanna/woodland habitat proposed development should either avoid, minimize, or compensate for loss of oak savanna/woodland habitat. A new implementing program – <b>CON-10a Oak Savanna/Woodland Habitat Protection</b> to require that proposed developments with potential impacts to oak savanna/woodland habitat shall either avoid, minimize, or compensate for the loss of oak savanna/woodland habitat. Avoidance would be the preferred measure where feasible. If it is deemed that an impact is unavoidable, minimization of direct and indirect impacts or compensation through habitat restoration, creation, or enhancement would be required.</p>	LTS
<p><i>IV.8-3 Federally Protected Wetlands</i> Implementation of the <i>Draft General Plan 2020</i> could affect a number of federally protected wetlands including marshes, streams, and various other wetlands which support a number of important plant and animal species. With implementation of the policies and programs in the <i>Draft General Plan 2020</i> this would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.8-4 Movement of Native Wildlife</i> Development in vacant parcels would occur adjacent to current development and would be limited to small areas. The majority of current undeveloped lands in the Planning Area would not be fragmented or developed with a higher intensity land use. Therefore, the movement of native wildlife would not likely be affected by the implementation of the <i>Draft General Plan 2020</i>. This would be a less-than-significant impact.</p>	LTS	None required.	LTS

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**Exhibit II.2-1 (continued)  
 Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.8.5 Habitat for Native Wildlife</i>                      Implementation of the <i>Draft General Plan 2020</i> may result in a loss of habitat for native wildlife if development occurs on currently available wildlife habitat. In the Planning Area, those areas that are proposed for development that provide habitat for wildlife occur primarily around the perimeter of or are contiguous with the areas that are currently developed. However, due to the limited amount of proposed development and with implementation of the programs and policies of the <i>Draft General Plan 2020</i>, this would be a less-than-significant impact.</p>	<p>LTS</p>	<p>None required.</p>	<p>LTS</p>
<p><i>IV.8.6 Invasive Exotics</i>                      Implementation of the <i>Draft General Plan 2020</i> may result in additional locations being planted with ornamental landscaping. Planting with common landscaping species often results in an increase in the number of exotic species “escaping” onto neighboring undeveloped lands. With implementation of the <i>Draft General Plan 2020</i> programs and policies future landscaping would result in a less-than-significant impact.</p>	<p>LTS</p>	<p>None required.</p>	<p>LTS</p>

LTS = Less-Than-Significant; S = Significant; SU = Significant Unavoidable (unmitigatable to a less-than-significant level)

**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><b>Geology, Soils, and Seismicity</b></p> <p><i>IV.9-1 Seismic Ground Shaking</i></p> <p>The project would expose people or structures to potential, substantial adverse seismic effects, including the risk of loss, injury, or death involving strong seismic groundshaking. This would be a significant impact.</p>	<p>S</p>	<p><i>Mitigation Measure IV.9-1</i></p> <p>The City shall adopt a General Plan policy that would require post-earthquake building inspections of critical facilities, and restrict entry into compromised structures. Inspections shall be conducted when the earthquake intensity is VII or higher per the Modified Mercalli Intensity Scale (see <b>Exhibit IV.9-1</b>). The Modified Mercalli Intensity scale is a subjective scale and would require City staff to judge the intensity of any earthquake felt within the Planning Area. An intensity VII earthquake would be major earthquake and would represent a notable event felt by most people in the Planning Area. <b>Exhibit IV.9-2</b>, shows at what distance, in kilometers, from the Planning Area a Magnitude 5, 6, 7, or 8 earthquake should result in a Modified Mercalli Scale intensity of about VII. As shown in this exhibit, intensity VII would be experienced at lower Magnitude earthquakes at greater distances on soft soils than on firm soils or rock. For example, a Magnitude 6 earthquake occurring about 65 kilometers from San Rafael would be experienced as an intensity VII on the Mercalli Scale in the parts of San Rafael that are on soft soils, but not in the parts that are on firm soils or rock. A Magnitude 8 earthquake occurring about 65 kilometers from San Rafael would be needed for an intensity VII on the Mercalli Scale in parts of the Planning Area, on firm soils, and rock.</p> <p>Additionally, as part of this General Plan policy the city shall require inspections as necessary in conjunction with other non-city public agencies and private parties for structural integrity of water storage facilities, storm drainage structures, electrical transmission lines, major roadways, bridges, elevated freeways, levees, canal banks, and other important utilities and essential facilities.</p> <p>As part of this policy, the City shall adopt an implementing program to identify a list of facilities that would be inspected. The Community Development Department shall prepare a list that identifies City owned essential or hazardous facilities as defined by Category 1 and 2 of Table 16-K of the Uniform Building Code, and shall prioritize the list for inspection scheduling purposes in case of an earthquake.</p>	<p>LTS</p>

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.9-2 Seismic Related Ground Failure</i> The project would expose people or structures to potential substantial adverse seismic effects, including the risk of loss, injury, or death from seismic-related ground failures of liquefaction, lateral spreading, lurching, differential settlement, and flow failures. This would be a significant impact.</p>	S	<p><i>Mitigation Measure IV.9-2</i> Same as Mitigation Measure IV.9-1.</p>	LTS
<p><i>IV.9-3 Landsliding</i> Development consistent with the <i>Draft General Plan 2020</i> would potentially expose people or structures to the damaging effects of landsliding. This would be a significant impact.</p>	S	<p><i>Mitigation Measure IV.9-3</i> The City shall develop and adopt a City landslide policy that would define the minimum level of landslide repair and City goals regarding secondary impacts associate with the repair work. The landslide policy would provide a guideline for development of parcels that contain landslides or could be impacted by landslides.</p>	SU
<p><i>IV.9-4 Subsidence</i> Development consistent with <i>Draft General Plan 2020</i> could expose property and structures to the damaging effects of ground subsidence hazards. This would be a significant impact.</p>	S	<p><i>Mitigation Measure IV.9-4(a)</i> The City shall amend policy <b>S-18 Rise in Sea Level</b> to assure that, prior to levee heightening for flood control purposes, the City shall coordinate with the Intergovernmental Panel on Climate change regarding the most current estimates of sea level rise.</p> <p><i>Mitigation Measure IV.9-4(b)</i> The City shall adopt a program for <b>S-17 Levee Upgrading</b> to perform period ground elevation surveys within the Canal Neighborhood to determine ground elevations throughout the area, including the levee system. The result of the survey shall be used to determine the need for levee heightening for flood protection purposes. When a need for levee heightening is determined, the City shall heighten the levees as necessary on public property and require that levees on private property be heightened.</p>	LTS
<p><i>IV.9-5 Erosion</i> There is the potential for the loss of soil resources due to erosion as well as the potential for the exposure of improvements to erosion-related damage. This would be a significant impact.</p>	S	<p><i>Mitigation Measure IV.9-5</i> The City shall amend <b>Policy NH-96 Shoreline Embankments</b> to include the following: After large storms, inspect existing rip-rap on levee faces. Repair and replace as necessary to provide adequate wave erosion protection.</p>	LTS

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**Exhibit II.2-1 (continued)  
 Summary of Impacts and Mitigation Measures**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<p><i>IV.9-6 Expansive Soils</i>                      Geotechnical review required by the <i>Draft General Plan 2020</i> would prevent exposure of property improvements to potential adverse effects from expansive soils. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.9-7 Septic Suitability of Soils</i>                      There are limited situations in which development consistent with the <i>Draft General Plan 2020</i> could result in the construction of septic tanks or alternative wastewater disposal systems on soils incapable of adequately supporting such systems. This would be a potentially significant impact.</p>	S	<p><i>Mitigation Measure IV.9-7</i>                      The City shall adopt a General Plan policy that would discourage the use of septic systems within the Planning Area. If no other alternatives exist, then soil tests (i.e. percolation, grain size analysis, soil type) shall be required to determine if the on-site soil are suitable for development of a septic system for disposal of wastewater. In hillside areas, an evaluation of the additional water from a septic system on hillside stability shall also be required. The policy shall require that new or improved septic systems be designed by a registered civil engineer that specializes in septic design.</p>	LTS
<b>Hydrology, Water Quality, and Flood Hazards</b>			
<p><i>IV.10-1 Water Quality Standards</i>                      Future development prescribed by the <i>Draft General Plan 2020</i> would not result a significant increase in the loading of petrochemical contaminants, heavy metals and pesticide and herbicide residues to natural and artificial drainageways within the Planning Area, and ultimately to San Rafael and San Pablo Bays. With implementation of <i>Draft General Plan 2020</i> policies and programs this would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.10-2 Groundwater</i>                      Implementation of the <i>Draft General Plan 2020</i> could result in overall incremental increases in impervious surface cover in some Planning Area watersheds. These increases would be minimal and would not affect groundwater resources. This would be a less-than-significant impact.</p>	LTS	None required.	LTS

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**Exhibit II.2-1 (continued)  
Summary of Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measure</b>	<b>Significance After Mitigation</b>
<p><i>IV.10-3 Erosion and Siltation</i> The majority of development consistent with the <i>Draft General Plan 2020</i> would be infill or redevelopment in already developed areas. Thus, actual incremental increases in project-induced erosion and sedimentation would be limited. At a small number of locales (including school grounds where the construction of staff housing would be permitted), the construction of commercial/industrial and residential projects could disrupt soil surfaces, alter local drainage patterns and create hillslope or floodplain erosion, and potentially cause downstream siltation. However, with implementation of <i>Draft General Plan 2020</i> policies and programs, this would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.10-4 Flooding and/or Stormwater Drainage System Capacities</i> Incremental increases in development consistent with the <i>Draft General Plan 2020</i> would be concentrated in existing urbanized portions of the San Rafael watersheds, which would not be expected to result in quantifiable increases in peak flow rates. This would be a less-than-significant impact.</p>	LTS	None required.	LTS
<p><i>IV.10-5 Tidal Flooding</i> Development allowed under the provisions of <i>Draft General Plan 2020</i> could increase the number and/or extent of residential and commercial construction within low-lying areas currently partially protected by Bay levees, which in some places are inadequate. If global warming accelerates the previously predicted rate of sea level rise, existing 100 year flood levels upon which minimum levee design elevations are based could increase and existing bay levees could be overtopped, resulting in more frequent and more damaging tidal flooding. With implementation of <i>Draft General Plan 2020</i> policies and programs this would be a less-than-significant impact.</p>	LTS	None required.	LTS

LTS = Less-Than-Significant; S = Significant; SU = Significant Unavoidable (unmitigatable to a less-than-significant level)

**Exhibit II.2-1 (continued)  
 Summary of Impacts and Mitigation Measures**

<b>Impact</b>	<b>Significance Before Mitigation</b>	<b>Mitigation Measure</b>	<b>Significance After Mitigation</b>
<i>IV.10-6 Stormwater Drainage System Expansions</i> Development consistent with the <i>Draft General Plan 2020</i> would not require the expansion of existing stormwater drainage systems. This would be a less-than-significant impact.	LTS	None required.	LTS
<i>IV.10-7 Exposure of People or Structures to Flooding Hazards</i> Development consistent with the <i>Draft General Plan 2020</i> would potentially result in the siting of residential or commercial structures in floodplains, subjecting the structures people and/or structures to hazardous floodflows. However, development consistent with the <i>Draft General Plan 2020</i> would not be expected to increase peak flow rates. Also, with implementation of <i>Draft General Plan 2020</i> policies and programs related to flooding and hydrology this would be a less-than-significant impact.	LTS	None required.	LTS
<i>IV.10-8 Inundation by Seiche, Tsunami or Mudflow</i> Development consistent with <i>Draft General Plan 2020</i> could result in the construction of low-lying residential or commercial projects that may be subject to inundation by an earthquake-induced tsunami. With implementation of <i>Draft General Plan 2020</i> policies and programs related to flooding and levee improvements this would be a less-than-significant impact.	LTS	None required.	LTS
<b>Agriculture</b>			
<i>IV.11-1 Farmland Conversion</i> Development consistent with the <i>Draft General Plan 2020</i> will have no adverse effect on conversion of farmland to non-agricultural use. This would be a less-than-significant impact.	LTS	None required.	LTS

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## II.3 EVALUATION OF PROJECT ALTERNATIVES

The EIR examines three alternatives to the project as presently proposed. These are:

- **Alternative 1 – No Project / No Development** This alternative would reflect the existing conditions with no additional development within the City of San Rafael Planning Area. The current conditions in the City of San Rafael Planning Area would remain. The environmental impacts are described by the existing conditions as reflected by the *San Rafael General Plan 2020 Background Report*, dated April, 2001. This alternative reflects the least amount of development of the alternatives analyzed.
- **Alternative 2 – No Project / No Action / General Plan 2000** Alternative 2 (*No Project/No Action/General Plan 2000*) assumes that no General Plan is adopted for the City, and future development would continue to be guided by the existing General Plan, *General Plan 2000*, and zoning. This alternative reflects growth under existing *General Plan 2000* policies, assuming feasible infrastructure improvements and community services. One significant policy from *General Plan 2000* that would not be included in this alternative is the extension of McInnis Parkway from its current terminus at Marin Lagoon to Highway 37, described as the ‘east side arterial’ in Policy C-8e. The McInnis extension is currently not funded, *Vision North San Rafael* recommends against the extension, and the Novato General Plan does not include the roadway in its circulation network.<sup>1</sup>

As shown in **Exhibit VI.1-1** and **VI.1-2**, this alternative would result in a higher level of growth than the *Draft General Plan 2020*. Buildout under the existing General Plan would include the potential for about 5,055 new residential units and 3,461,000 square feet of new nonresidential development within the City limits. This maximum buildout includes 1,561 more residential units than projected under the *Draft General Plan 2020*, and an increase of 3,060,000 square feet of nonresidential development beyond the projections of the *Draft General Plan 2020*. With this buildout, there would also be an increase in population and employment within the Planning Area: development consistent with the existing General Plan would result in 15,539 additional residents over the population in 1998 (11,348 since Census 2000) and 4,496 additional jobs. This is in comparison to the 12,708 additional residents (8,517 since Census 2000) and 1,812 additional jobs that would be expected with the *Draft General Plan 2020* within the Planning Area.

In this alternative, the existing regulations would continue existing patterns of land use, including single-use General Commercial, Office, and Marine districts. In addition, very limited development would occur Downtown as this area is essentially considered built-out under the EIR for *General Plan 2000*. At the Canalways, San Rafael Airport, and St. Vincent’s/Silveira properties more development would occur in this alternative than with the proposed project.

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<sup>1</sup> Note that the McInnis extension is also mentioned in Policies C-3a, NG-4, NG-19, SVS-2, SVS-5, and SVS-19 of the *General Plan 2000*. The McInnis extension is listed in the Circulation Background section of the *General Plan 2000* as a street system improvement “needed to serve the St Vincents/Silveira/Northgate area”. It is described on page CircB-18.



- **Alternative 3 – Reduced Development** Alternative 3 (*Reduced Development*) assumes that housing and nonresidential development would be less than the *Draft General Plan 2020* projections. The goal of this alternative is to reduce traffic impacts while still meeting the City’s housing objectives. As shown in **Exhibits VI.1-1** and **VI.1-2**, this alternative has a lower level of growth than *Draft General Plan 2020*. In addition, uses that generate less traffic than retail and housing, such as hotels and senior units, replace *Draft General Plan 2020* assumptions for housing and commercial development.

Buildout under Alternative 3 (*Reduced Development*) would include the potential for about 2,611 new residential units and 236,000 square feet of new nonresidential development within the City limits. This maximum buildout includes 883 less residential units than projected under the *Draft General Plan 2020*, and a decrease of 165,000 square feet of nonresidential development below the projections of the *Draft General Plan 2020*. With this buildout, there would also be less of an increase in population and employment within the Planning Area: development consistent with this alternative would result in 10,503 additional residents over the population in 1998 (6,312 since Census 2000) and 2,000 additional jobs. This is in comparison to the 12,708 additional residents (8,517 since Census 2000) and 1,812 additional jobs that would be expected with the *Draft General Plan 2020* within the Planning Area.

On the basis of the discussion of the proposed project and the three alternatives, the EIR finds that Alternative 1 (*No Project/No Development*) would be the environmentally superior alternative because it would avoid most of the environmental impacts associated with increased development.

The *Guidelines* also state that, if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Based on a comparison of the of the significant environmental impacts of all the development alternatives, Alternative 3 (*Reduced Development*) and the *Draft General Plan 2020* would result in the same number of significant unavoidable impacts and the same number of less-than-significant impacts. Alternative 3 (*Reduced Development*) would result in slightly reduced significant impacts than the proposed project and therefore would be the environmentally superior alternative. The primary advantage of this alternative is that less development would reduce the opportunities for potential impacts, particularly as they relate to construction and traffic.



### ***III. PROJECT DESCRIPTION***



### **III. PROJECT DESCRIPTION**

This chapter of the EIR describes the location of the *Draft General Plan 2020* project (the proposed project), discusses the project purpose and objectives and summarizes the project technical economic, and environmental characteristics, including the population, employment, and housing projections.

#### **III.1 PROJECT LOCATION**

The City of San Rafael is located within the County of Marin, one of the nine counties of the San Francisco Bay Area Region. The City is located 17 miles north of San Francisco, along the western edge of San Francisco Bay (see **Exhibit III.1-1**). San Rafael's Planning Area encompasses 51 square miles, including 21 square miles of water area and 30 square miles of land area. The General Plan Planning Area (Planning Area) includes all of San Rafael's incorporated lands plus land areas outside the City limits that are designated by the Local Agency Formation Commission (LAFCO) as within San Rafael's sphere of influence. These areas include California Park, Country Club, Bayside Acres, and Los Ranchitos; unincorporated areas on the Sun Valley slope; China Camp State Park; the Santa Venetia area; and the Marinwood and Lucas Valley area (developed and undeveloped portions) (see **Exhibit III.1-2**).

LAFCO currently includes the properties of St. Vincent's School for Boys and the Silveira Ranch within the San Rafael Sphere of Influence. Consistent with City Council Resolution,<sup>1</sup> the City has requested that LAFCO remove the St. Vincent's and Silveira Ranch properties (St. Vincent's/Silveira properties) from San Rafael's Sphere of Influence. Also consistent with the Resolution, *Draft General Plan 2020* would not include those lands within the Planning Area nor policies addressing the future of these properties, as the Marin Countywide Plan will determine future land uses.

#### **III.2 PROJECT OBJECTIVES**

The *Draft General Plan 2020* would be a comprehensive update of *General Plan 2000*. The proposed project is designed to meet a number of objectives, including:

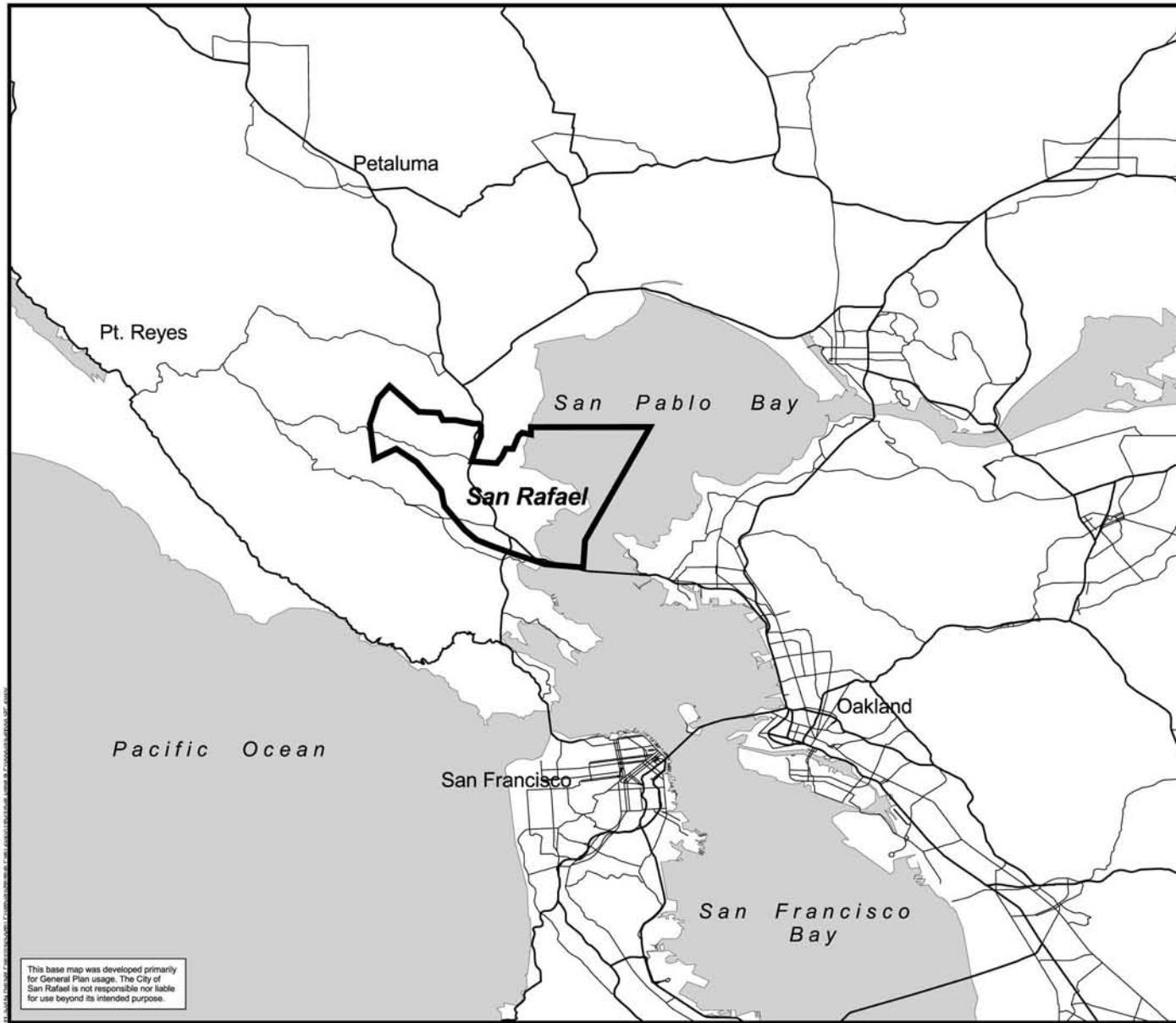
- Address changed conditions since the adoption of *General Plan 2000* in 1988;
- Include recent policy recommendations from the *Economic Vision*, *Vision North San Rafael*, and *Canal Voice*;
- Meet legal requirements for a General Plan, Housing Element, compliance with regional standards and regulations, and environmental review;
- Create a simple, easy-to-read document; and
- Adopt zoning changes, design guidelines and other implementing resolutions related to key provisions of the Plan.

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<sup>1</sup> City Council Resolution 11237

## Regional Location



 San Rafael Planning Area

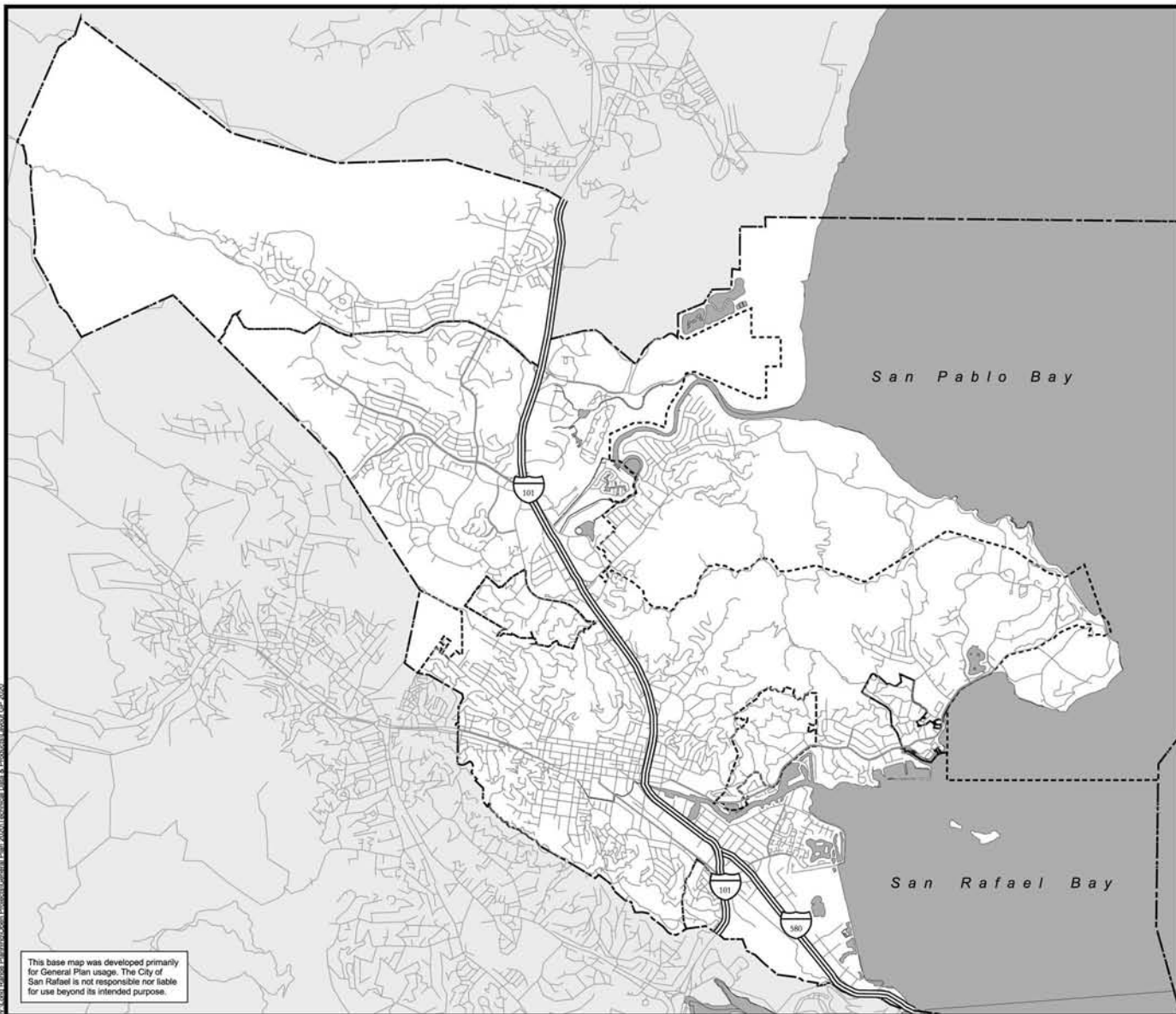


This base map was developed primarily for General Plan usage. The City of San Rafael is not responsible nor liable for use beyond its intended purpose.



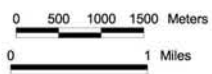
### San Rafael Planning Area

-  San Rafael City Limit
-  Planning Area and Sphere of Influence Boundary



Map Data Provided/Courtesy: Esri, 2010; Technical Data & Esri/MapInfo, 2010

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### III.3 DESCRIPTION OF DRAFT GENERAL PLAN 2020

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#### Overview of General Plan 2020

The project is a comprehensive update of *General Plan 2000*. The goals, policies, and programs of the *Draft General Plan 2020* reflect seven themes:<sup>2</sup>

- *Keep San Rafael's 'hometown' character – San Rafael is a place unlike any other, mixing the old and new while retaining a sense of history, providing a comfortable sense of belonging to a special place.*

One of the strengths of San Rafael is that it has retained a unique sense of identity, through decades of new construction, changing businesses, and a changing socio-economic climate. San Rafael policies seek to retain and build on this 'hometown' character by balancing the preservation of valued historic and environmental assets with the energy and excitement that comes from new initiatives, buildings and businesses.

- *Foster San Rafael's accessible and responsive government – San Rafael has an involved and committed citizenry dedicated to seeking solutions and improvement.*

Over the past two decades San Rafael's City government has evolved towards a community-based governance model where residents have increasingly become more familiar with and involved in City government. Through volunteerism, neighborhood partnerships, civic cooperation, advisory groups and task forces, and review of projects, the San Rafael public has increasingly engaged in government.

- *Improve the appearance of the neighborhoods – San Rafael is a city of neighborhoods, both residential and commercial, and new, attractive and graceful buildings complement and enhance existing neighborhoods.*

As San Rafael is essentially a built-out community, meaning that most new development will occur on sites where an existing building is expanded or replaced, project design has become a critical element of review. New buildings can reinforce a neighborhood's character, provide landmarks and public spaces, and increase the value of an area. San Rafael policies expand the possibilities for design guidance and for projects to improve neighborhoods.

- *Sustain the diversity of the local economy – The strength of San Rafael's local economy is its central location as a full service city with a wide range of goods, services, jobs and housing opportunities.*

During the past twenty years of economic growth, San Rafael experienced considerable jobs growth as major retailers moved to the city, and new office and light industrial buildings were constructed. Because of its proximity to San Francisco and the East Bay, and because of the diversity of the local economy, San Rafael has a relatively stable local economic base.

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<sup>2</sup> City of San Rafael Draft General Plan 2020, General Plan 2020 Steering Committee, January 9, 2004.



Nonresidential development, particularly retail uses, helps fund needed City services. San Rafael policies allow for limited economic growth in particular areas.

- *Increase the housing supply – New homes add to the vitality of San Rafael, retain diversity, provide housing for people who work here, reduce traffic, and can best be provided in mixed use commercial and infill areas.*

San Rafael has long experienced an affordable housing crisis. One way to meet local housing needs is to build more housing. San Rafael policies particularly support new housing in commercial areas.

- *Manage the traffic – San Rafael maximizes opportunities to improve traffic flow and increase opportunities for walking, biking and using transit.*

Residents want to ensure that new development does not result in negative traffic impacts. Needed improvements are described in the Circulation Element. Parking is also an issue, particularly in areas where older projects do not have sufficient on-site parking.

- *Treasure the open spaces – Over the years, San Rafael residents have purchased and dedicated natural areas to save them as open space, resulting in surrounding hills that will remain natural backdrops to the community.*

Due to community efforts in the early 1970s to purchase threatened open space areas, San Rafael's hillsides and many of its wetland areas are preserved for perpetuity. Policies support wetland protection (and expansion), open space management, and appropriate public uses in environmentally sensitive areas.

These themes are further described in the *Vision of San Rafael in 2020*, and in the policy direction of the draft plan. *Draft General Plan 2020* is organized by four topic areas, with 15 chapters, or elements, as described below.

#### **TOPIC AREA: OUR USE OF LAND**

**Land Use Element – Required element.** This element would establish the planned land use pattern for San Rafael based on historic development and the community's vision for the future. The City of San Rafael is a built-out community with limited development opportunities. Growth would be managed through policy **LU-3 Project Selection Process** which would be an expansion of the City's current Priority Projects Procedure that provides for City Council review and approval of traffic allocations for high priority projects. The program would apply to projects of a certain size or larger city-wide (including Central and Downtown San Rafael) rather than projects only at the 101/580 interchange or the 101/Freitas interchange. In addition, the evaluation criteria would be modified to reflect current City Council goals.

Policies would continue to promote housing throughout the city, neighborhood retail centers, industrial areas, and regional shopping areas, and an urban Downtown. Updated Land Use policies would promote infill redevelopment on underutilized sites in commercial areas and near transit, while maintaining the historic neighborhood and nonresidential land use patterns of the community. Mixed use would be allowed, in more areas of the city, as housing would be and added use in three commercial districts (Office, General Commercial and Marine-Related) and one industrial district (Lindero Mixed Use). The land use map (see **Exhibit III.3-1**) and policies also show areas appropriate for providing housing units consistent with State law requirements.



# City of San Rafael General Plan 2020 Draft Land Use Map

G.P Exhibit 11 / EIR Exhibit III.3-1



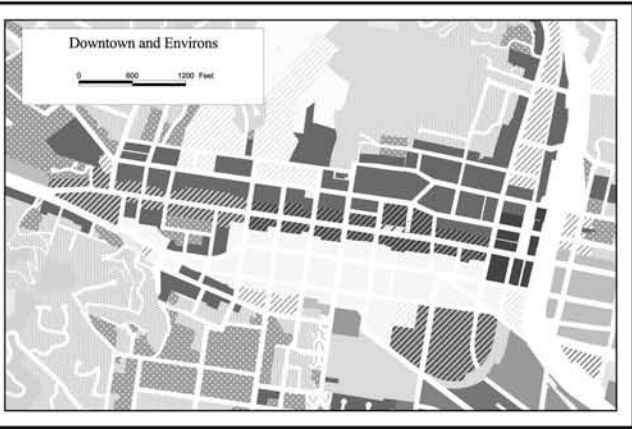
- Hillside Residential Resource, 0.1 - 0.5 units/acre
- Hillside Residential, 0.5 - 2 units/acre
- Large Lot Residential, 0.5 - 2 units/acre
- Res - Low Density, 2 - 6.5 units/acre
- Res - Medium Density, 6.5 - 15 units/acre
- High Density Residential, 15 - 32 units/acre
- General Commercial, 15 - 32 units/acre
- Neighborhood Commercial, 6.5 - 15 units/acre
- Retail Office, 15 - 32 units/acre
- Office, 15 - 32 units/acre
- Residential Office, 15 - 32 units/acre
- Hetherington Office, 32 - 62 units/acre
- Lindero Mixed Use, 6.5 - 15 units/acre
- Lindero Office, 15 - 32 units/acre
- Second/Third Mixed Use, 32 - 62 units/acre
- Fourth Street Commercial Core, 32 - 62 units/acre
- Fifth/Mission Residential/Office, 15 - 32 units/acre
- West End Village, 15 - 32 units/acre
- Park
- Open Space
- Conservation
- Public - Quasi-Public
- Industrial
- Light Industry/Office
- Marine Related
- Mineral Resources



- San Rafael City Limit
- San Rafael Planning Area

NOTE: The size and scale of this map does not permit individual parcels to be shown; therefore, refer to display maps at City Hall for more detailed information; refer to General Plan text for more specific description of land use densities and intensities; refer to the Baylands map, Exhibit 36, for information on site wetlands.

This map was developed primarily for General Plan use. The City of San Rafael is not responsible nor liable for use of this map beyond its intended purpose.



Building heights are described in **LU-13 Building Heights** and **LU-14 Height Bonuses**. An increase in height from *General Plan 2000* limits is proposed in the following two districts:

- *Neighborhood Commercial* – to allow an additional six feet (up to 36 feet) for a residential/retail mixed use building.
- *General Commercial* – in the North San Rafael Town Center area, to allow either a 12 or 24 feet height bonus for affordable housing.<sup>3</sup>

Land use categories are described in **LU-24 Land Use Map and Categories**. The following *General Plan 2000* Land Use categories are proposed to be modified:

- *Agriculture* – land use category deleted
- *General Commercial* – residential use added
- *Office* – residential use added
- *Hetherton Office* – more ground floor retail uses allowed, and residential-only uses allowed
- *Lindaro Mixed Use* – new land use category allowing live/work residential use in an industrial area
- *Marine Related* – residential use added
- *Retail/Office* – residential use expanded
- *Parks and Open Space* – the land use category was separated into two districts of Parks and of Open Space.
- *Conservation* – the ‘overlay’ designation indicating privately owned areas with significant environmental characteristics was separated from “Parks/Open Space” to a separate land use category.

The *General Plan 2000* Land Use Map is proposed to be revised in the following places (See **Exhibit III.3-2** for a complete list of proposed land use changes, including *General Plan 2000* and *Draft General Plan 2020* designations, by location and assessor’s parcel number):

- *School sites* – all school sites would have a residential designation consistent with that of the surrounding neighborhoods, instead of some having a Public/Quasi-Public designation.
- *Industrial lots around Davidson Middle School* – lots would be designated Mixed Use Lindaro to allow live/work residential use.
- *Medway / Vivian area* – light industrial/office areas would be redesignated to Neighborhood Commercial to allow for more neighborhood-serving commercial uses.
- *Loch Lomond Marina* – Neighborhood Commercial designation would be expanded to allow for site design flexibility for redevelopment of the site. Sensitive habitat areas would be designated Conservation.

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<sup>3</sup> Note: The Steering Committee did not reach consensus on a recommendation and has forwarded two options for Planning Commission consideration.

- *Brookdale Avenue* – sites would be redesignated from medium to high density reflecting changes with Highway 101 expansion.
- *Golden Gate Transit Bus Yard* – site would be designated Light Industrial/Office instead of Public/Quasi-Public.
- *Canalways* – site would be designated Conservation. Policy would allow for Light Industrial/Office development.
- *Vista Marin* – hillside area would be designated Open Space.
- *San Rafael Airport* – site would be designated Conservation. Policy would allow for airport and other restricted uses.
- *Woodland Avenue* – lots would be redesignated from High Density to Low Density and Medium Density to reflect current land use pattern.
- *Gold Hill Grade* – lots re-designated as Open Space to reflect recent zoning change.

**Exhibit III.3-2** summarizes the proposed land use changes, and **Exhibit III.3-3** shows the location of these land use changes. **Exhibit III.3-4** shows the existing and proposed acreage for all of the land use designations. The loss of 943 acres from the Planning Area, as shown in this exhibit, represents the removal of the St. Vincent’s/Silveira properties from the Planning Area. This acreage includes 581 acres of Commercial-Mixed Use land (St. Vincent’s/Silveira designation) and 363 acres of Parks and Open Space land (Agriculture/Recreation/Land Reserve designation).

**Exhibit III.3-2**  
**Proposed Land Use Changes**

<b>Map #</b>	<b>Location</b>	<b>GP 2000 Designation</b>	<b>GP 2020 Designation</b>	<b>Proposed Change</b>
“S”	All school sites with “P/QP land use	P/QP	LDR & MDR	Would allow potential for staff housing on school properties, as consistent with surrounding densities.
1	“LI/O” properties surrounding Davidson Middle School	LI/O	LMU	New land use category would promote live/work housing while retaining Light Industrial/Office uses.
2	Medway-Vivian Area	LI/O	NC	Would allow for more neighborhood-serving commercial uses.
3	Loch Lomond Marina	M, NC	NC, C, M	Would expand NC land use designation for increased neighborhood-serving commercial uses and housing. A portion of Marine-related designation would be changed to C to protect sensitive habitat.
4	St. Vincent’s/Silveira	AGR, POS/C, PQP	none	Would be removed from the Planning Area.
5	Brookdale Avenue Area	MDR	HDR	Would allow for increases in density.
6	Golden Gate Transit Bus Yard	P/QP	LI/O	Would provide for potential Light Industrial/Office uses.
7	Canalways	MDR	C	Would provide protection of sensitive habitat areas.
8	Vista Marin (Hillside Area)	LDR	OS	Would provide protection of sensitive hillside habitat (owned by Vista Marin Homeowners Association).

<b>Map #</b>	<b>Location</b>	<b>GP 2000 Designation</b>	<b>GP 2020 Designation</b>	<b>Proposed Change</b>
9	San Rafael Airport	NC, LDR, MDR	C	Would provide a general Land Use designation. Other allowable uses are found in the Declaration of Restriction for the San Rafael Airport (see <i>Draft General Plan 2020 Policy N-129</i> ).
10	208-268 Woodland Avenue	HDR	MDR/LDR	Existing units would be changed to MDR to reflect current density; parcels at southern corner of Davidson School would be changed to LDR.
11	APN 155101104	LDR	HR	Would be changed to HR to be consistent with Hillside Residential Guidelines. (steep slope)
12	APN 15525175	O	P/QP	Designation would be changed in anticipation of Fire Station per Resolution No. 8482.
13	APN 16428054 & 16428055	POS	HRR	Designation changed to reflect existing units.
14	APN 01119503	5MRO	P/QP	Designation changed to reflect proposed conversion to school use (existing medical office purchased by Marin Academy).
15	Bernard Hoffman Field	LDR	P	Designation changed to Parks.
16	APN 17927008	POS	LDR	Property owned by County of Marin.
17	6-18 Ninestone Court	POS	HRR	Designation changed to reflect existing Single Family dwelling units on parcels.
18	APN 16429064	HRR	OS	Designation changed to OS. Property owned by the Marinwood Community Services District.
19	APN 17932114	HRR	OS	Designation changed to OS. Property owned by the Marin County Open Space District.
20	Gold Hill Grade	HRR	OS	Per recently adopted zoning change.
21	LucasFilm Properties	HRR	OS,C	OS on Lucas Valley Open Space Preserve across northern portion of parcel, C on southern portion would provide protection of sensitive habitat.
22	Marin Islands	HRR	OS	Islands designated State and Federal Wildlife refuge
23	APN 16421104	POS	HRR	Owned by Marinwood Community Service District; changed to conform with county land use designation
24	APN 16464002	PQP	MDR, OS, PQP	Changed to conform with County land use designation.
25	APN 01808716; APN 01811202,-04,-05,-06	LDR	MDR	Changed to conform with County land use designation.
26	Harry A. Barbier Memorial Park, APN 01525053 and 18647077	POS	OS	Changed to reflect use as open space.

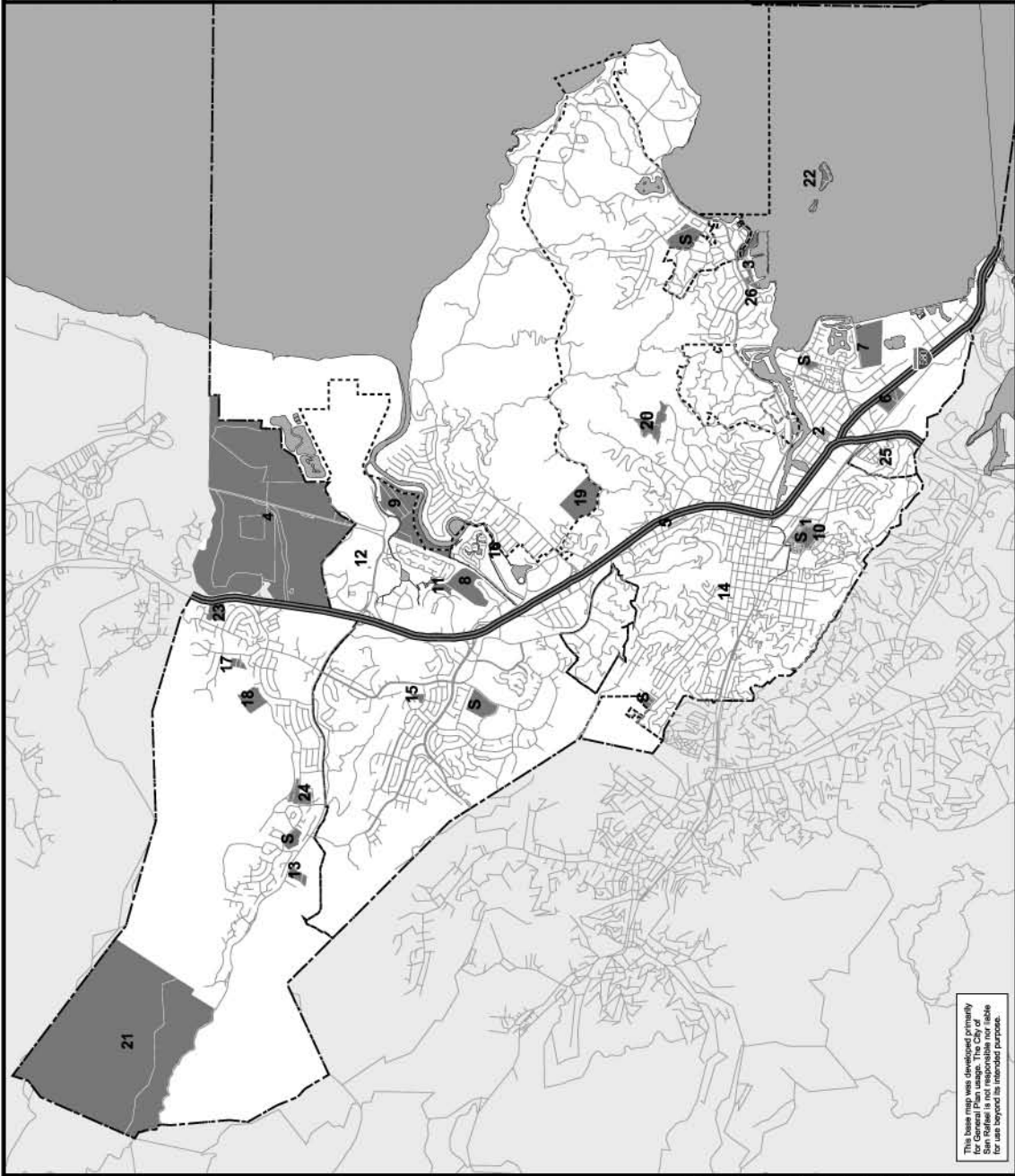
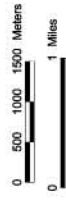
Source: City of San Rafael Community Development Department, 2003.



# Exhibit III.3-3

## Land Use Changes

Land Use Change



This base map was developed primarily for informational purposes. The City of San Rafael is not responsible for its use beyond its intended purposes.

**Exhibit III.3-4  
General Plan Land Use Designations, Existing and Proposed**

<b>General Plan Land Use Designation</b>	<b>General Plan 2000 (acres)</b>	<b>General Plan 2020 (acres)</b>	<b>Net Change (Acres)</b>	<b>Net Change (Percent)</b>
<b>Single-Family Residential</b>				
Hillside Resource Residential	2633	1535	-1098	-41.7
Hillside Residential	1652	1591	-61	-3.7
Large Lot Residential	83	83	0	0.0
Low Density Residential	3129	3201	72	2.3
<i>Single-Family Residential Subtotal</i>	<i>7497</i>	<i>6410</i>	<i>-1087</i>	<i>-14.5</i>
<b>Multifamily Residential</b>				
Medium Density Residential	578	563	-15	-2.6
High Density Residential	311	279	-32	-10.3
<i>Multifamily Residential Subtotal</i>	<i>889</i>	<i>842</i>	<i>-47</i>	<i>-5.3</i>
<b>Residential Subtotal</b>	<b>8386</b>	<b>7252</b>	<b>-1134</b>	<b>-13.5</b>
<b>Commercial-Mixed Use</b>				
Fifth/Mission Residential/Office	28	28	0	0.0
Fourth Street Retail Core	14	14	0	0.0
General Commercial	206	206	0	0.0
Hetherton Office	6	6	0	0.0
Lindaro Mixed Use	0	13	13	n/a
Lindaro Office	14	14	0	0.0
Marine Related	119	93	-26	-21.8
Neighborhood Commercial	34	38	4	11.8
Office	196	196	0	0.0
Residential/Office	16	16	0	0.0
Retail/Office	30	30	0	0.0
St. Vincents/Silveira	581	0	-581	-100.0
Second/Third Street Mixed-Use	37	37	0	0.0
West End Village	12	12	0	0.0
<i>Commercial-Mixed use Subtotal</i>	<i>1293</i>	<i>703</i>	<i>-590</i>	<i>-45.6</i>
<b>Commercial-Nonresidential</b>				
Industrial	135	125	-10	-7.4
Light Industrial/Office	301	312	11	3.7
Mineral Resource	230	230	0	0.0
Public-Quasi Public	1064	940	-124	-11.7
<i>Commercial-Nonresidential Subtotal</i>	<i>1730</i>	<i>1607</i>	<i>-123</i>	<i>-7.1</i>
<b>Commercial Total</b>	<b>3023</b>	<b>2310</b>	<b>-713</b>	<b>-23.6</b>
<b>Parks and Open Space</b>				
Parks/Open Space	6624	0	-6624	-100.0
Parks/Open Space/Conservation	303	0	-303	-100.0
Parks	0	1974	1974	n/a
Open Space	0	5551	5551	n/a
Conservation	0	669	669	n/a
Agriculture/Recreation/Land Reserve	363	0	-363	-100.0
<i>Parks/Open Space Subtotal</i>	<i>7290</i>	<i>8194</i>	<i>904</i>	<i>12.4</i>
<b>TOTAL</b>	<b>18699</b>	<b>17756</b>	<b>-943<sup>a</sup></b>	<b>-5.0</b>

<sup>a</sup> This number includes 581 acres of Commercial-Mixed Use land (designated St. Vincent's/Silveira) and 363 acres of Parks and Open Space land (designated Agriculture/Recreation/Land Reserve) on the St. Vincent's/Silveira properties that have been removed from the Planning Area.

Source: San Rafael Community Development Department, 2003

**Housing Element** – *Required element.* *General Plan 2000* policies proposed to be carried forward in *Draft General Plan 2020* continue to provide a wide range of housing densities to allow a variety of housing types to meet the different needs of San Rafael’s population. Policies would also continue to encourage innovative financing, below market rate housing, density and height bonuses for affordable housing, and community partnerships to assist in the development of affordable housing and to prevent discrimination in San Rafael’s housing market. Housing policies would also support public participation during project review and require new units to be compatible with the surrounding neighborhood. Second dwelling units would continue to be encouraged, consistent with State law provisions.

Policy changes include an increase in the inclusionary requirement up to 20 percent required affordable units in a project, compared with 10 percent in the current plan. Other changes are to encourage the construction of new mixed-use and higher density housing near transit and services, and revise the housing conservation policy consistent with State law. See Appendix B of *Draft General Plan 2020* for a list of housing sites, consistent with State requirements for meeting San Rafael’s regional share of housing needs.

**Neighborhoods Element** – *New optional element.* The *General Plan 2000* Neighborhood Element would be revised to consolidate current residential policies, policy recommendations in *Vision North San Rafael*, and policies in various adopted neighborhood plans. The *Draft General Plan 2020* Neighborhood Element would replace all existing neighborhood plans. Site-specific policies would be included in the Neighborhoods Element. For example, *General Plan 2000* design policies located in the Land Use, Downtown, Francisco Boulevard West, East San Rafael, Canal, Bayfront and Marin Island, and the Montecito / Happy Valley sections are included in the appropriate neighborhood section of *General Plan 2020*.

**Community Design Element** – *New optional element.* The City’s historic structures and surrounding natural landscapes add to the uniqueness and identity of San Rafael. This element would provide policies and programs to guide development of the City’s built environment and create an appealing, functional, and safe city. The Community Design Element policies and programs would identify features in the surrounding landscape and ensure that the built city enhances those features, and provide direction for the preservation of views to the hillsides, the ridgelines, the bay, the canal, and surrounding areas. Policies would also encourage design attention to protect and strengthen the character of neighborhoods and to design along major transportation corridors so that they may contribute to the quality of life in the City. Policies would also address the need for design guidelines and continued public involvement in the design review process.

#### **TOPIC AREA: OUR FOUNDATION**

**Economic Vitality Element** – *New optional element.* The Economic Vitality Element would establish policies supporting economic development and diversity in San Rafael. The element would include policies to implement the San Rafael’s *Economic Vision*. The focus of the element would be on sustaining a strong forward-looking economy through retaining existing and seeking new businesses, encouraging infill and enhancing the city’s business areas.

**Circulation Element** – *Required element.* The Circulation Element would establish policies affecting the movement of people, goods and vehicles within and through the city. The central focus of the Circulation Element is on creating a more diversified, safe, cost-effective, and resource-efficient transportation network. The Circulation Element would also provide the framework for



accommodating increased traffic from planned development in accordance with the Land Use Element.

Policies in the Circulation Element would modify *General Plan 2000* Level of Service standards to recognize constraints on Highways 101 and 580 and at specific local intersections, list needed roadway improvements to maintain level of service standards, and stress improving the City's transportation mode split to increase the use of public transit, bicycles, and other alternative modes. In addition to improving existing regional transit options, policies would encourage the development of commute rail service through San Rafael operating on the Sonoma Marin Area Rail Transit (SMART) Authority's right-of-way. Other policies encourage the use of traffic calming devices to provide safe and enjoyable streets for all users, and mixed-use development to allow residents to live close to jobs and other services and thereby reduce the number of automobile trips. Another change is that Appendix B in *General Plan 2000* is not included in *Draft General Plan 2020*. Traffic allocation would be proposed to occur instead through a modified Priority Projects Procedure, entitled Project Selection Process (PSP), and implemented through policy **LU-3 Project Selection Process** (See Land Use Element above).

**Infrastructure Element** – *New optional element.* The Infrastructure Element would provide policies and programs for the planning, construction, management, and maintenance of public facilities provided by the City of San Rafael related to roads, drainage, telecommunications, water and power systems, and other facilities. Policies and programs would also address such issues as functional and technological adequacy, disabled accessibility, and public parks and buildings.

**Governance Element** – *New optional element.* This Element identifies policies and programs to support community involvement in local government, partnerships with educational efforts, collaborative efforts with community groups, and sound fiscal practices.

#### **TOPIC AREA: OUR QUALITY OF LIFE**

**Culture and Arts Element** – *New optional element.* This Element identifies policies and programs to encourage, promote, and provide arts and cultural activities. The element would also provide for the expansion of library services, and for the protection and maintenance of historic buildings and archaeological resources.

**Parks and Recreation Element** – *Optional element.* The Parks and Recreation Element would provide policies and programs which identify San Rafael's park facilities, describe the community's recreation needs, and establishes policy direction on park and recreation improvements.

**Safety Element** – *Required element.* The Safety Element focuses on reducing the potential risk of death, injury, damage to property, and economic and social disruption resulting from fire, flood, seismic and geologic hazards, and other public health and safety hazards, including hazardous materials. *General Plan 2000* includes a Geotechnical Review Matrix, which establishes geotechnical review standards for new development. The Safety Element includes an update of the matrix.

The Safety Element provides policies for the type, location, intensity, and design of development (including public improvements) in areas of potential hazards. These policies focus on making informed decisions about land use and development near these hazards. The Safety Element also provides policies to ensure adequate fire protection, paramedic, and police services, including disaster preparedness planning and an urban search and rescue program. The element provides for the completion of the remaining San Rafael Basin storm drain improvement project that would achieve

flood protection objectives established by the City, and supports levee upgrades to provide flood protection by the Bay.

**Noise Element – Required element.** Vehicular traffic on roadways is the single largest source of unacceptable noise. Average noise levels are highest along Highways 101 and 580 and along major traffic corridors. Airplanes and mechanical and construction equipment are also contributors. The Noise Element includes standards to protect people from excessive, unnecessary and unreasonable noises in the community. The Noise Element provides policies to minimize the noise impacts of anticipated commute rail service, address noise impacts from existing sources, minimize the exposure of new residents and workers to excessive levels of noise, and prevent adverse levels of noise from being generated by new sources. Noise Element policies would minimize noise impacts from increased traffic levels by supporting mixed-use development, enforcement of speed limits, and street improvements and traffic calming techniques.

#### **TOPIC AREA: OUR NATURAL RESOURCES**

**Open Space Element – Required element.** The Open Space Element policies would protect San Rafael’s open spaces to ensure their continued preservation. Policies would also identify additional open spaces to preserve, encourage management of open spaces, and address appropriate access to and use of open space. The open space policies in the Natural Environment Element of *General Plan 2000* are included in this new element.

**Conservation Element – Required element.** The Conservation Element policies would protect natural resources to ensure their economic and recreational value, as well as their ecological value. Policies address water, air quality, and wildlife and cover the following topics: wetlands; diked baylands; creeks and drainageways; native plants; animals and habitat; and resource management. Policies for vegetation, wildlife, wetland, creeks, and shoreline protection would be applied through the project review process for development projects that require discretionary approval, such as subdivision or design review applications. Policies would also promote the restoration and/or rehabilitation and enhancement of damaged habitats. The conservation policies in the Natural Environment Element of *General Plan 2000* are included in this new element.

**Air and Water Quality Element – New optional element.** Air and Water Quality policies would promote actions to maintain high quality air and water in San Rafael. The Air and Water Quality Element would require that San Rafael meet all local, State and federal standards for water quality, including potential pollutant runoff into the storm drain system, the San Francisco Bay, creeks, drainageways, and the San Rafael Canal. Policies would also seek to mitigate the effects of vehicular pollution by supporting public transit and the reduction of the use of single occupancy vehicles, and promote land use design practices that incorporate walking and biking options.

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## Related Zoning and Other Changes

Four additional types of changes are anticipated in conjunction with the adoption of *General Plan 2020*.

1. Certain zoning amendments will be made to implement General Plan policies, as listed below.<sup>4</sup>
  - a. Amendment to the Zoning Map, adding the new Lindaro Mixed Use Zoning District around Davidson Middle School, to implement NH-151a (Residential Use by Davidson Middle School); Rezoning of Medway/Vivian area to Neighborhood Commercial consistent with the Land Use map; Rezoning of portion of Civic Center site to allow residential use near the Civic Center rail stop.
  - b. Amendment to section 14.05.030 (Property Development Standards) to add 36 foot height limit for mixed-use buildings in the NC District, to implement LU-13 (Building Heights).
  - c. Amendment to section 14.05.022 (Land Use Regulations) to allow more residential and retail uses in the Hetherton Office District, to implement NH-35a (Zoning Ordinance). Also amend the section to allow residential use in the Office and General Commercial District, and to allow residential-only development in the Retail/Office District, to implement the LU-24 Land Use Map and Categories.
  - d. Amendment to 14.08.020 (Land Use Regulations) to allow residential and expanded retail use in the Marine Related District, to implement NH-48a (Zoning Ordinance).
  - e. Amendment to section 14.16.030 (Affordable Housing Requirement) and to Resolution 7883 to account for fractional units and to increase the proportion of required affordable units, and to include development between five and nine units, to implement H-19a (Update the Housing In-Lieu Fee Ordinance).
  - f. Adoption of new Chapter 16 section 1 to require that projects be developed at the mid to high range of the density range, to implement H-18a (Assure Efficient Use of Multifamily Housing Sites).
  - g. Amendment to section 14.16.090 (Density Bonus) to adopt density bonus requirements, to implement H-21a (Implement State Density Bonus law).
  - h. Amendment to section 14.16.150 to delete formula for mixed use residential development, to implement H-23b(2) (Revise Zoning Standards for Mixed Use). This amendment would allow for increased flexibility in determining the appropriate amount of residential and commercial use in a building footprint.
  - i. Amendment to section 14.16.190 (Height Bonus) to include height bonus in North San Rafael Town Center area, to implement LU-14a (Height Bonuses).
  - j. New Chapter 16 regulation addressing housing/jobs linkage fee, to implement H-24a (Adopt a Jobs/Housing Linkage Ordinance).
  - k. New Chapter 16 regulations addressing assisted living facilities.
  - l. Amendment to section 14.17.100 to list districts where housing is being added as an permitted use and to make residential use a conditional use in mixed residential/retail

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<sup>4</sup> Note: zoning amendments are typically exempt from CEQA. It would be extremely speculative to analyze the range of environmental impacts with possible development of sites in San Rafael. Site-specific development proposals are subject to project-level CEQA review at which time the appropriate environmental impacts would be identified and analyzed.

and/or office districts, to implement H-23a (Encourage Residential Uses in Commercial Areas).

- m. Other miscellaneous amendments to zoning districts consistent with the Land Use Map.
2. The various design guidelines that are currently used by project planners will be consolidated into one design document. Adopted guidelines to be included are the *Downtown Design Guidelines* and the design policies from the *Montecito/Happy Valley Neighborhood Plan*. In addition, the draft *Francisco Blvd. Design Guidelines* will be included. The guidelines will be revised as needed to apply to commercial and residential buildings citywide.
3. Traffic Mitigation Fees will be updated to reflect the circulation roadway improvements in General Plan 2020.
4. To implement policy **LU-3 Project Selection Process** (PSP), the implementing resolution for the Priority Projects Procedure (PPP) will be revised to require that the process apply citywide.

### III.4 POPULATION, EMPLOYMENT, AND HOUSING PROJECTIONS

#### Introduction

In 2000, Marin County had a population of 247,289. With a 2000 population of 56,063, the City of San Rafael is the largest city in Marin County, and the second largest city, after Santa Rosa (population 147,595), in the North Bay. The California Department of Finance estimated that the population of San Rafael in 2003 is 57,146.

Population growth in San Rafael has fluctuated over the decades. With the end of World War II, the new Bret Harte and Sun Valley increased the City's population 62 percent, from 8,573 in 1940 to 13,852 in 1950. Between 1970 and 1980, San Rafael's population nearly doubled to 44,700 with the annexation of neighborhoods in north San Rafael, including Terra Linda. From 1990 to 2000, the City's population increased at an annual rate of 1.5 percent. Fifty-six percent of this growth can be attributed to an increase in household size from 2.31 people per household to 2.42 per household, and 44 percent can be attributed to construction of new housing. The population in San Rafael's Sphere of Influence in 1990 was 60,387, increasing 13.5 percent to 68,572 in 2000; 94 percent of this increase was within San Rafael's city limits. **Exhibit III.4-1** shows the households, population, total employment, and the number of employed residents for the existing conditions, for the *Draft General Plan 2020*, and for the *General Plan 2000*.

#### **Exhibit III.4-1**

#### **Population, Households, and Employment – San Rafael Planning Area**

<b>Category</b>	<b>Existing Conditions<sup>a</sup></b>	<b>Draft General Plan 2020 (Buildout)</b>	<b>General Plan 2000 (Buildout)</b>
Population	66,396	79,104	81,935
Households <sup>b</sup>	26,130	31,234	32,494
Total Employment	45,582	47,394	50,078
Employed Residents	36,187	46,618	48,001

<sup>a</sup> These figures are the most current information available from the County's traffic modeling, and are based on 1998 conditions.

<sup>b</sup> Marin County projections for *households* differs from the City's projections for *residential units* due to a difference in land use coding systems used by the two agencies.

Source: Marin County Department of Public Works, 2003.

This EIR evaluates policies and programs in *Draft General Plan 2020* that would lead to alterations in the physical environment. The evaluation includes changes in population, employment and land use patterns that would occur in San Rafael as the General Plan is implemented. *Draft General Plan 2020* assumes a projected amount of growth, and is not a *build out* plan. *Build out* assumes construction of the maximum amount of development allowed under the Land Use Element. By using projected growth, the City recognizes that little vacant land remains for development, that redevelopment of an existing building is more difficult to achieve and thus occurs at a slower pace than developing vacant

land, and that incremental growth through redevelopment is small. The growth projections should be viewed on a citywide basis. **Exhibit III.4-2** shows existing and proposed nonresidential development within the city for the different alternatives.

**Exhibit III.4-2**  
**Projected Development, San Rafael General Plan 2020**

<b>Land Use</b>	<b>Existing Conditions <sup>a</sup></b>	<b>Draft General Plan 2020 (Buildout)</b>	<b>General Plan 2000 (Buildout)</b>
Commercial (sq. ft.)	9,030,000	9,183,000	9,710,000
Industrial/Office (sq. ft.)	9,031,000	9,279,000	11,812,000
Lodging (rooms) <sup>b</sup>	464	821	464
Recreation (seat) <sup>c</sup>	3,010	5,010	3,010
Residential (units)	28,929	32,423	33,984

<sup>a</sup> Includes existing development and approved projects.

<sup>b</sup> Includes hotels and bed-and-breakfast inns.

<sup>c</sup> Includes entertainment venues such as theaters.

<sup>d</sup> Marin County projections for *households* differs from the City's projections for *residential units* due to a difference in land use coding systems used by the two agencies.

Source: San Rafael Community Development Department, Economic Development Department and Department of Public Works, 2003.

***IV. ENVIRONMENTAL SETTING, IMPACTS,  
AND MITIGATION MEASURES***





## **IV. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**

This chapter contains an analysis of the environmental topics identified by the City of San Rafael's scoping process for the EIR (Initial Study and Notice of Preparation) described in *Chapter I, Introduction*. Environmental topics addressed in this chapter include:

IV.1	Land Use, Population, Employment, and Housing	IV.6	Cultural Resources
IV.2	Transportation and Circulation	IV.7	Visual Quality
IV.3	Air Quality	IV.8	Biological Resources
IV.4	Noise	IV.9	Geology, Soils, and Seismicity
IV.5	Public Services and Utilities	IV.10	Hydrology, Water Quality, and Flood Hazards
		IV.11	Agriculture

Sections IV.1 through IV.11 of this chapter describe existing environmental conditions as they relate to each specific topic, identify potential impacts from implementing the proposed project, and present mitigation measures required to reduce significant adverse impacts to a less-than-significant level. **Where relevant, cumulative impacts of project buildout combined with other growth elsewhere in the study area are described in Sections IV.1 through IV.11.** Cumulative impacts are further discussed in *Section V.6, Cumulative Impacts*.

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### **Format of topical analyses**

Existing conditions are described in the respective "setting" sections. These descriptions summarize information compiled during the study process to prepare the EIR. Most of the sections are summarized from the relevant chapter of the *Background Report* as noted. Other background materials used in the EIR are referenced in footnotes and listed in *Chapter VII, Report Preparation*.

Standards used to evaluate the magnitude of impacts are listed in the "significant criteria" subsections for each topic analyzed. Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse change in the environment – namely, in any of the "physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance". The *State CEQA Guidelines* direct that the significance of impact be determined on the basis of scientific and factual data. The significance criteria were derived from the following main sources – the *State CEQA Guidelines* and the professional standards and practices of the technical analysts who conducted the EIR evaluations.

The "impacts and mitigation" subsections identify three types of environmental effects from implementing the project:

- **Significant Unavoidable Impact** A significant (or potentially significant) impact that cannot be avoided with mitigation. These include impacts that could be partly mitigated but could not be reduced to a less-than-significant level. (A potentially significant impact is identified when not enough information is known to determine if the impact would be significant.)
- **Significant Impact** A significant (or potentially significant) impact that can be mitigated to a less-than-significant level.
- **Less-than-Significant Impact** A change or effect directly or indirectly attributable to the project which would not exceed the threshold(s) of significance.

All impacts are numbered consecutively by topic. Impacts identified as Significant or Significant Unavoidable are followed by measures required to reduce the magnitude of impact. Mitigation measures also are numbered to correspond to the respective impacts. Mitigation measures are not required for less-than-significant impacts.

This EIR relies upon the implementation of specific Goals, Policies, and Programs of the *Draft General Plan 2020*. Implementation of the identified Goals, Policies, or Programs would, in many instances reduce significant impacts to a less-than-significant level. However, it must be noted that if the specific Goals, Policies, and Programs relied upon as mitigation measures in this EIR are not in fact adopted, it may be necessary to reassess the significant impacts that relied upon those Goals, Policies, and Programs.

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

## IV.1 LAND USE, POPULATION, EMPLOYMENT, AND HOUSING

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### **Land Use, Population, Employment, and Housing – The Setting**

Existing land use conditions are described in pages D-1 to D-38, Land Use, of the *San Rafael General Plan 2020 Background Report (Background Report)*. Airports are discussed on page E-30, Circulation, of the *Background Report*. Existing population, employment, and housing conditions are described in pages A-7 to A-9 and A-13 to A-14, Planning Background; D-1 to D-22, Land Use; and F-1 to F-35, Housing. These sections of the *Background Report* were reviewed to be current as of the issuance of the Notice of Preparation in May 2003. These sections are hereby incorporated by reference, summarized below, and updated where necessary.

#### **LAND USES**

The Planning Area covers the City of San Rafael, and the surrounding unincorporated areas. The Planning Area encompasses 51 square miles, including 21 square miles of water area and 30 square miles of land area. The City portion of the Planning Area totals 22 square miles (17 square miles land area and five square miles water) and the unincorporated portion comprises 30 square miles (15 square miles of land area 15 square miles of water area).

Residential use is the major land use in the City and accounts for 25 percent of land area in the Planning Area. Combined parks, recreational, and open space areas account for nearly 53 percent of the land in the Planning Area. Commercial land use in the Planning Area accounts for approximately 11 percent of the land area.<sup>1</sup> Institutional uses, including government, utility, school and childcare, and all other institutional uses, account for approximately three percent of the land in the Planning Area. Under *General Plan 2000*, which included the St. Vincent's/Silveira properties, undeveloped land accounts for approximately eight percent of the land area. It should be noted, however, that the St. Vincent's/Silveira properties have been removed from the Planning Area and are not considered in the *Draft General Plan 2020*. In addition to vacant land, several major parcels currently in use have been identified with reuse potential and many parcels are considered "underdeveloped" in relation to surrounding development.<sup>2</sup> Targeting of the type and location of new growth allows for the enhancement of areas that would benefit from improvement, and adds needed jobs and housing without intruding on neighborhood quality of life.

Due to the limited number of developable sites, the *Draft General Plan 2020* is focused on harmonizing changes to existing developed areas in order to better serve community needs. New development and other physical alterations must respect the existing character and scale of the City. The *Draft General Plan 2020* would leave in place most current development and zoning standards. The City's zoning encourages housing and mixed-use development in Downtown and along the City's transit corridors. *Draft General Plan 2020* policies specify that new development contribute to the

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<sup>1</sup> San Rafael Community Development Department, 2003.

<sup>2</sup> San Rafael Community Design Charrette, 2002.

provision of necessary public improvements to serve current and future populations such as open space, transportation, and affordable housing.

*Draft General Plan 2020* proposes less development than would be allowed under the existing *General Plan 2000*. Development consistent with *Draft General Plan 2020* would result in increased urban development in the San Rafael Planning Area over existing conditions, however, growth in population and households is expected to be fairly low as the City is essentially built-out and has a very limited amount of developable lots that are currently undeveloped.

**Exhibit IV.1-1**, below, summarizes changes to land use districts in San Rafael. The Agriculture land use designation has been deleted; there are currently no farming operations, nor lands of significant agricultural value, within the Planning Area. Residential uses are now permitted on properties having land use designations of Office, General Commercial, or Marine Related. A new land use designation of Lindero Mixed Use was created for properties ringing the Davidson Middle School that would allow live/work residential projects on properties formerly designated as Industrial and Light Industrial/Office. The Parks/Open Space and Parks/Open Space/Conservation land use categories have been deleted and replaced with separate Parks, Open Space, and Conservation land use designations. The new designations recognize distinctions between uses of parks lands, open space properties, and privately owned properties of environmental significance.

**Exhibit IV.1-2**, below, summarizes nonresidential development potentials from the current *General Plan 2000* and the *Draft General Plan 2020*. Compared to the existing *General Plan 2000*, the *Draft General Plan 2020* has theoretical potential for:

- 527,000 fewer square feet of commercial development;
- 2,533,000 fewer square feet of industrial development;
- 357 additional lodging rooms; and
- 2,000 additional seats for recreational activities, such as theaters.

**Exhibit IV.1-3**, also below, summarizes the total acreages (and percentages) of land use change in the Planning Area resultant from *Draft General Plan 2020* land use designation changes. As shown in this exhibit, there would be a slight decrease in acreage of Residential and Commercial Nonresidential uses and a slight increase in acreage of Commercial-Mixed Use and Parks and Open Space uses.

**Exhibit IV.1-1  
Proposed Changes to Land Use Categories**

<b>Land Use</b>	<b>GP 2000</b>	<b>GP 2020</b>	<b>Proposed Change</b>
Agriculture	AGR	--	Delete from Land Use category; no significant agricultural uses within planning area.
General Commercial	GC	GC	Add residential use (15 – 32 unit/acre) as an allowable use as part of a mixed-use project.
Lindero Mixed Use	--	LMU	Allow live/work housing within properties formerly designated as Industrial and Light Industrial/Office. (6.5 – 15 units/acre)
Marine Related	MR	MR	Add residential use (6.5 – 15 units/acre) as an allowable use as part of a mixed-use project.
Office	O	O	Add residential use (15 – 32 units/acre) as an allowable use.
Retail/Office	RO	RO	Allow residential-only use in addition to in a mixed use building.
Parks/Open Space	POS	--	Delete from Land Use category; new categories are more specific regarding land use
Parks/Open Space/Conservation	POS/C	--	Delete from Land Use category; new categories are more specific regarding land use
Parks	--	P	Replace park use in Parks/Open Space and Parks/Open Space/Conservation
Open Space	--	OS	Replace open space use in Parks/Open Space and Parks/Open Space/Conservation
Conservation	--	C	Replace conservation use in Parks/Open Space and Parks/Open Space/Conservation. Include private properties that have environmental constraints or potentially significant community value.

Source: City of San Rafael Community Development Department.

**Exhibit IV.1-2  
Nonresidential Development, San Rafael General Plan 2020**

<b>Use</b>	<b>Existing Conditions <sup>a</sup></b>	<b>General Plan 2000</b>	<b>General Plan 2020</b>
Commercial (sq. ft.)	9,030,000	9,710,000	9,183,000
Industrial/Office (sq. ft.)	9,031,000	11,812,000	9,279,000
Lodging (rooms) <sup>b</sup>	464	464	821
Recreation (seat) <sup>c</sup>	3,010	3,010	5,010

<sup>a</sup> Includes existing development and approved projects

<sup>b</sup> Includes hotels and bed-and-breakfast inns

<sup>c</sup> Includes entertainment venues such as theaters

Source: City of San Rafael Department of Public Works, 2003

**Exhibit IV.1-3  
General Plan Land Use Designations, Existing and Proposed**

<b>General Plan Land Use Designation</b>	<b>General Plan 2000 (acres)</b>	<b>General Plan 2020 (acres)</b>	<b>Net Change (Acres)</b>	<b>Net Change (Percent)</b>
<b>Single-Family Residential</b>				
Hillside Resource Residential	2633	1535	-1098	-41.7
Hillside Residential	1652	1591	-61	-3.7
Large Lot Residential	83	83	0	0.0
Low Density Residential	3129	3201	72	2.3
<i>Single-Family Residential Subtotal</i>	<i>7497</i>	<i>6410</i>	<i>-1087</i>	<i>-14.5</i>
<b>Multifamily Residential</b>				
Medium Density Residential	578	563	-15	-2.6
High Density Residential	311	279	-32	-10.3
<i>Multifamily Residential Subtotal</i>	<i>889</i>	<i>842</i>	<i>-47</i>	<i>-5.3</i>
<b>Residential Subtotal</b>	<b>8386</b>	<b>7252</b>	<b>-1134</b>	<b>-13.5</b>
<b>Commercial-Mixed Use</b>				
Fifth/Mission Residential/Office	28	28	0	0.0
Fourth Street Retail Core	14	14	0	0.0
General Commercial	206	206	0	0.0
Hetherton Office	6	6	0	0.0
Lindaro Mixed Use	0	13	13	n/a
Lindaro Office	14	14	0	0.0
Marine Related	119	93	-26	-21.8
Neighborhood Commercial	34	38	4	11.8
Office	196	196	0	0.0
Residential/Office	16	16	0	0.0
Retail/Office	30	30	0	0.0
St. Vincent's/Silveira	581	0	-581	-100.0
Second/Third Street Mixed-Use	37	37	0	0.0
West End Village	12	12	0	0.0
<i>Commercial-Mixed use Subtotal</i>	<i>1293</i>	<i>703</i>	<i>-590</i>	<i>-45.6</i>
<b>Commercial-Nonresidential</b>				
Industrial	135	125	-10	-7.4
Light Industrial/Office	301	312	11	3.7
Mineral Resource	230	230	0	0.0
Public-Quasi Public	1064	940	-124	-11.7
<i>Commercial-Nonresidential Subtotal</i>	<i>1730</i>	<i>1607</i>	<i>-123</i>	<i>-7.1</i>
<b>Commercial Total</b>	<b>3023</b>	<b>2310</b>	<b>-713</b>	<b>-23.6</b>
<b>Parks and Open Space</b>				
Parks/Open Space	6624	0	-6624	-100.0
Parks/Open Space/Conservation	303	0	-303	-100.0
Parks	0	1974	1974	n/a
Open Space	0	5551	5551	n/a
Conservation	0	669	669	n/a
Agriculture/Recreation/Land Reserve	363	0	-363	-100.0
<i>Parks/Open Space Subtotal</i>	<i>7290</i>	<i>8194</i>	<i>904</i>	<i>12.4</i>
<b>TOTAL</b>	<b>18699</b>	<b>17756</b>	<b>-943<sup>a</sup></b>	<b>-5.0</b>

<sup>a</sup> This number includes 581 acres of Commercial-Mixed Use land (designated St. Vincent's/Silveira) and 363 acres of Parks and Open Space land (designated Agriculture/Recreation/Land Reserve) on the St. Vincent's/Silveira properties that have been removed from the Planning Area.

Source: San Rafael Community Development Department, 2003.

## **AIRPORTS**

Airport facilities in Marin County consist of Gness Field, the San Rafael Airport, and three small heliports in San Rafael, Sausalito, and Point Reyes. Gness Field, located north of Novato, and two of the three heliports are located outside of the Planning Area. The San Rafael Airport is a privately owned, limited use airport open to based aircraft only. The current use permit prohibits commercial flight activity, flight training, use by helicopters, and limits maintenance to that done for based aircraft, with a maximum of 100 based aircraft. Annual operations are estimated to be 7,500 flights, although no specific records are kept. The runway is short – 2,140 feet – and accommodates only small aircraft. The San Rafael Heliport, also within the Planning Area, is approved to provide limited (up to 12 flights a day) transportation service to the San Francisco Airport.

## **POPULATION**

According to Census 2000 data, the City of San Rafael had a population of 56,063, while the Planning area had a population of 70,587. This Planning Area population represented approximately 29 percent of Marin County's population of 247,289 in 2000.

From 1990 to 2000, there was a 13.6 percent increase in the Planning Area population. San Rafael's population is projected to continue to grow by about 12 percent by 2020. This is slower than the Bay Area as a whole, but in line with the expected growth in Marin County as a whole, which is the slowest growing county in the Bay Area. The projected Planning Area population for the year 2020, with development consistent with the *Draft General Plan 2020* is 79,104.

The ethnic and age make-up of the City has become more diverse over the past decade, reflecting the diversity of the Bay Area more than that of Marin. The largest increase has been among the Hispanic population. A sizable Vietnamese population also calls San Rafael home. Even with the general aging of the population, school age children in San Rafael have increased as a percentage of the total population in San Rafael.

## **EMPLOYMENT**

San Rafael has historically been the employment center for Marin County. More recently, it has become an employment center for Sonoma County residents as well. Between 1970 and 1980, there was a dramatic intensification of jobs over housing in the Planning Area, even as the ratio of jobs to housing units in Marin County as a whole remained about the same during that time period (0.84 jobs per housing unit). In 1970, there were 23,700 jobs and 18,700 housing units (1.27 jobs per housing unit) in the San Rafael Planning Area. By 1980, there were 34,700 jobs and 23,600 housing units (1.47 jobs per housing unit), and by 1990, the number of jobs relative to the number of housing units had increased further, as jobs totaled 39,920 and housing units grew to 24,781 (1.61 jobs per housing unit). The Planning Area's ratio of jobs to housing is currently estimated (for 1998) at about 1.74 jobs for each housing unit, while the County's current jobs-to-housing ratio is estimated at 1.22 jobs for each housing unit.

San Rafael businesses for the most part are small to medium sized: less than 50 of the nearly 5,400 businesses in the City have more than 100 employees. Small employers tend to be very small, with nearly 1,200 home based single person businesses. Large employers are focused in the areas of service, retail, and government.

**HOUSING**

San Rafael has a mix of owner, renter, single-family, and multi-family housing. Fifty-two percent of the dwellings in San Rafael are owner-occupied. Approximately 47 percent of the housing stock in the community is single-family units.

Affordable housing is one of the main issues facing San Rafael. According to the National Low Income Housing Coalition, Marin County is tied with San Mateo and San Francisco counties as being the least affordable in the country. About one-third of the households currently residing in San Rafael are either considered very low or extremely low income. Market rate housing is generally not affordable to these households. The lack of affordable housing contributes to traffic congestion, as well as effecting available services and businesses as workforce housing becomes increasingly scarce. It is also estimated that about 42 percent of all households in San Rafael are considered to be “overpaying” households – devoting more than 30 percent of their income to housing.

**Exhibit IV.1-4**, below, shows the population and housing conditions in 1998, as projected with the current *General Plan 2000*, and as projected under the *Draft General Plan 2020*.

**Exhibit IV.1-4  
 Population, Households, and Employment – San Rafael Planning Area**

<b>Category</b>	<b>Existing Conditions <sup>a</sup></b>	<b>Draft General Plan 2020 (Buildout)</b>	<b>General Plan 2000 (Buildout)</b>
Population	66,396	79,104	81,935
Households <sup>b</sup>	26,130	31,234	32,494
Total Employment	45,582	47,394	50,078
Employed Residents	36,187	46,618	48,001

<sup>a</sup> These figures are the most current information available from the County’s traffic modeling, and are based on 1998 conditions.

<sup>b</sup> Marin County projections for *households* differs from the City’s projections for *residential units* due to a difference in land use coding systems used by the two agencies.

Source: Marin County Department of Public Works, 2003.

**Land Use, Population, Employment, and Housing – Significance Criteria**

The land use, population, employment, and housing analysis uses criteria from the State CEQA Guidelines. The Initial Study determined that the proposed project would have potentially significant land use impacts. Based on the findings of the Initial Study the project would have a significant land use impact if it would:

- 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 and environmental effect.

- Introduce new land uses, or alter the intensity of existing land uses, which would be incompatible with the established land uses or the overall character of the surrounding neighborhoods.
- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Create employment growth rates which would outpace the ability of the City to provide required services.
- Have an adverse effect on the jobs-to-housing ratio which could indirectly increase traffic, air quality emissions, and noise.

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## **Land Use, Population, Employment, and Housing – Impacts and Mitigation Measures**

### **Impact IV.1-1 Conflict with Applicable Land Use or Other Plans**

*Development under the Draft General Plan 2020 would not conflict with other adopted plans. This would be a less-than-significant impact.*

Several land use and neighborhood plans have been adopted for areas within and surround the Planning Area. Implementation of the *Draft General Plan 2020* could potentially result in a conflict with such an adopted land use plan, policy or regulation of an agency with jurisdiction over the Planning Area. Land use and environmental plans which apply to the San Rafael Planning Area include:

- San Rafael Zoning Ordinance
- Marin Countywide Plan
- Marin County Zoning Ordinance
- Montecito/Happy Valley Neighborhood Plan
- Vision North San Rafael
- Northgate Activity Center Plan
- Neighborhoods 13/14 Plan
- East San Rafael Neighborhood Plan
- Gerstle Park Neighborhood Plan
- Peacock Gap Neighborhood Plan

Conflicts with these plans and regulations would represent a significant impact. However, as described below, implementation of the *Draft General Plan 2020* programs and policies identified below would reduce any potential impacts to a less-than-significant level. The potential sources of conflict are described below.

**San Rafael Zoning and Subdivision Ordinances** – In certain circumstances, the *Draft General Plan 2020* proposes new or altered land uses that would not be consistent with the land uses allowed by the current San Rafael Zoning and Subdivision Ordinance. In addition, a number of changes would be made concurrent with adoption of the *Draft General Plan 2020*, including allowing housing in commercial districts, which could result in potential inconsistencies. Places of the biggest impact would be Medway/Vivian where light industrial uses would become nonconforming. However, the *Draft General Plan 2020* also includes policies and programs, such as Program **LU-24a Zoning Ordinance Amendments**, **LU-24b Subdivision Ordinance Amendments**, and **LU-24c Live/Work**

**Regulations** which would amend the Zoning and Subdivision Ordinances, as well as the live/work regulations, in order to reduce or eliminate such inconsistencies. This would be a less-than-significant impact.

*Marin County Zoning Ordinance and Countywide Plan* – The Marin County General Plan covers all or portions of several neighborhoods within the Planning Area, including the Country Club, Bayside Acres, California Park, Sun Valley, Rafael Meadows, Santa Venetia, Lucas Valley, Marinwood, and Smith Ranch neighborhoods. The City has reviewed with County staff the Marin County Zoning Ordinance and the Countywide Plan for potential conflicts with the *Draft General Plan 2020*. The land use map is consistent with the Countywide Plan and zoning. In addition, Policy **LU-7 Land Use Planning in Surrounding Jurisdictions** and Program **LU-7a Development Adjacent to San Rafael** in the *Draft General Plan 2020* would reduce potential land use conflicts by monitoring development in and working with the surrounding jurisdictions. This would be a less-than-significant impact.

*Neighborhood Plans* – The previously adopted neighborhood plans for Montecito/Happy Valley, Gerstle Park, Peacock Gap, Northgate Activity Center, Neighborhoods 13/14, East San Rafael, and the Vision North San Rafael represent efforts by area residents and the City to address specific design, housing, economic, land use, and transportation issues relevant to each neighborhood. Adopted neighborhood plans were consolidated into the Neighborhoods Element in the *Draft General Plan 2020*. The scope of several neighborhood-specific policies was expanded to apply citywide; some outdated or already-implemented policies were not carried forward. The neighborhood plans have been reviewed and found to be consistent with the draft plan. This would be a less-than-significant impact.

**Mitigation Measure IV.1-1** None required.

**Impact IV.1-2 Incompatible Land Uses and Changes to Neighborhood Character**

*Development consistent with the Draft General Plan 2020 would result in changes in land use type, density, scale, and character in numerous City neighborhoods. Policies and programs in the Draft General Plan 2020 would reduce potential conflicts between new and existing uses, including design and traffic conflicts. This would be a less-than-significant impact.*

Under the proposed project, potential future development in the Northgate Town Center/Civic Center area, Medway Commercial area, Loch Lomond Marina, Lindaro Mixed Use Area, and the Marin Square area would result in the most significant changes. In many of these areas the *Draft General Plan 2020* would allow additional housing and retail in the community over existing conditions in order to encourage reinvestment and improvements in the areas. Changes to these areas may include the introduction of new land uses, greater density, increased scale of existing and new development, and overall changes to neighborhood character which could potentially result in conflicting adjacent land uses or exceeding local transportation infrastructure capacities. However, numerous policies and programs in the *Draft General Plan 2020* would reduce such potential conflicts through the use of design guidelines, and development review. With successful implementation of these programs this would be a less-than-significant impact, as described below.

The *Draft General Plan 2020* would allow residential use (as part of a mixed use project) as an additionally allowable use to the currently allowed uses for properties with land use designations of General Commercial, Marine-Related, Retail/Office, and Office. Implementation of the proposed policies and land use designations could therefore result in an increase in mixed-use development. Mixed-use development, while having many beneficial results, has the potential for land use incompatibility. Because mixed-use development would allow residential use with other uses, there is a greater opportunity for noise conflicts, pedestrian/bicyclist and vehicle conflicts, as well as

conflicting design requirements. Mixed-use developments may also have a greater intensity of uses than that of surrounding areas. Community design policies, noise, and citywide neighborhood policies, as listed below, would address these potential issues.

Proposed policies and programs in *Draft General Plan 2020* would reduce potential land use impacts. Program **LU-1a Five-Year Growth Assessment** would require periodic evaluations to assure that growth rates do not exceed infrastructure capacity. Policy **LU-2 Development Timing** would require that infrastructure improvements, such as traffic mitigations, occur prior to, or in conjunction with, new development to retain the City's level-of-service criteria, and thereby reduce traffic impacts associated with the introduction of new land uses. Program **LU-3a Project Selection Process** would help reduce traffic impacts by establishing a Citywide Project Selection Process (PSP) which would require an annual, comprehensive examination of cumulative traffic impacts from proposed new construction both to assure that traffic congestion limits are not exceeded and to allow prioritization of projects consistent with citywide and neighborhood-specific priorities. This includes criteria to guide the City's selection of high priority projects.

Through the development review process, Policies **H-23 Mixed Use**, and **NH-155 New Development**, and **LU-14 Height Bonuses**, and Program **LU-15a Land Use Compatibility**, would reduce impacts by assuring that residential development in commercial areas is done in a manner compatible with the existing surroundings. Additional discretionary permits, including use permits, would be required for the establishment of residential uses in commercial districts to allow site-specific evaluations of land use compatibility.

Policies **NH-62 Bicycle and Pedestrian Walkway**, **NH-63 Bus Pads**, **NH-64 Bike Path**, and **NH-65 North San Rafael Promenade**, and Program **NH-61b Safe Walkways** would reduce conflicts between pedestrians, bicyclists and vehicles by assuring development compatibility with bicyclists and pedestrians and by providing bicycle and pedestrian walkways. Policies **H-22 Infill Near Transit**, and **H-23 Mixed Use**, would reduce the impacts of traffic by encouraging alternative work and development models.

#### *Northgate Town Center/Civic Center*

Existing uses in the Northgate Mall area include regional retailers, medical services, low density and high density residential, and offices. Housing (with a height bonus for affordable housing) and additional retail would be allowed in the Northgate shopping area. There may be future transit-oriented development near the Sonoma/Marin Area Rail Transit (SMART) station near the Civic Center.

The site specific policies in the Land Use and Neighborhoods Element for the North San Rafael Town Center and Civic Center areas would retain the general character of the area while increasing design oversight, encouraging more neighborhood-serving uses, and allowing housing as part of mixed-use projects. If development were to occur consistent with policies in *Draft General Plan 2020*, it would have a positive impact within the area by creating improved public amenities, greater opportunities for pedestrians and bicyclists, and high quality housing opportunities in an area where housing demand is high. However, as stated above, the increase in mixed-use development could also result in land use conflicts. Many of the policies and strategies for the Northgate Town Center in *General Plan 2020* were generated by the *Vision North San Rafael*<sup>3</sup> community-planning document.

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<sup>3</sup> *Vision North San Rafael*, San Rafael Community Development Department, 1997.

Policy **NH-152 Residential Use near Civic Center Rail Stop** would encourage the City to consider amending the Zoning Ordinance to allow residential uses at the end of Merrydale Road if a Civic Center rail stop is established for the SMART rail line.

Should SMART and an associated station be established in the Civic Center area, Policy **NH-152 Residential Use near Civic Center Rail Stop**, among other *Draft General Plan 2020* policies from other elements) would guide the City in potentially amending the Zoning Ordinance to allow residential uses at the end of Merrydale Road. Such housing would make use of the significant activity generated by the rail, but could also result in potential land use impacts as new residential uses are introduced. Noise impacts related to SMART are also addressed in *Section IV.5 Noise*.

Also, while there would be traffic impacts as a result of more development in the Northgate shopping area, Policy **LU-2 Development Timing** would address the capacity of local roads and 101 to accommodate additional development and assure that traffic improvements needed to maintain level-of-service standards occur prior to, or in conjunction with, new development.

Several *Draft General Plan 2020* policies, along with the *Vision North San Rafael* document, would ensure compatibility and quality design for future projects in the North San Rafael area.

Policies **NH-59 Design Considerations for Development in the Vicinity of the Civic Center** and **NH-60 Civic Center Expansion**, would reduce potential design incompatibility impacts through the use of urban design analysis and design review. These policies would also encourage Marin County to involve the North San Rafael community in potential changes at the Civic Center.

Policies **NH-135 North San Rafael Town Center**, **NH-136 Town Center Activities**, **NH-137 Northgate Mall**, **NH-138 Outdoor Gathering Places**, **NH-140 Design Excellence**, **NH-144 Pedestrian Scale**, and **NH-145 Mall Entrance** would rely on the development review process to assure that new development would not detrimentally affect the neighborhood character, but instead would improve the character by creating attractive new development, encouraging nightlife, improving the promenade, including outdoor gathering places in new development, promoting pedestrian access, and encouraging the redesign of the mall entrance. **NH-139 Incentives** would use the development review process to provide incentives for uses that would enhance the Town Center, as described in the previous policies.

In addition, policies **H-23 Mixed Use**, and **NH-155 New Development** and Programs **LU-14d Height Bonuses**, **LU-15a Land Use Compatibility**, and **EV-18c Land Inventory**, would reduce land use impacts related to the construction of mixed use developments, as described above.

Implementation of these policies and programs would reduce any potential impacts in the Northgate Town Center/Civic Center area to a less-than-significant level.

#### *Medway Commercial Area*

The Medway Commercial area includes commercial uses that range from auto repair and rental, to light industrial uses. The existing land use designation of Light Industrial/Office has been changed to Neighborhood Commercial for eleven properties in the Medway Commercial area (see **Exhibits III.3-2** and **III.3-3** in *Chapter III Project Description*). The Medway commercial area is adjacent to, and is the entryway to, the Canal Neighborhood, the largest and most densely populated neighborhood in San Rafael.

Positive impacts from this land use designation change would include the benefit to the Canal Neighborhood through additional neighborhood-serving businesses, particularly along the Medway entrance to the Canal Neighborhood. In addition, housing would be allowed as part of mixed-use projects thus helping to meet the City's housing needs. However, because of the potential for an increase in mixed-use projects, there is an increased potential for land-use conflicts. In addition, the potential loss of existing industrial and light industrial uses, which are an important part of San Rafael's economy, would represent an economic loss for the City. The existing lack of on-site parking in this area would be expected to improve as old uses are replaced with new uses, and thus required by zoning regulations to provide adequate on-site parking.

Potential design impacts of new commercial and mixed use buildings would be addressed through *Draft General Plan 2020* Community Design Element policies such as **CD-11a Visual Compatibility**, which would address design conflicts through design guidelines. Potential traffic impacts would be addressed through **LU-2 Development Timing**, as previously mentioned.

Implementation of these policies and programs would reduce any potential impacts in the Medway/Vivian area to a less-than-significant level.

#### *Loch Lomond Marina*

Existing uses in the Loch Lomond Marina include marine uses and activity/liveboards, a public boat launching facility, a 40-year old retail center, a restaurant, medical and dental offices, parking and storage areas, wetlands, and vacant space. The area is surrounded by residential neighborhoods. A greater portion of the marina site is designated for Neighborhood Commercial uses in the *Draft General Plan 2020*; currently most of those portions are restricted to Marine-Related uses. The area near existing marshes and wetlands would also have a Conservation land use designation to promote protection of sensitive habitat areas.

Many of the existing buildings at Loch Lomond are old, unattractive, and in need of maintenance, thus the project would have a positive impact within the area by allowing (over a greater portion of the site than allowed in *General Plan 2000*) neighborhood-serving commercial and housing opportunities, and thereby encouraging improvements in this neighborhood. However, these changes would represent an intensification of uses, and with these changes there would also be an increased possibility of land use conflicts.

Potential design impacts of medium density housing and new commercial buildings would be addressed through *Draft General Plan 2020* Community Design Element policies such as **CD-11a Visual Compatibility**, which would address design conflicts through design guidelines. Potential traffic impacts would be addressed through **LU-2 Development Timing**, as previously mentioned. In addition, Policy **NH-121 Loch Lomond Marina** would ensure compatibility and quality design for future projects in this area by encouraging retention of marine-related and recreational uses. This policy would also increase design oversight and guide placement of housing so as to remain compatible with the surrounding neighborhood.

Successful implementation of these policies and programs would reduce any potential impacts in the Loch Lomond Marina area to a less-than-significant level.

#### *Lindero Mixed Use Area*

Existing uses in the Lindero Mixed Use area include industrial, light industrial, office, and commercial uses. The properties are arranged in a U-shape around Davidson Middle School, and are adjacent to

the Picnic Valley, Bret Harte, and Gerstle Park neighborhoods. Several of the properties are under-maintained or underdeveloped, and have potentially significant incompatible uses as a result of their proximity to existing school and residential uses.

Development consistent with policies in the *Draft General Plan 2020* could have a positive impact within the area by encouraging reinvestment and redevelopment of under-maintained properties. Live/work developments would be the only kind of residential use allowed due to the potential land use compatibility conflict between existing industrial/light industrial uses and future residential use. However, allowing live/work residential use in this area could have impacts on the existing uses, as residents may have conflicts with industrial uses.

Potential design impacts of medium density live/work uses would be addressed through *Draft General Plan 2020* Community Design Element policies such as **CD-11a Visual Compatibility**, which would address design conflicts through design guidelines. Potential traffic impacts would be addressed through **LU-2 Development Timing**, as previously mentioned. A use permit would be required of live/work uses, which would reduce some conflicting uses. In addition, Policy **NH-151 Residential Use by Davidson Middle School**, and Program **NH-151a Lindero Live/Work** would ensure compatibility and zoning compliance for future projects in the area by revising the zoning regulations.

Successful implementation of these policies and programs would reduce any potential impacts in the Loch Lomond Marina area to a less-than-significant level.

#### *Marin Square*

The existing use of Marin Square is as a retail center. Marin Square is surrounded by light-industrial and other commercial uses. The *Draft General Plan 2020* would allow residential as part of a mixed use project.

While development consistent with policies in *Draft General Plan 2020* would be expected to have a positive impact within the area by encouraging reinvestment and redevelopment, such development could result in land use conflicts as a result of the new residential development. Potential design impacts would be addressed through policies such as **CD-11a Visual Compatibility**, as previously described.

Successful implementation of this policy would reduce any potential impacts in the Marin Square area to a less-than-significant level.

**Mitigation Measure IV.1-2** None required.

#### **Impact IV.1-3 Growth and Concentration of Population**

*Development consistent with the Draft General Plan 2020 would not induce substantial growth and concentration of the City's population. This would be a less-than-significant impact.*

As of Census 2000 the San Rafael Planning Area had a population of 70,587.<sup>4</sup> It is estimated that with a full buildout of the City as proposed in the *Draft General Plan 2020*, the Planning Area would have a population of 79,104. This would be a 12 percent increase over then next 16 years for a total of 8,517 additional residents.

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<sup>4</sup> San Rafael Department of Public Works and Community Development Department.

The County of Marin had a Census 2000 population of 247,289. The Planning Area population therefore represented 29 percent of the County population. Marin County estimates that in 2020 it will have a population of 275,500, an 11 percent increase.<sup>5</sup> Therefore, in 2020, the Planning Area population would still represent 29 percent of the County population. Population growth in the Planning Area would be consistent with growth in Marin County.

The Census 2000 population for the nine Bay Area counties was 6,783,762. According to the Association of Bay Area Governments (ABAG) *Projections 2003*, the Bay Area is expected to have a population of 8,168,300 in the year 2020.<sup>6</sup> This would represent a 20 percent increase. In 2000 the Planning Area represented one percent of the Bay Area population. With development consistent with the *Draft General Plan 2020* the Planning Area would represent 0.9 percent of the projected Bay Area population in the year 2020. Therefore, population growth in the Planning Area would be consistent with ABAG's regional projections.

ABAG's *Projections 2003* project a 2020 Planning Area population of only 76,000. This projected population is 3,104 less than the population projections for the *Draft General Plan 2020*. However, as shown above, the *Draft General Plan 2020* population projections are otherwise consistent with ABAG's regional projections and are consistent with growth in Marin County.

Thus, while development consistent with the *Draft General Plan 2020* would potentially induce some population growth in the Planning Area, such growth would not be considered substantial, particularly when placed in the regional context. Nor would such development represent a further concentration of population. This would be a less-than-significant impact.

Population growth consistent with that projected for the *Draft General Plan 2020* would result in secondary impacts related to public services and utilities. These impacts are described in **Section IV.5 Public Services and Utilities** of this EIR.

**Mitigation Measures IV.1-3** None required.

**Impact IV.1-4 Employment Growth Rate**

*Development consistent with the Draft General Plan 2020 would add additional jobs to the Planning Area. This would be a less-than-significant impact.*

Employment in the San Rafael Planning Area grew 14 percent from 1990 to 1998, or about 1.75 percent per year. That rate of growth is expected to decline as the City reaches complete buildout. From 1998 to 2020 employment is expected to grow only three percent, an annual growth rate of about 0.14 percent. This would not result in any direct significant impacts. Secondary impacts are described in **Section IV.5 Public Services and Utilities** of this EIR.

**Mitigation Measures IV.1-4** None required.

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<sup>5</sup> *Key Trends, Issues and Strategies Report, Marin Countywide Update*, Marin County Community Development Agency, January 2003.

<sup>6</sup> *Projections 2003*, Association of Bay Area Governments, June 2003.

**Impact IV.1-5 Jobs-to-Housing Ratio**

*Development consistent with the Draft General Plan 2020 would slightly decrease the jobs-to-housing ratio. This would be a less-than-significant impact.*

As described in the setting section, above, the Planning Area's jobs-to-housing ratio is currently estimated (for 1998) at about 1.74 jobs per housing unit. Development consistent with the *Draft General Plan 2020* would be expected to increase employment in the Planning Area to 47,394 and housing to 31,234, in the year 2020, which would result in a jobs-to-housing ratio of 1.52. This represents an improvement in the jobs-to-housing, offering opportunities for more local workers to reside in the community, which has the potential to reduce future traffic generation. Secondary impacts related to traffic are described in **Section IV.2 Transportation**. The decrease in the jobs-to-housing ratio would not result in any direct significant impacts.

**Mitigation Measures IV.1-5** None required.



## IV.2 TRANSPORTATION AND CIRCULATION

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### ***Transportation and Circulation – Introduction***

This section of the EIR presents a description of the transportation and circulation system in the Planning Area, and a description of the impacts on that system of implementing *Draft General Plan 2020*. The impacts of implementing *Draft General Plan 2020* are predominantly related to two aspects of the General Plan: land use development, and transportation system improvements. Both of these aspects are integral parts of *Draft General Plan 2020* and in this EIR are considered in the context of each other.

Land use development associated with *Draft General Plan 2020* involves development of currently vacant land, and re-use of existing development. These land use changes are described in detail in the Land Use section of this EIR.

Transportation system improvements associated with *Draft General Plan 2020* involve a mix of new transportation facilities, and modifications to existing transportation facilities. Some of these improvements would be large obvious additions to the transportation system, while others would be subtle changes to how the system operates. An example of a new facility is the proposed Shoreline Parkway Undercrossing, which would be a new roadway passing under Interstate 580 (I-580), connecting Francisco Boulevard north of I-580 and Anderson Drive south of I-580. An example of a modification to an existing facility would be signal operation improvements at the intersection of Third Street and Union Street, which would change the sequence and timing of the lights at this intersection.

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### ***Transportation and Circulation – Environmental Setting***

Roadways are the primary existing transportation facilities within the Planning Area. The existing roadway network consists of freeways, arterials, collectors and local roadways. Existing bicycle, pedestrian and transit facilities are also present in the Planning Area, although these facilities are currently limited. Railroad infrastructure is also present, but currently inactive. A description of the major transportation facilities, major roadway segments, current traffic volumes, and alternative transportation modes are discussed below.

#### **ROADWAYS**

United States Highway 101 (US 101) and Interstate 580 (I-580) provide regional access to the City of San Rafael. Other facilities that provide access from the immediate locations outside the City limit include Red Hill Avenue, Wolfe Grade Road, and Lucas Valley Road.

The location and layout of development within the City of San Rafael have resulted in a primarily east-west roadway network through the central part of the City. Major east-west corridors include Fourth Street, Second Street, and Third Street. All three of the facilities connect the western portion of the City to US 101, the major north-south facility extending the length of San Rafael and beyond.

Lincoln Avenue, Pt. San Pedro/N. San Pedro Roads, and D Street are other important facilities that provide access between the central part and the northern and southern parts of the city.

### **Street Classifications**

There are approximately 175 miles of paved streets and sidewalks in the City. Classifications of roadways are described below. **Exhibit IV.2-1** presents the location of important roadways in the City of San Rafael.

#### *Local Collectors/Residential Streets*

The primary function of local/residential streets is to provide direct access to adjacent properties and access to higher order system streets. Local/residential streets generally provide two travel lanes, landscaped planting strips, sidewalks, and on-street parking. On-street parking may be restricted, depending on width and terrain, or safety issues.

#### *Collector Streets*

Collector streets provide a link between local streets and arterials. Collectors generally provide two travel lanes, sidewalks, and landscaped planting strips.

#### *Minor Arterials*

Minor arterials should interconnect with the major arterial street and provide service to trips of moderate length at a somewhat lower level of travel mobility than major arterials. Minor arterials are generally designed with two travel lanes for traffic, parking lanes, sidewalks, landscaped planting strips and carry more than local traffic.

#### *Major Arterials*

The primary function of major arterials is to move large volumes of traffic between freeways and the different regions of the City and/or County. In an urban system such as the City of San Rafael, major arterials carry the major portion of trips entering and leaving the urban area, as well as the majority of through movements desiring to bypass the central city. Major arterials generally provide three to four travel lanes for traffic, a parking lane on either side and a raised or painted median. Left turn lanes are provided at all intersections, where possible.

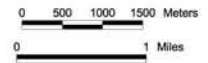
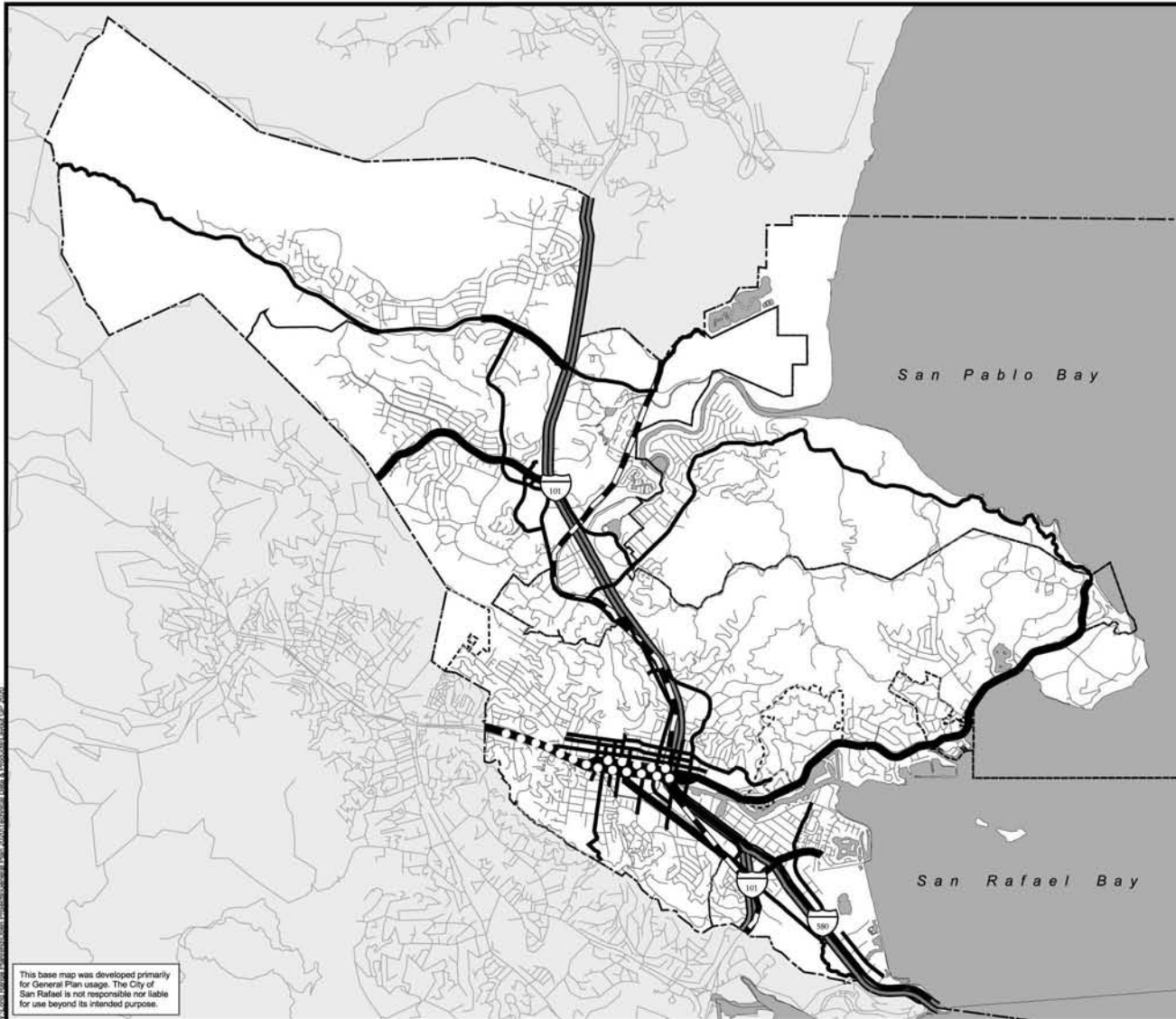
#### *Freeways*

Freeways are limited access facilities designed with four to ten travel lanes for rapid and efficient movement of large volumes of through traffic between areas and across the urban community. The two freeways in San Rafael are US 101 and I-580.

US 101 is the primary transportation facility for the San Francisco, Marin and Sonoma County corridor. At the southern end of the corridor, the Larkspur to San Francisco and the Sausalito to San Francisco buses and ferry services supplement the highway. However, through San Rafael, US 101 and several segments of arterial streets provide the only north-south transportation system. I-580 intersects US 101 in southern San Rafael and provides an east-west connection to the East Bay and West Marin.

### San Rafael Roadways & Arterials

-  Highway
-  Major Arterial
-  Minor Arterial
-  Rail Right-of-Way
-  Marin County Congestion Management Plan Roadway



This base map was developed primarily for General Plan usage. The City of San Rafael is not responsible nor liable for use beyond its intended purpose.

## **LEVELS OF SERVICE**

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of Service (LOS) is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Six LOS are defined for each type of facility that has analysis procedures available. The six LOS, “A” through “F”, describe conditions from best to worst, respectively. Each LOS represents a range of operating conditions and the driver’s perception of those conditions. Safety is not included in the measures that establish levels of service. **Exhibit IV.2-2** presents a description of traffic flow characteristics at each LOS.

In San Rafael, the LOS is measured for the ‘peak hour.’ The AM peak hour is between 7 and 9 a.m., and the PM peak is between 4 and 6 p.m. The hour during the peak period with the highest traffic volume is used to determine LOS.

Goal C-B of the *General Plan 2000* states “Maintain acceptable local circulation operating conditions, with a goal of achieving LOS C operating conditions.” In *General Plan 2000*, the LOS standards apply only to the PM peak hour. The *General Plan 2000* policies C-1 and C-2 state the following LOS standards:

- LOS C for local residential streets and intersections.
- LOS Mid-D for conditions outside of Downtown. The bottom of LOS D may be allowed for a definable interim time period for projects which provide a high percentage of units affordable to low and moderate income households, high tax-generating uses, or needed neighborhood-serving uses.
- LOS D for highway interchanges and arterial street intersections.
- LOS D for Second and Third Streets (Congestion Management Plan standards).
- LOS E in the Downtown.
- LOS F at the Mission Avenue/ Irwin Street intersection.

**Exhibit IV.2-2**  
**Level of Service Descriptions for Signalized Intersections**

<b>Level of Service</b>	<b>Description</b>
A	Level of service A describes operations with very low control delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Level of service B describes operations with control delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	Level of service C describes operations with control delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	Level of service D describes operations with control delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Level of service E describes operations with control delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	Level of service F describes operations with control delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

Source: *Highway Capacity Manual*, Transportation Research Board, 2000, and San Rafael Department of Public Works.

The City has historically used these LOS standards to evaluate City street, intersection, and interchange capacities to determine the feasibility of any new development project. Transportation improvements have been required to maintain LOS standards if the traffic generated by development project exceeded the above stated LOS standard for the area.

Intersection and roadway segment levels of service are determined through traffic modeling, highway capacity methodologies (see *Appendix VIII.3, Transportation Data*), and the City’s methodology for unsignalized intersections. Intersections and roadways in the City were analyzed under existing conditions, and are based on traffic volume count data collected from 1999 to 2003.

This EIR evaluates traffic impacts by comparing traffic conditions under *Draft General Plan 2020* with “baseline” conditions. Baseline conditions represent existing conditions plus approved, but not yet built projects, as well as vacancies that could be occupied. The City maintains an analysis of the Baseline condition using the City traffic model. The City uses the Baseline condition for comparison to project conditions because it is a near-term scenario that includes additional changes that will occur in the near term. Baseline conditions also include roadway improvements that are funded, but have not been built. Roadway improvements in baseline include Bellam Phase III, which is the widening of

Francisco Boulevard East southbound, and the widening of westbound I-580 off ramps to provide three lanes at the intersection: two right turn lanes to Francisco Blvd. East, one right turn lane to Bellam (there are no changes to the left turn lane). In addition, the signal operations will be modified. The project is scheduled to begin construction by summer 2004.

**Intersection Analysis**

City intersections are classified as signalized and unsignalized. Signalized intersections are controlled by traffic signals. Unsignalized intersections may be controlled by stop signs. **Exhibit IV.2-3** presents the LOS criteria for unsignalized and signalized intersections.

**Exhibit IV.2-3**  
**LOS Criteria for Signalized and Unsignalized Intersections**

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Level of Service	Delay per Vehicle (seconds/vehicle)	
	Unsignalized Intersections	Signalized Intersections
A	<= 10	<= 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Unsignalized intersections (those not controlled by traffic signal lights) were analyzed using methods described in the Transportation Research Board’s *Highway Capacity Manual, 2000*. LOS at unsignalized intersections is evaluated on the basis of delay per vehicle (in seconds per vehicle).

**Exhibit VIII.3-1**, in *Appendix VIII.3, Transportation Data*, presents existing and baseline LOS and delay at unsignalized intersections. **Exhibit IV.2-4** presents a summary of existing and baseline operating conditions at unsignalized intersections.

Signalized intersections (those controlled by traffic signals) were analyzed using a method described in the Transportation Research Board’s *Highway Capacity Manual*.<sup>1</sup> In San Rafael, LOS is evaluated on the basis of control delay per vehicle (in seconds per vehicle). Control delay is the portion of the total delay attributed to traffic signal operation for signalized intersections. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

**Exhibit VIII.3-2**, in *Appendix VIII.3, Transportation Data*, presents LOS and delay at existing signalized intersections. **Exhibit IV.2-5** is a summary of existing and baseline operating conditions at signalized intersections.

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<sup>1</sup> *Highway Capacity Manual*, Transportation Research Board, 2000.

**Exhibit IV.2-4**  
**Existing and Baseline Operating Conditions at Unsignalized Intersections**

<b>Existing</b>	<b>Baseline</b>
<p>All of the unsignalized intersections at highway interchanges operate at LOS C or better except for the following:</p> <ul style="list-style-type: none"> <li>▪ 101 SB Onramp and Francisco Blvd. West at LOS D during the AM peak hour.</li> </ul>	<p>All of the unsignalized intersections at highway interchanges would operate at LOS C or better, except for the following:</p> <ul style="list-style-type: none"> <li>▪ 101 SB and Merrydale at LOS D during the PM peak hour.</li> <li>▪ 101 SB On and Francisco W. at LOS D during the AM peak hour.</li> <li>▪ Freitas and 101 NB at LOS D during the AM peak hour.</li> </ul>
<p>The following are local roadway unsignalized intersections operating at LOS D or worse:</p> <ul style="list-style-type: none"> <li>▪ 1st and C operates at LOS D during the PM peak hour.</li> <li>▪ 5th and H operates at LOS D during the AM peak hour.</li> <li>▪ Mission and Grand operates at LOS D during the AM and PM peak hours.</li> <li>▪ Nova Albion and Las Gallinas operates at LOS D during the PM peak hour.</li> </ul>	<p>The following are local roadway unsignalized intersections that would operate at LOS D or worse:</p> <ul style="list-style-type: none"> <li>▪ 1<sup>st</sup> and C at LOS D during the PM peak hour.</li> <li>▪ 1<sup>st</sup> and D at LOS D during the PM peak hour.</li> <li>▪ 5<sup>th</sup> and H at LOS E during the AM peak hour.</li> <li>▪ 5<sup>th</sup> and H at LOS D during the PM peak hour.</li> <li>▪ Freitas and Redwood at LOS D during the AM peak hour.</li> <li>▪ Harbor and Francisco Blvd. East at LOS D during the PM peak hour.</li> <li>▪ Lincoln and Linden at LOS F during the PM peak hour.</li> <li>▪ Lincoln and Brookdale at LOS F during the PM peak hour.</li> <li>▪ Mission &amp; Grand would operate at LOS E during the AM and PM peak hours.</li> <li>▪ Nova Albion at Las Gallinas at LOS D during the PM peak hour.</li> </ul>
<p>All of the remaining unsignalized intersections operate at LOS C or better.</p>	<p>All of the remaining unsignalized intersections operate at LOS C or better.</p>

Source: San Rafael Department of Public Works

**Exhibit IV.2-5**  
**Existing and Baseline Operating Conditions at Signalized Intersections**

<b>Existing</b>	<b>Baseline</b>
<p>All of the signalized intersections at highway interchanges operate at LOS D or better, except for the following:</p> <ul style="list-style-type: none"> <li>▪ The intersection at Mission and Irwin operates at LOS F during the PM peak hour</li> </ul>	<p>All of the signalized intersections at highway interchanges operate at LOS D or better, except for the following:</p> <ul style="list-style-type: none"> <li>▪ Lincoln and 101 SB ramps at LOS E in the PM peak hour.</li> <li>▪ Mission and Irwin at LOS F during the PM peak hour.</li> <li>▪ Smith Ranch and 101 NB ramps at LOS E in the PM peak hour.</li> </ul>
<p>All of the signalized intersections in the Downtown area operate at LOS E or better except for the following:</p> <ul style="list-style-type: none"> <li>▪ 2<sup>nd</sup> and A at LOS F during the AM and PM peak hours.</li> </ul>	<p>All of the signalized intersections in the Downtown area operate at LOS E or better except for the following:</p> <ul style="list-style-type: none"> <li>▪ 2<sup>nd</sup> and A, at LOS F during the AM and PM peak hours.</li> </ul>
<p>All of the remaining signalized intersections operate at LOS D or better.</p>	<p>All of the remaining signalized intersections operate at LOS D or better.</p>

Source: San Rafael Department of Public Works

**Roadway and Arterial Segment Analysis**

Roadway and arterial segments are sections of roadways between intersections. When necessary, the City of San Rafael has analyzed roadway segments according to criteria presented in **Exhibit IV.2-6**. Urban street LOS is based on average vehicle travel speed for the segment under consideration. The average travel speed is computed from the running times on the street and the control delay of through movements at signalized intersections. This “free flow speed” is one of the components used to determine roadway segment’s LOS, as shown in the exhibit. San Rafael uses “Urban Street Class level IV” (shaded column in **Exhibit IV.2-6**) to identify LOS for San Rafael’s roadway segments.

It should be noted that there are no *General Plan 2000* policies that identify thresholds for roadway segments, except for portions of Second and Third Streets which are Congestion Management Plan segments as shown in **Exhibit IV.2-1**, and for which the Congestion Management Agency establishes standards.



**Exhibit IV.2-6**  
**LOS Criteria for Roadway Segments**

<i>Urban Street Class</i>	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>
<b>Range of FFS<sup>a</sup></b>	55 to 45 mi/h	45 to 35 mi/h	35 to 30 mi/h	35 to 25 mi/h
<b>Typical FFS</b>	50 mi/h	40 mi/h	35 mi/h	30 mi/h
<b>LOS</b>	<b>Average Travel Speed (mi/h)</b>			
A	> 42	> 35	> 30	> 25
B	> 34 - 42	> 28 - 35	> 24 - 30	> 19 - 25
C	> 27 - 34	> 22 - 28	> 18 - 24	> 13 - 19
D	> 21 - 27	> 17 - 22	> 14 - 18	> 9 - 13
E	> 16 - 21	> 13 - 17	> 10 - 18	> 7 - 9
F	<= 16	<= 13	<= 10	<= 7

<sup>a</sup> FFS = Free flow speeds

Note: The shaded column applies to San Rafael’s roadway segments.

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

City roadway segments were analyzed for level of service. LOS for existing and baseline conditions are presented in **Exhibit VIII.3-3**, in **Appendix VIII.3, Transportation Data**. **Exhibit IV.2-7** shows the following City roadway segments operating at LOS E or F during the AM or PM peak hour, under existing or baseline conditions:

**Exhibit IV.2-7**  
**Existing and Baseline Operating Conditions on Roadway Segments**

<i>Roadway Segment</i>	<i>Existing LOS</i>	<i>Baseline LOS</i>
All of the roadway segments operate at LOS D or better, except for the following:		
<i>Downtown and Environs</i>		
2 <sup>nd</sup> from G to Grand – EB – AM peak	E	E
2 <sup>nd</sup> from G to Grand – EB – PM peak	D	E
5 <sup>th</sup> from Irwin to E– WB – AM peak	D	E
A from 2 <sup>nd</sup> to 5 <sup>th</sup> – NB – PM peak	E	F
A from 4 <sup>th</sup> to 2 <sup>nd</sup> – SB – AM peak	E	E
A from 4 <sup>th</sup> to 2 <sup>nd</sup> – SB – PM peak	E	F
B from 5 <sup>th</sup> to 2 <sup>nd</sup> – SB – AM peak	E	E
B from 5 <sup>th</sup> to 2 <sup>nd</sup> – SB – PM peak	E	E
C from 2 <sup>nd</sup> to 5 <sup>th</sup> – NB – AM peak	E	E
C from 2 <sup>nd</sup> to 5 <sup>th</sup> – NB – PM peak	F	F
E from 2 <sup>nd</sup> to 5 <sup>th</sup> – NB – AM peak	E	E
E from 2 <sup>nd</sup> to 5 <sup>th</sup> – NB – PM peak	F	F
E from 5 <sup>th</sup> to 2 <sup>nd</sup> – SB – AM peak	F	F
E from 5 <sup>th</sup> to 2 <sup>nd</sup> – SB – PM peak	F	F
Grand from 4 <sup>th</sup> to 2 <sup>nd</sup> –SB-AM peak	F	F
Grand from 4 <sup>th</sup> to 2 <sup>nd</sup> –SB-PM peak	E	F
Hetherton from Mission to 2 <sup>nd</sup> – SB – AM peak	E	E
Hetherton from Mission to 2 <sup>nd</sup> – SB – PM peak	F	F
Irwin from 2 <sup>nd</sup> to Mission – NB- AM peak	F	F
Irwin from 2 <sup>nd</sup> to Mission – NB- PM peak	F	F
Lincoln from 2 <sup>nd</sup> to 101 SB – NB – PM peak	D	E
Lincoln from 101 SB to 2 <sup>nd</sup> – SB – AM peak	D	E
Lindaro from Andersen to 3 <sup>rd</sup> – NB – AM peak	E	E
Lindaro from Andersen to 3 <sup>rd</sup> – NB – PM peak	F	F
Lindaro from 3 <sup>rd</sup> to Andersen– SB – AM peak	F	F
Lindaro from 3 <sup>rd</sup> to Andersen– SB – PM peak	E	E
Mission from Irwin to Lincoln– WB – AM peak	F	F
Mission from Irwin to Lincoln– WB – PM peak	F	F
<i>East San Rafael</i>		
Bellam from Andersen to Kerner – EB - PM peak	E	E
Bellam from Kerner to Andersen– WB - AM peak	E	E
Bellam from Kerner to Andersen– WB - PM peak	E	E
<i>North San Rafael</i>		
Del Presidio from Las Gallinas to Freitas – NB – AM peak	E	F
Del Presidio from Las Gallinas to Freitas – NB – PM peak	E	E
Del Presidio from Freitas to Las Gallinas– SB – AM peak	E	E
Del Presidio from Freitas to Las Gallinas– SB – PM peak	F	F

Source: San Rafael Department of Public Works

The Marin County Congestion Management Agency (CMA) determines roadway LOS standards for Second Street, Third Street, and Fourth Street arterials. The level of service methodology, which applies for freeway segments as well, is based on a level that was adopted for the *1991 Congestion Management Plan*. Under this methodology, the levels of service are based on the volume-to-capacity (V/C) ratios for each roadway segment. A V/C ratio is a measure of the degree to which the total

capacity of a roadway is used by vehicles. When V/C exceeds 1.00, the roadway is congested with longer queues and extended delays with stoppages for long periods because of downstream congestion.

For principal arterials and conventional highways in Marin County, LOS D has been chosen by the CMA as the standard for Urban and Suburban Arterials.

LOS criteria for CMA arterial and freeway segments are presented in **Exhibit IV.2-8**.

**Exhibit IV.2-8**  
**Level of Service for CMA Roadways**

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<b>Level of Service</b>	<b>Type I Basic Freeway</b>	<b>Type II Major Arterial</b>
A	0.35	0.60
B	0.54	0.70
C	0.77	0.80
D	0.93	0.90
E	1.00	1.00

Source: *Marin Congestion Management Program*, December 2003.

Portions of Second Street, Third Street, and Fourth Street were analyzed using CMA LOS methods. LOS on these roadways under existing and baseline conditions is presented in **Exhibit IV.2-9**. It should be noted that the LOS shown for these roadways differs from the results presented in the previous **Exhibit IV.2-7** because different LOS analysis methods and different criteria (i.e., vehicle speed versus V/C ratios) are used for CMA segments; the City’s analysis is based on more detailed operating system methodologies.

All of the roadways shown in **Exhibit IV.2-9** are operating at LOS D or better for existing and baseline conditions, which is within the CMA standard.

**Exhibit IV.2-9  
 Marin County Congestion Management Agency Level of Service, Existing and Baseline  
 Conditions**

Roadway	Existing Conditions				Baseline Conditions			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Volume to Capacity Ratio	Level of Service	Volume to Capacity Ratio	Level of Service	Volume to Capacity Ratio	Level of Service	Volume to Capacity Ratio	Level of Service
Fourth Street Between Ross Valley Drive and Marquard Ave.								
Eastbound	0.62	B	0.50	A	0.66	B	0.51	A
Westbound	0.40	A	0.66	B	0.41	A	0.69	B
Second Street Between Marquard Ave. and Irwin St.								
Eastbound	0.62	B	0.55	A	0.65	B	0.58	A
Third Street Between Irwin St. and Marquard Ave.								
Westbound	0.49	A	0.62	B	0.53	A	0.66	B

Source: Marin County Congestion Management Agency methodology and City of San Rafael traffic model

**Freeway Facilities Analysis**

US 101 and I-580 extend through San Rafael. Much of the traffic on the facilities is regional, and not originating or ending in San Rafael. As described in the *Background Report*, regional traffic on freeways in San Rafael has increased. Over the past decade San Rafael, surrounding communities and surrounding counties have experienced growth, creating more regional traffic during peak and non-peak periods.

The CMA analyzes the facilities shown in **Exhibit IV.2-10** for levels of service. The CMA uses the methodology described in **Exhibit IV.2-8** above. LOS E has been selected by the CMA as the standard for freeways. The exception to this standard is for “grandfathered” segments – those segments operating at LOS F when the first Congestions Management Plan (CMP) was adopted. The CMA grandfathered freeway segments include all of San Rafael’s freeway segments shown in **Exhibit IV.2-10**. The CMA has recommended that an improvement plan be developed for each grandfathered segment that operates worse than the LOS standard.

**Exhibit IV.2-11** presents freeway mainline LOS under existing (1998, the most recent year available) conditions. The County’s traffic modeling for the freeways did not include baseline information. The data was developed using the County’s *Marin Transportation Model-Y2003*.<sup>2</sup>

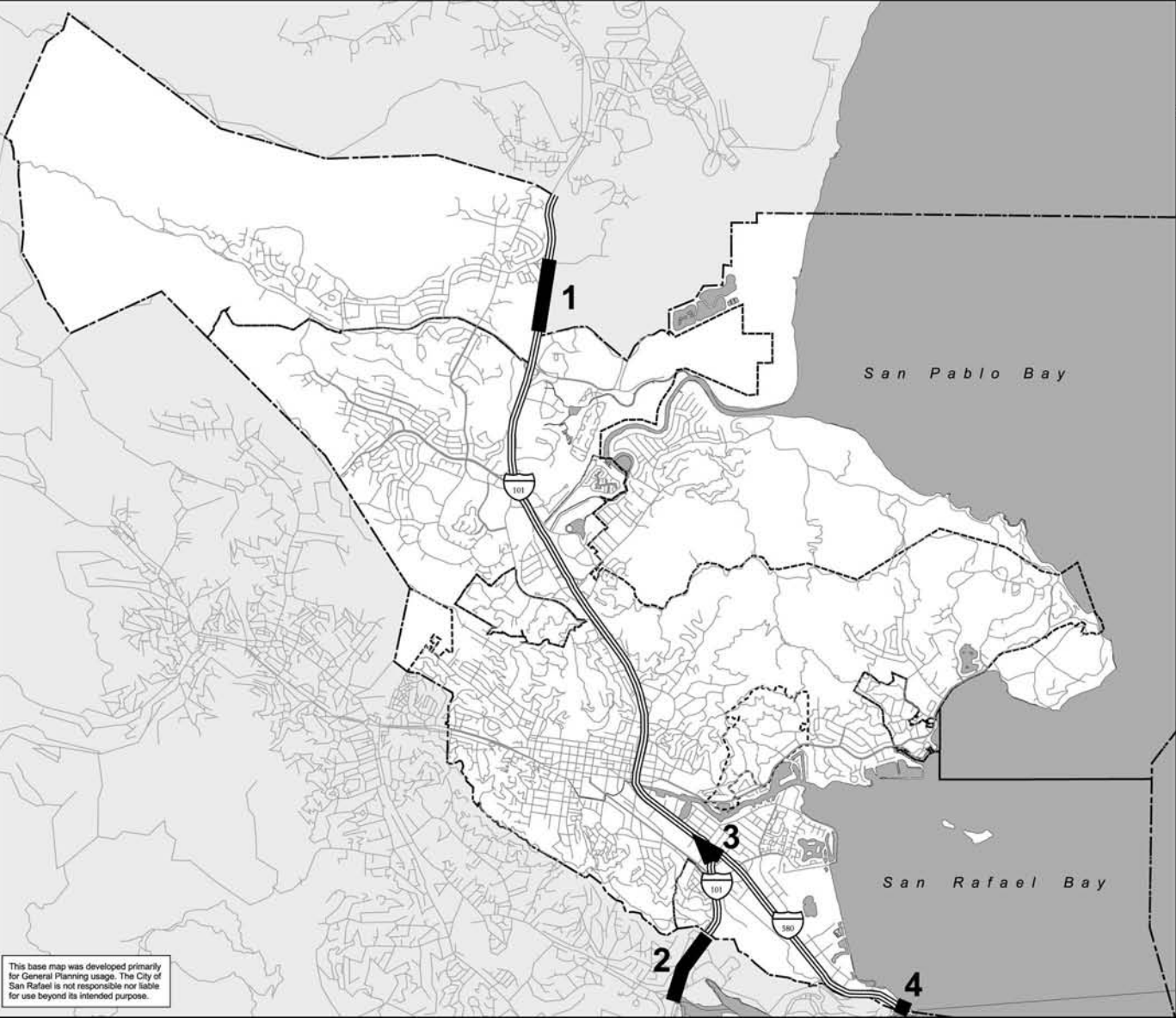
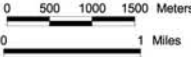
<sup>2</sup> *Marin Transportation Model-Y2003*, County of Marin, 2003.



# Congestion Management Agency Mainline Freeway Segments

- San Rafael City Limit
- Planning Area and Sphere of Influence Boundary

- 1. Highway 101**  
Miller Creek to Pacheco Hill
- 2. Highway 101**  
Sir Francis Drake Blvd. to Cal Park Hill
- 3. Highway 101 and I-580**  
Hwy. 101 and I-580 exchanges
- 4. I-580**  
At Richmond Bridge



This base map was developed primarily for General Planning usage. The City of San Rafael is not responsible nor liable for use beyond its intended purpose.

**Exhibit IV.2-11**  
**Freeway Mainline Level of Service, Existing Conditions**

<b>Highway Section</b>	<b>Existing</b>					
	<b>AM Peak Hour</b>			<b>PM Peak Hour</b>		
	<b>Volumes per hour</b>	<b>V/C</b>	<b>LOS</b>	<b>Volumes per hour</b>	<b>V/C</b>	<b>LOS</b>
<b>US 101 north of Miller Creek</b>						
a. Southbound	7,415	0.87	D	5,281	0.59	C
b. Northbound	3,356	0.37	B	8,232	1.00	D
<b>Pacheco Hill</b>						
<b>US 101 north of Sir Francis Drake</b>						
c. Southbound	7,026	1.17	F	5,428	0.90	D
d. Northbound	4,100	0.59	C	6,520	0.93	E
<b>Cal Park Hill</b>						
<b>US 101 &amp; I-580 Interchange</b>						
e. Southbound US 101 to Eastbound I-580	2,075	1.65	F	2,000	1.59	F
f. Westbound I-580 to Northbound Hwy 101	2,263	1.80	F	1,751	1.39	F
<b>I-580 at Richmond Bridge</b>						
g. Eastbound	2,728	0.68	C	3,530	0.88	D
h. Westbound	3,468	0.87	D	2,451	0.61	C

Source: Marin County Department of Public Works

The following freeway facilities operate at LOS F, which exceeds the CMA standard:

- Southbound U.S. 101 north of Sir Francis Drake during the AM peak hour
- Southbound U.S. 101 at the interchange to eastbound I-580 during both the AM and PM peak hours
- Westbound I-580 at the interchange to northbound U.S. 101 during both the AM and PM peak hours

### **PARKING FACILITIES**

Downtown is the area from Mission to Second Street and from the Second/Fourth “Y” to US 101. In 2000, Downtown had a total of 11 public parking lots and structures with a total of 977 parking stalls. In addition to the public parking lots and parking structures, there are an additional 1,301 on-street public parking spaces. These parking spaces include metered spaces, spaces with time limits, disabled access spaces, loading spaces, white spaces, green spaces, and spaces that have no time limit. The number of public parking stalls in Downtown varies from year to year primarily due to changes to the on-street spaces. In addition to the public on and off street spaces, there are approximately 4,500 private spaces located on private property, under private control. For example, the A Street garage is public and can be used by anyone; the Courthouse Square garage is private and can be used only by the building occupants. In 2003, construction began on a new 400-car parking garage at Third and C Streets, which is expected to meet much of Downtown’s parking deficit when it opens in the end of 2004. In addition, a new Parking Services Manager has been staffed to oversee Downtown parking operations.

### **BICYCLE FACILITIES**

San Rafael’s adopted *Bicycle and Pedestrian Master Plan* identifies approximately 2.7 miles of existing bikeways and 3.9 miles of existing bike lanes.<sup>3</sup> In addition to these routes that can be used by recreational and commuter bicyclists, many of San Rafael’s parks and open spaces can be reached by bicycle.

The City’s *Bicycle and Pedestrian Master Plan* identifies the following existing bikeways:

- Pacheco Hill Pathway,
- Merrydale Hill Pathway,
- Baypoint Pathway,
- Shoreline Park Path and Bay Trail,
- Redwood Highway Frontage Road to McInnis Park Pathway,
- Old Lucas Valley Road Pathway, and
- Walter Place Pathway.

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<sup>3</sup> *Bicycle and Pedestrian Master Plan*, City of San Rafael, 2002.

The City's *Bicycle and Pedestrian Master Plan* identifies the following bike lanes and routes:

- Andersen Drive,
- Las Gallinas Avenue
- Bellam Boulevard,
- Lincoln Avenue,
- Civic Center Drive and McInnis Parkway,
- Merrydale Overcrossing,
- Redwood Highway Frontage Road,
- Bellam/ Playa Del Rey, and
- Mahon Creek Path.

The estimated cost of implementing the *Bicycle and Pedestrian Master Plan* improvements is \$5.5 million; sources of funding include grants, developer mitigations, and General Fund and Redevelopment funds. The plan includes additional information about the improvements, which shall be provided as funding becomes available.

### **PEDESTRIAN FACILITIES**

San Rafael has a pedestrian-friendly Downtown, attractive malls, employment areas, and parks but pedestrian access from neighborhoods to these locations or to transit can be challenging.

Sidewalks do not exist on some streets, especially in older areas of central San Rafael, or the sidewalks are discontinuous. Narrow sidewalks, sidewalks with traffic signals or utility poles centered in the sidewalks, and sidewalks that do not have wheelchair ramps prevent some people in the community from using existing sidewalks. Bicyclists and pedestrians are also forced to share some sidewalks because of the lack of bike lanes. Overgrown vegetation and illegal parking can also inhibit access to sidewalks in some areas.

### **SCHOOL TRANSPORTATION**

Approximately 20 percent of the AM peak traffic is caused by school-related traffic. A majority of school trips are made by car. The Safe Routes to Schools program addresses daily school traffic through a combination of education, activities, and engineering solutions. It encourages more walking and biking to school through in-class activities, contests and events, and organized "school pools" of parents escorting children by foot, bike, or carpool. There is greater visibility and safety when children are grouped together. It also identifies problem areas that need to be improved.

Marin County is one of two counties nationwide to receive funds for a demonstration program of Safe Routes to Schools. Funding is available on a competitive basis for an expanded program that would bring the Safe Routes concept to the entire County. The City of San Rafael has been managing this program for the entire County.

### **TRANSIT**

Transit services throughout San Rafael and the County are provided by the Golden Gate Bridge Highway and Transportation District (GGBHTD), Marin County Transit District, Whistle Stop Wheels, Marin and Santa Rosa Airporth services, and Greyhound.



The GGBHTD provides four categories of bus service:

- *San Francisco Commute Service:* Operates during weekday commute periods in the peak commute direction between Marin and Sonoma residential areas and the San Francisco Financial District or Civic Center.
- *Ferry Feeder Service:* Operates a commute type service during weekday commute periods in the peak commute direction only, to or from the Marin and San Francisco Ferry Terminals, and scheduled to meet the ferries.
- *Transbay Basic Service:* Operates throughout the week between certain principal communities in Marin and Sonoma Counties and the San Francisco Civic Center/Transbay Terminal corridor and to Richmond and El Cerrito with connections to BART.
- *Marin Local Service:* Operates local transit service between the principal communities of Marin County under contract with the Marin County Transit District.

On November 2, 2003, the Golden Gate Transit (GGT) bus system cutback services due to a severe financial shortfall of \$13 million, resulting in a 22 percent reduction of service overall. In San Rafael, ferry connector service was eliminated as well as other local service. A month later, due to peak hour overcrowding, some services were restored for Route 35 in the Canal Neighborhood, and between San Rafael and San Anselmo. Cuts systemwide were primarily to low ridership routes. The results were that, for weekday, 1.7 percent of passenger trips had no service alternative, and 26.1 percent of passenger trips had a route segment eliminated, but had alternative and comparable service available. For 15.8 percent of weekday passenger trips, headways (amount of time between buses) increased 30 minutes to one-hour. Also systemwide, cuts were more severe on the weekends, with 2.1 percent of passenger trips having no service alternative, and 36.6 percent of passenger trips having a route segment eliminated, but with alternative and comparable service available. For 14.0 percent of weekend passenger trips, headways increased 30 minutes to one-hour.<sup>4</sup>

Marin Airporter and Santa Rosa Airporter provide direct service to the San Francisco Airport. Greyhound provides regional and statewide service. Marin and Santa Rosa Airporters and Greyhound are both privately owned businesses that rely on fare box revenues.

### **Paratransit Services**

Whistlestop Wheels provides demand-responsive service for elderly and handicapped citizens that qualify for American With Disabilities Act (ADA) paratransit. It is a private, non-profit that obtains some funding from the Marin County Transportation District and Golden Gate Bridge Highway and Transportation District. Whistlestop Wheels serves Marin County, and does not maintain records of specific trips made to and from San Rafael. Whistlestop Wheels total system ridership for the fiscal year ending in 2003 was approximately 76,100 trips.

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<sup>4</sup> Golden Gate Bridge, Highway and Transportation District website, <http://www.goldengate.org>, January 2004.

## **RAIL FACILITIES**

The Counties of Marin and Sonoma established the SMART (Sonoma-Marín Area Rail Transit) Commission in 1995 to advance the development of a regional rail transit system through joint planning efforts, grant applications, and community outreach efforts. In early 2003, the SMART Commission, Northwestern Pacific Railroad Authority, and the GGBHTD were consolidated into a single rail district, the SMART District, governed by 12 appointed directors. SMART trains are proposed to serve 14 stations, five of which would be in Marin County and two in San Rafael. The service would use the rail right-of-way formerly owned by the Northwestern Pacific Railroad Authority (NPRA) and the North Coast Railroad Authority (NCRA). Currently, the project is not fully funded.

A draft Environmental Impact Report (EIR) is being prepared to evaluate potential impacts of nine alternatives. The SMART EIR is looking at four 85-mile corridor alternatives (the other alternatives are for increased bus service), from Cloverdale to a ferry terminal:

- Larkspur to Cloverdale
- San Quentin to Cloverdale
- San Rafael to Cloverdale + Port Sonoma link
- San Rafael to Windsor

The draft EIR is evaluating impacts based on several vehicle options: traditional locomotive, and diesel mixed use vehicles. Initial operations would consist of 30- minute headways (i.e., one train every half hour) during peak hours, timed to meet bus service in San Rafael. There would be 12 to 16 trains per day, with a projected total daily ridership of 5,100 people. The train would run along the existing rail alignment, except for the section between Downtown and the ferry terminus, where three alternatives are under development for the draft EIR: one on the existing tracks to the Larkspur ferry and two alternatives to a waterfront site at San Quentin prison. The SMART project includes a continuous parallel (to the extent possible) bicycle/pedestrian path. The Class I path would be a minimum of 15 feet.

The train facilities will result in a new rail bridge crossing at Andersen Drive (for the segment between Downtown and the ferry) to separate rail cars from the road. There are three alternatives, including one with a realigned Andersen Drive, under review. Additionally, the CalPark Tunnel at the southern edge of the City limits will be rebuilt. (The Puerto Suello Tunnel adjacent to Highway 101 is structurally sound.) Conceptual designs are being prepared for the Civic Center and Downtown stations. All grade crossings would include crossing protection equipment. The first phase of SMART operations includes service from San Rafael to Windsor (estimated cost is \$154 million construction; \$11 million/year for operations and maintenance). Incremental expansion would occur as funding becomes available to complete the project. The full project is estimated to cost \$219 – 260 million for constructions, and \$13 million/year for operations and maintenance.

The draft EIR is scheduled for release in mid-2004. If funding is approved, operations could begin in 2007.<sup>5</sup>

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<sup>5</sup> *Frequently Asked Questions*, Sonoma-Marín Area Rail Transit, web page, <http://www.sonomamarintrain.org/faqpage.asp>, January 2004.

### **PROJECT SELECTION PROCESS (PSP)**

Currently, the City of San Rafael administers the Priorities Projects Procedure (PPP). The program prioritizes and allocates development proposals to ensure that future growth will not exceed level of service standards until planned improvements occur and that limited traffic capacity is allocated to development projects that yield maximum community benefits. The Land Use Element of the proposed General Plan identifies how this program will be expanded to prioritize development projects citywide in a new program called Project Selection Process (PSP). Transportation and circulation capacities are analyzed under this program.

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### **Transportation and Circulation – Significance Criteria**

The transportation and circulation analysis uses criteria from the *State CEQA Guidelines* and the *Draft General Plan 2020*. The Initial Study determined that the proposed project would have potentially significant transportation and circulation impacts.

The State CEQA Guidelines state that a project would have a significant traffic and circulation impact if it:

- Causes an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in substantial increase in either the number of vehicle trips and/or the volume to capacity ratio on roads, or congestion at intersections.
- Exceeds, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.

For this EIR more specific significance criteria have been developed for the City's unsignalized intersections, signalized intersections, roadways and arterials, and freeways. These criteria are discussed below:

#### **Unsignalized Intersections**

- If an unsignalized intersection with baseline traffic volumes is operating at an acceptable LOS (LOS A, B, C, D, or E) and deteriorates to an unacceptable operation (LOS F), this impact is significant.
- If an unsignalized intersection with baseline traffic volumes is already operating at LOS F and there is an increase in the delay of five seconds or more, this impact is significant.

### **Signalized Intersections**

The City level of service standard citywide as proposed in *Draft General Plan 2020* is LOS D except as noted below:

LOS E     Downtown  
              Irwin and Grand Avenue between Second Street and Mission Avenue  
              Andersen and West Francisco  
              Andersen and Bellam  
              Freitas at Civic Center/Redwood Highway  
              Merrydale at Civic Center Dr.

LOS F     Mission Ave. and Irwin

- If a signalized intersection with baseline traffic volumes is operating at an acceptable LOS and deteriorates to an unacceptable operation (LOS E or F), this impact is significant.
- If a signalized intersection with baseline traffic volumes is at an unacceptable LOS or already operating at LOS F and there is an increase in the delay of five seconds or more, this impact is significant.

### **Roadways and Arterial Segments**

The City level of service standard citywide as proposed in *Draft General Plan 2020* is as follows:

LOS D     Citywide, including those arterials under CMA jurisdiction, except as noted below:

LOS E     Downtown

- If an arterial with baseline traffic volumes is operating at an acceptable LOS and deteriorates to an unacceptable operation (LOS E or F), this impact is significant.
- If an arterial with baseline traffic volumes is already at an unacceptable LOS if there is a decrease in the calculated average travel speed of five miles per hour or more (City arterials) or .05 V/C or more (CMP arterials), this impact is significant.

### **Freeways**

LOS E is the threshold level of service established by the Marin County Congestion Management Plan for freeway segments on U.S. 101 and I-580 in San Rafael.

- If a freeway segment with baseline traffic volumes is operating at an acceptable LOS (LOS A, B, C, D, or E) and deteriorates to an unacceptable operation (LOS F), this impact is significant.
- If a freeway segment with baseline traffic volumes is already at operating at LOS F and there is an increase in the V/C of 0.01 or more, this impact is significant.

Caltrans has jurisdiction over freeway facilities. Caltrans has indicated that the *Draft General Plan 2020* would have a significant impact if the following occur:<sup>6</sup>

- Off-ramps experience vehicle queues that extend into the ramp's deceleration area or onto the freeway.
- Vehicle queues at intersections exceed existing lane storage.

In addition to the criteria listed above, the City has developed specific significance criteria for Parking, Bicycle/Pedestrian, and for Transit. These criteria are discussed below:

### ***Parking***

Parking impacts would be significant if the project:

- Caused a demand for parking that would be substantially greater than the planned parking supply
- Caused a substantial reduction in availability of on-street parking, either through removal or through increased demand for existing on-street parking.

### ***Bicycle/Pedestrian***

Bicycle/pedestrian impacts would be significant if the project:

- Caused a substantial inconvenience or substantial reduction in level of service to users of existing bicycle or pedestrian travel
- Substantially reduced bicycle or pedestrian access
- Substantially reduced safety for bicyclists or pedestrians

### ***Transit***

Transit impacts would be significant if the project:

- Induced substantial growth or concentration of population beyond the capacity of existing or planned public transit facilities
- Increased demand for public transit service to such a degree that accepted service standards are not maintained
- Reduced availability of public transit to users, or interfered with existing transit users.

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<sup>6</sup> Timothy C. Sable, District Branch Chief, Department of Transportation, Letter to City of San Rafael, June 9, 2003.

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## ***Transportation and Circulation – Impacts and Mitigation Measures***

The following is a description of impacts associated with implementation of *Draft General Plan 2020*.

### ***INTERSECTIONS***

As noted in the Introduction to this section of the EIR, implementation of *Draft General Plan 2020* would result in both land use development and transportation system improvements. Intersection operations under *Draft General Plan 2020* conditions are presented in **Exhibit VIII.3-4** in **Appendix VIII.3 Transportation Data**. In addition, to showing intersection LOS for 2020, the exhibit also includes LOS for 2020 should the planned transportation improvements not be built. **Exhibit IV.2-12** shows intersections that would have an unacceptable LOS in 2020, including both those that would be unacceptable should the planned improvements not be built (without improvements), and with the improvements in place (with improvements).

**Exhibit IV.2-12  
 Intersection Level of Service – Baseline and General Plan 2020, Without Improvements and With Improvements**

	Intersection	Peak	Status	Baseline			2020 without Improvements		2020 with Improvements		General Plan 2020 Improvements <sup>b</sup>
				Improvements <sup>a</sup>	Delay	LOS	Delay	LOS	Delay	LOS	
1.	101 SB & Merrydale	PM	Unsig		31.4	D*	95.3	F*	11.7	B	Signalization plus widening (add one westbound right lane) (Improvement #17)
2.	101 SB On & Francisco W.	PM	Unsig		19.4	C*	51	F*	20.6	C	Signalization plus ramp reconfiguration (Add off Ramp and one northbound right lane) (Caltrans improvement)
3.	2nd & A	AM	Sig.		128.8	F	137.1	F	20.4	C	Signal operation improvement plus widening (one eastbound right lane) (Improvement #29)
4.	2nd & A	PM	Sig.		98.9	F	114.8	F	57.8	E	Signal operation improvement plus widening (one eastbound right lane) (Improvement #29)
5.	2nd & B	AM	Sig.		48.5	D	55.9	E	9.1	A	Signal operation improvement (Improvements #23, 24 and 25)
6.	2nd & Grand	PM	Sig.		55.4	E	66.4	E	14.4	B	Signal operation improvement plus widening (one northbound right lane) (Improvement #7)
7.	3rd & A	PM	Sig.		75.9	E	90.5	F	62.4	E	Signal operation improvement (Improvements #23, 24 and 25)
8.	3rd & Union	PM	Sig.		46.7	D	50.1	D	68.7	E	Signal operation improvements (northbound left and southbound left protect phasing) (Improvement #19)
9.	4th & E	PM	Sig.		46.8	D	62.1	E	54.1	D	Signal operation improvement (Improvements #23, 24 and 25)
10.	5th & A	AM	Sig.		66	E	83	F	19.7	B	Signal operation improvement (Improvements #23, 24 and 25)
11.	5th & H	AM	Unsig.		44.3	E	59.2	F	11.8	B	Signalization plus parking restriction and widening (one left lane on all directions) (Improvement #12)
12.	Andersen & Du Bois	AM	Sig.		51.6	D	57.9	E	26.6	C	Signal operation improvement (Improvements #23, 24 and 25)
13.	Andersen & Lindaro	PM	Sig.		53.7	D	59	E	50.2	D	Signal operation improvement

Intersection	Peak	Status	Baseline			2020 without Improvements		2020 with Improvements		General Plan 2020 Improvements <sup>b</sup>
			Improvements <sup>a</sup>	Delay	LOS	Delay	LOS	Delay	LOS	
14. Bellam & 580 EB	PM	Sig.	Bellam Phase III	48.3	D	63.1	E	22.3	C	(Improvements #23, 24 and 25) Signal operation improvement (Improvements #23, 24 and 25)
15. Freitas & 101 NB	AM	Unsig		31.5	D <sup>c</sup>	59.8	F <sup>c</sup>	19.3	B	Signalization plus widening (add one northbound right lane) (Improvement #6)
16. Freitas & Redwood	AM	Unsig		33.5	D <sup>c</sup>	80.8	F <sup>c</sup>	24.6	C	Signalization plus widening (add one southbound left lane) (Improvement #6)
17. Harbor & Francisco E.	PM	Unsig		25.4	D <sup>c</sup>	90.9	F <sup>c</sup>	16.1	B	Signalization and change northbound right lane to northbound through and right lane (Improvement #8)
18. Lincoln & 101 SB Ramps	AM	Sig.		47.1	D	56.6	E	54.7	D	-
19. Lincoln & 101 SB Ramps	PM	Sig.		66.4	E	84.2	F	84.8	F	-
20. Mission & Grand	AM	Unsig		35.4	E	71.1	F	14.5	B	Signalization plus parking restriction (one left lane on all directions) (Improvement #7)
21. Mission & Grand	PM	Unsig		36.1	E	68	F	14.9	B	Signalization plus parking restriction (one left lane on all directions) (Improvement #7)
22. Mission & Irwin	AM	Sig.		29.7	C	62.2	E	59.7	E	Signal operation improvement (Improvements #23, 24 and 25)
23. Mission & Irwin	PM	Sig.		98.9	F	107.6	F	114.4	F	Signal operation improvement (Improvements #23, 24 and 25)
24. Smith Ranch & 101 NB Ramps	AM	Sig.		56.1	E	71.8	E	15.1	B	Signal operation improvement plus widening (two eastbound through and two northbound left turn lanes; change eastbound right turn to eastbound through/right turn lane. (Improvement #1)

<sup>a</sup> Improvements currently programmed and funded.

<sup>b</sup> Draft General Plan 2020 improvements are described in Exhibit IV.2-13, below.

<sup>c</sup> Two-way stop controlled intersection. The intersection delay and LOS were calculated based on City methodology.

Notes:

LOS = level of service.

Delay is in seconds per vehicle.

Source: San Rafael Department of Public Works



**Impact IV.2-1 Level of Service at Intersections Improved to Acceptable Levels with Draft General Plan 2020**

*Implementation of the Draft General Plan 2020 without improvements would result in unacceptable LOS at intersections. However, Draft General Plan 2020 improvements would result in acceptable LOS at these intersections. Therefore, this would be a less-than-significant impact.*

**Exhibit IV.2-12**, above, presents a description of intersections that would be operate at unacceptable operating conditions under *Draft General Plan 2020* conditions if no improvements are made at these intersections. These intersections would exceed the criteria for unsignalized and signalized intersections described in the *Significance Criteria* section, above.

For unsignalized intersections, impacts are considered significant if the intersection:

- with baseline traffic volumes is operating at an acceptable LOS (LOS A, B, C, D, or E) and deteriorates to an unacceptable operation (LOS F), or
- with baseline traffic volumes is already operating at LOS F and there is an increase in the delay of five seconds or more.

For signalized intersections, the citywide standard is LOS D. The standard is LOS F at the intersection of Mission Avenue and Irwin. The standard is LOS E at the following locations:

- Downtown
- Irwin and Grand Avenue between Second Street and Mission Avenue
- Andersen and West Francisco
- Andersen and Bellam
- Freitas at Civic Center/Redwood Highway
- Merrydale at Civic Center Drive

Some of the intersections listed in **Exhibit IV.2-12** would operate at unacceptable LOS under both AM and PM peak hour conditions. Some intersections would operate at unacceptable LOS under only one peak hour. **Exhibit IV.2-13** lists intersections and peak hours that would experience unacceptable LOS under *Draft General Plan 2020* conditions without improvements, but would be changed to an acceptable LOS with *Draft General Plan 2020* improvements.

**Exhibit IV.2-13**  
**Impacted Intersections, Without Construction of Roadway Improvements**

<b>Unsignalized Intersection</b>	<b>Peak</b>	<b>Signalized Intersection</b>	<b>Peak</b>
<i>Downtown</i>		<i>Downtown</i>	
5 <sup>th</sup> and H	AM	2 <sup>nd</sup> and A	AM and PM
Mission and Grand	AM and PM	2 <sup>nd</sup> and B	PM
<i>East San Rafael</i>		2 <sup>nd</sup> and Grand	PM
101 SB On & Francisco W.	PM	3 <sup>rd</sup> and A	PM
Harbor and Francisco E	PM	5 <sup>th</sup> and A	AM
<i>North San Rafael</i>		Lincoln and 101 SB ramps	AM and PM
101 SB & Merrydale	PM	Mission and Irwin	AM and PM
Freitas and 101 NB	AM	<i>East San Rafael</i>	
Freitas and Redwood	AM	Andersen and Du Bois	AM
		Andersen and Lindaro	PM
		Bellam and 580 EB	AM

Source: San Rafael Department of Public Works

**Exhibit IV.2-12** presents a description of *Draft General Plan 2020* improvements that would result in acceptable LOS at the intersections and peak hours listed above in **Exhibit IV.2-13**. The improvements, projected cost of the improvements, source of funding for the improvements, and projected timing of the improvements are described in **Exhibit IV.2-14**. The improvements would increase the capacity of the intersections, and increase the efficiency of the intersections.

With implementation of the improvements listed in **Exhibit IV.2-14**, LOS at the intersections and peak hours listed above in **Exhibit IV.2-13** would be acceptable. Therefore, with implementation of the improvements, the impact would be considered less-than-significant. Impacts associated with the LOS at Second Street and A Street, Third Street and Union Street, Lincoln Avenue and US 101, and Mission Avenue and Irwin Street are addressed separately in Impacts IV.2-2 to 5, below.

Implementation of the improvements listed in **Exhibit IV.2-14** are anticipated to occur during the planning period. If implemented in conjunction with anticipated development, LOS at the 21 combinations of intersections and peak hours listed above would be acceptable. Therefore, with implementation of the improvements, the impact would be considered less-than-significant.

Implementation of the proposed improvements is considered feasible based on anticipated funding sources from transportation mitigation fees, State and Federal grants, and local funding, past successes in accomplishing planned transportation improvements, and *Draft General Plan 2020* policies **LU-2 Development Timing** and **C-6 Proposed Improvements**, which require the installation of improvements concurrent or prior to approval of new development projects which are dependent upon the improvements to retain acceptable LOS.

The City was successful in implementing most of the transportation improvements called for in *General Plan 2000*. These improvements were estimated in 1986 to cost approximately \$35 million. Inflated to present values, this would equate to approximately \$55.7 million in improvements in year 2004 dollars. Between 1988 and the present, approximately \$30 million in transportation improvements were made, including the extension of Andersen Drive, the Merrydale/101 Overcrossing, the connection of Lincoln Avenue and Ranchitos Road, and improvements at the Civic Center/N. San Pedro Road intersection. Approximately half of the \$30 million in funding came from

traffic mitigation fees and developer contributions from new development projects and half from the Redevelopment Agency and from federal and state transportation funds.

**Exhibit IV.2-14**

***Draft General Plan 2020 Circulation Element Major Planned Circulation Improvements<sup>a</sup>***

	<b>Proposed Roadway Improvements</b>	<b>Projected Cost</b>	<b>Funding Source</b>			<b>Projected Project Timing</b>
			<b>Mitigation Fee</b>	<b>Redevelopment</b>	<b>State &amp; Federal</b>	
<b>1</b>	<b>Smith Ranch Road/Lucas Valley Road</b>					
	Widen roadway to provide two westbound and two eastbound lanes between Redwood Highway and Los Gamos Road.					
	Widen northbound 101 off ramp and southbound 101 off ramp for additional right and left turn lanes.	\$4,000,000	\$4,000,000			Depends On Development Timing <sup>b</sup>
<b>2</b>	<b>Lucas Valley/Los Gamos<sup>c</sup></b>	\$2,000,000	\$2,000,000			
	Widen Lucas Valley Road to provide two through lanes for eastbound and westbound, and provide two westbound left turn lanes.					
	Widen southbound Los Gamos to provide 2 lanes for 300 feet and merge back to one lane.					
	Signalize intersection and coordinate with adjacent intersections.					Depends On Development Timing
<b>3</b>	<b>Las Gallinas Avenue (Merrydale to Del Presidio)</b>					
	Remove parking and widen street to provide four lanes.					
	One southbound, two northbound and one two-way left turn.	\$300,000	\$300,000			Depends On Development Timing
<b>4</b>	<b>Freitas/Las Gallinas</b>					
	Upgrade the traffic signal system and operation. Improve intersection geometry, cover portions of drainage ditch	\$650,000	\$650,000			5-7 years
<b>5</b>	<b>Freitas/ Del Presidio</b>					
	Explore feasibility of double northbound right turn and southbound 101 on ramp widening	\$900,000	\$900,000			Depends On Development Timing
<b>6</b>	<b>Freitas/ Northbound 101 Ramps- Redwood- Civic Center widening and signalization. Right of Way Required.</b>	\$7,500,000	\$7,500,000			Depends On Development Timing
<b>7</b>	<b>Grand Avenue (south of Grand Avenue bridge to Fourth Street)</b>					
	Widen north/south, add one lane as required, and upgrade traffic signal system.					
	Requires right of way and major bridge widening.	\$6,500,000	\$3,250,000	\$3,250,000		Depends On Development Timing
	Signalize Grand/ Fifth, and restrict parking to provide turn lanes	\$200,000	\$200,000			5-7 years
	Signalize Grand/ Mission, and restrict parking to provide turn lanes	\$200,000	\$200,000			5-7 years
<b>8</b>	<b>Francisco Blvd. East (Bellam to Grand Avenue Bridge)</b>					
	Four lanes will be required. One southbound, one two-way left turn and two northbound lanes. Major right of way required.	\$10,000,000	\$5,000,000	\$5,000,000		Depends On Development Timing

	<b>Proposed Roadway Improvements</b>	<b>Projected Cost</b>	<b>Funding Source</b>			<b>Projected Project Timing</b>
			<b>Mitigation Fee</b>	<b>Redevelopment</b>	<b>State &amp; Federal</b>	
	Signalize Francisco Blvd. East/Harbor	\$200,000	\$200,000			5-7 years
<b>9</b>	<b>Lincoln Avenue (Second Street to southbound 101 ramps- Hammondale or as required)</b>					
	Extend the existing PM peak northbound Tow-Away zone for AM peak as well (four lanes may be required).	\$400,000	\$400,000			3 years
	This parking restriction is likely to be extended north toward the southbound 101 ramps					
	Signalize Lincoln/ Grand, and restrict parking to provide turn lanes	\$200,000	\$200,000			3-5 years
<b>10</b>	<b>Mission/Lincoln</b>					
	Provide additional lanes for northbound, and westbound; upgrade traffic signal system, requires right of way.	\$4,000,000	\$2,000,000	\$2,000,000		Depends On Development Timing
<b>11</b>	<b>Fourth Street (Miracle Mile)</b>					
	Re-align Ross Valley and Santa Margarita and re-design intersection operation.					
	LOS may deteriorate but community access will be provided.	\$450,000	\$450,000			5 years
	<i>Additional Signalization</i>					
<b>12</b>	Signalize Fifth & H Street, and restrict parking to provide turn lanes.	\$100,000	\$100,000			3 years
<b>13</b>	Signalize First/C Street, and restrict parking to provide turn lanes.	\$150,000	\$150,000			3 years
<b>14</b>	Signalize First/ D Street, and restrict parking to provide turn lanes.	\$150,000	\$150,000			3 years
<b>15</b>	Signalize Fourth/Union Street, and restrict parking to provide turn lanes.	\$200,000	\$200,000			Depends On Development Timing
<b>16</b>	Signalize or Roundabout Mission/Court Street.	\$200,000	\$100,000	\$100,000		Depends On Development Timing
<b>17</b>	Signalize Merrydale/Southbound 101 Ramps, and provide turn lanes.	\$250,000	\$250,000			5-7years
<b>18</b>	Signalize Lincoln/DuBois/Irwin and re-align intersection. Right of way required.	\$2,500,000		\$2,500,000		Depends On Development Timing
<b>19</b>	<b>Third/Union Street</b>					
	Widen Union Street to provide 4 lanes between Third and Fourth. Fire Station 4 modification required.					
	Reconfigure Third/Union eastbound left turn pocket.					
	Provide westbound right turn pocket.					
	Upgrade the traffic signal system and operation.	\$900,000	\$900,000			2 years
<b>20</b>	<b>Kerner Blvd or Francisco Blvd. East. To Andersen Drive Undercrossing</b>					
	Provide a minimum 3 lane connector near Shoreline Parkway.					
	Signalize at both ends.	\$8,000,000	\$4,000,000	\$4,000,000		Depends On Development Timing
<b>21</b>	<b>Andersen /East Sir Francis Drake-eastbound 580 Ramps</b>					
<b>22</b>	Major widening and Signalization.	\$2,000,000	\$500,000	\$500,000	\$1,000,000	5-7 years
	<b>Subtotal</b>	<b>\$51,950,000</b>	<b>\$33,600,000</b>	<b>\$17,350,000</b>	<b>\$1,000,000</b>	

	Proposed Roadway Improvements	Projected Cost	Funding Source			Projected Project Timing
			Mitigation Fee	Redevelopment	State & Federal	
	<i>Other Projects</i>					
23	Upgrade traffic signal system.	\$3,000,000	\$1,500,000		\$1,500,000	7 years
24	Install traffic monitoring sensors and camera system.	\$1,000,000	\$500,000		\$500,000	7 years
25	Install Fiber Optic network throughout the traffic system.	\$2,000,000	\$1,000,000		\$1,000,000	7 years
26	Pedestrian bridge at Third/Hetherton-GGT.	\$2,000,000	\$500,000	\$500,000	\$1,000,000	Depends On SMART, 10-20 years
27	Pedestrian bridge connect Canal to Andersen Drive/Downtown.	\$4,500,000	\$1,125,000	\$1,125,000	\$2,250,000	10-20 years
28	Pedestrian bridge connect Canal to Montecito Shopping Center.	\$4,000,000	\$1,000,000	\$1,000,000	\$2,000,000	10-20 years
28	Freitas/ Northbound 101 Ramps- Redwood- Civic Center or a new fly over from Civic Center Dr. to Freitas.	\$12,000,000	\$6,000,000		\$6,000,000	Depends On Development Timing
29	Second Street (East of A Street to E Street).					
	The projected volume requires right turn lanes or through/right lanes be added in the long term. Right of way required.	\$6,000,000	1,500,000.0	\$3,000,000	1,500,000.0	10-20 years
	<b>Subtotal Other Projects</b>	<b>\$34,500,000</b>	<b>\$13,125,000</b>	<b>\$5,625,000</b>	<b>\$15,750,000</b>	
	<b>Grand Total Project Cost</b>	<b>\$86,450,000</b>				

- a Priorities for circulation improvements are set in the Capital Improvements Program. This list may be amended as part of the five-year General Plan update.
- b The timing for the improvements depends on the size, type and phasing of additional development. Policies **LU-2 Development Timing** requires findings when project-related traffic will not cause the LOS to be exceeded, and **LU-3 Project Selection Process** continues the current process of prioritizing development projects where traffic capacity is limited.
- c This replaces the Lucas Valley Interchange \$17,000,000 project described in *Draft General Plan 2020*.

Source: San Rafael Public Works Department

**Exhibit IV.2-14** indicates that nearly \$52 million in improvements would be needed to maintain desired LOS. Of this amount, \$33.6 million is anticipated from traffic mitigation fees, the rate of which will be increased in conjunction with adoption of the new General Plan. The City’s traffic mitigation fee account currently has a balance of almost \$9 million. The remaining \$18.3 million is anticipated from Redevelopment Agency and from federal and state funds. A reduction in previous level of Federal and State funding is anticipated due to budget constraints. At present, the State Transportation Improvement Program (STIP) funds are programmed through the year 2009; STIP funding for additional projects would be available after 2009.

The timing of implementation of anticipated transportation improvements is critical to retain acceptable LOS. As indicated in **Exhibit IV.2-14**, many improvements would not be required unless anticipated development in the vicinity occurs. *Draft General Plan 2020* Policy **LU-2 Development Timing** would preclude the approval of new development projects that would require transportation improvements to retain desired LOS unless the transportation improvement has committed funding and the environmental review process for the improvement has been completed. This policy would assure that development would not occur in advance of anticipated transportation improvements with a resulting deterioration in LOS beyond acceptable levels of congestion. In addition, policy **LU-3**

**Project Selection Process** expands on the current Priority Project Procedure, which provides a system for the City to prioritize development projects where traffic capacity is limited. The process presently applies only in North and East San Rafael; a major component of the new policy and implementing program is to include development in Downtown and central San Rafael in the evaluation process.

**Mitigation Measure IV.2-1** None required.

**Impact IV.2-2 Level of Service at Second Street and A Street with Draft General Plan 2020**

*Implementation of the proposed Draft General Plan 2020 without Draft General Plan 2020 improvements would result in LOS F in the AM and PM at this intersection, and with Draft General Plan 2020 improvements would result in LOS C in the AM, and LOS E in the PM at this intersection. This would be a less-than-significant impact.*

The intersection of Second and A Streets is one of two intersections operating at LOS F in the AM and PM peak hours in baseline operations. **Exhibit IV.2-12** indicates that this intersection would also operate at LOS F in the AM and PM peak hours in *Draft General Plan 2020* without planned circulation improvements. **Exhibit IV.2-12** presents a description of *Draft General Plan 2020* improvements that would result in acceptable LOS.

As described above in Impact IV.2-1, *Draft General Plan 2020* policy **LU-2 Development Timing** precludes the approval of new development projects that require transportation improvements to retain desired LOS, unless the transportation improvement has committed funding and the environmental review process for the improvement has been completed. This policy assures that development will not occur in advance of anticipated transportation improvements with a resulting deterioration in LOS beyond acceptable levels of congestion. With implementation of *General Plan 2020* improvements, the delay would be less than under Baseline conditions, and result in LOS C (AM) and LOS E (PM) at this intersection. *Draft General Plan 2020* Policy **C-5** defines LOS E as acceptable in the Downtown area, which includes the intersection of Second Street and A Street. Therefore, this is considered a less-than-significant impact.

**Mitigation Measure IV.2-2** No mitigation needed.

**Impact IV.2-3 Level of Service at Third Street and Union Street from Draft General Plan 2020**

*Implementation of the proposed Draft General Plan 2020 would result in increased delay, and degradation in intersection LOS. Intersection LOS would change from acceptable LOS under Baseline conditions to unacceptable LOS under the proposed project. This would be a significant impact.*

**Exhibit VIII.3-4** in *Appendix VIII.3 Transportation Data* indicates that the intersection of Third Street and Union Street would, during the PM peak hour, operate at LOS D under Baseline conditions and *Draft General Plan 2020* conditions without *Draft General Plan 2020* improvements. With implementation of *Draft General Plan 2020* improvements, traffic operations at this intersection would degrade to an unacceptable LOS E during the PM peak hour. Improvements at this intersection include: two northbound left turn lanes, a left turn lane pocket into Whole Foods Market, a new westbound right turn pocket, the extension of east bound and westbound left turn pockets, sidewalk on the east side of the Montecito Shopping Center entryway, and an increase in the signal cycle time for pedestrians. LOS E would be experienced by north/southbound (Union Street) traffic, and not by east/west bound traffic on Third Street. The unacceptable traffic operations are a result of safety improvements to the intersection, especially the increase in the signal cycle time for pedestrian

crossings. The increase in signal cycle time increases the average delay experienced by vehicles traveling through the intersection by increasing the length of the red light phase.

Policy **C-4 Safe Roadway Design** allows LOS standards to be exceeded for safety considerations. Decreasing the signal cycle length would improve traffic operations. However, this mitigation would potentially impair pedestrian safety at this intersection. Thus, this impact is determined to be significant and unavoidable.

**Mitigation Measure IV.2-3** There are no additional feasible mitigation measures that would further reduce this impact.

**Significance After Mitigation** Significant and unavoidable impact.

**Impact IV.2-4 Level of Service at Lincoln Avenue and US 101 Southbound Ramps with Draft General Plan 2020**

*Implementation of the proposed Draft General Plan 2020 would result in increased traffic volumes, delay, and degrade intersection LOS. Draft General Plan 2020 would result in a change in intersection LOS for the PM peak hour from E under Baseline conditions to LOS F under the proposed project. This would be a significant impact.*

**Exhibit IV.2-12** indicates that the intersection of Lincoln Avenue and US 101 Southbound Ramps would operate at LOS F in the PM peak hour under *Draft General Plan 2020* conditions, even with *Draft General Plan 2020* improvements. *Draft General Plan 2020* Policy **C-5 Traffic Level of Service Standards** would exempt freeway ramp intersections from the LOS standard because delay at these locations is affected by regional traffic and not local measures. However, exempting this intersection from LOS standards as a matter of policy is not considered to reduce the impact to a less-than-significant level. This impact would therefore be considered significant.

The City has examined possible mitigation measures to reduce this impact and has determined that, in order to improve operations and the LOS at the ramps, the City would have to widen the southbound approach to provide two southbound left turn lanes and two through lanes, widen the northbound approach to provide two northbound through lanes, and widen the on-ramp to provide two lanes for an adequate merge area. However, the improvements would require substantial right-of-way acquisition and roadway widening, particularly to meet geometric requirements for adequate merge/diverge area on 101. The costs of reconfiguring the intersection would be substantial, as would be the impacts of eliminating land uses to accommodate roadway widening. Furthermore, the City does not have a policy that would support eliminating existing land uses to accommodate right-of-way acquisition for freeway improvements. Thus, the potential mitigations are determined to be infeasible. For these reasons, this impact is determined to be significant and unavoidable.

**Mitigation Measure IV.2-4** There are no additional feasible mitigation measures that would further reduce this impact.

**Significance After Mitigation** Significant and unavoidable.

**Impact IV.2-5 Level of Service at Mission Avenue and Irwin Street with Draft General Plan 2020**

*Implementation of the proposed Draft General Plan 2020 would result in increased traffic volumes and delay at this intersection; the intersection would continue to operate at LOS F with additional delay. This would be a significant impact.*

**Exhibit IV.2-12** indicates that the intersection of Mission Avenue and Irwin Street would operate at LOS F during the PM peak hour under Baseline conditions and under *Draft General Plan 2020* conditions, with or without *Draft General Plan 2020* improvements. PM peak hour delay increases from 98.9 seconds in Baseline to 107.6 seconds for 2020 without improvements, and 114.4 seconds for 2020 with improvements. The increased delay with improvements is due to planned systemwide operations improvements in signal timing. When traffic operations are improved systemwide, individual approaches to intersections may be impacted, and an intersection LOS degraded. The planned systemwide improvements Downtown would impact certain approaches to the Mission and Irwin intersection. As noted in the *Significance Criteria* section, LOS F is the standard at this intersection, and *Draft General Plan 2020* policy **C-5** would exempt freeway ramp intersections from the Los standard because delay at these locations is affected by regional traffic and not local measures. However, exempting this intersection from LOS standards as a matter of policy is not considered to reduce the impact to a less-than-significant level. This impact is therefore considered significant.

The City has examined possible mitigation measures to reduce this impact and has determined that, in order to improve operations and the LOS at the ramp, the City would have to widen Mission Avenue to provide an additional eastbound left turn lane (for two eastbound left turn lanes), widen Irwin to provide an additional through lane onto 101 (for three through lanes) and retain one right/through lane, and widen the on-ramp to three lanes with an extension of one of the lanes to provide adequate merge area. However, the improvements would require modifying the 101 viaduct's support structure on Mission Avenue, acquisition of right-of-way along Belle and Mission and Irwin, demolition of existing buildings at the intersection, and relocation of the sound wall further east. The costs of modifying the 101 viaduct would be substantial, as would be the costs of acquiring the right-of-way along Belle, Mission and Irwin. In addition, the City does not have a policy that would support eliminating existing land uses to accommodate right-of-way acquisition for freeway improvements. Thus the potential mitigations are determined to be infeasible. For these reasons, this impact is determined to be significant and unavoidable.

**Mitigation Measure IV.2-5** There are no additional feasible mitigation measures that would further reduce this impact.

**Significance After Mitigation** Significant and unavoidable

**CITY ROADWAY SEGMENTS**

City roadway segment operations under *Draft General Plan 2020* conditions are presented in **Exhibit VIII.3-5** in *Appendix VIII.3 Transportation Data*. **Exhibit IV.2-15** below shows those arterial segments that exceed the thresholds of significance for LOS.

As noted in the *Introduction* to this section of the EIR, implementation of *Draft General Plan 2020* would result in both land use development and transportation system improvements. As presented in **Exhibit IV.2-15**, the proposed project includes the transportation system improvements.

*Draft General Plan 2020* includes both land use development (which tends to degrade traffic operations), and roadway improvements (which tend to improve traffic operations). This mix results



in the proposed project having a mix of effect on roadway segment traffic operations. In some cases, traffic operations are degraded. In other cases, traffic operations are improved.

**Exhibit VI.2-15**  
**Impacted City Roadway Segments, Under Baseline and Draft General Plan 2020**

Arterial Segment			Direction	Baseline				General Plan 2020			
				AM		PM		AM		PM	
Street	From	To		Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS
A	2 <sup>nd</sup>	5 <sup>th</sup>	NB	9.5	D	5	F	7.6	E	4.1	F
Freitas	Las Gallinas	Del Presidio	EB	12.8	D	11.9	D	a	a	a	a
Freitas	Las Gallinas	101 NB On / Civic Ctr	EB	a	a	a	a	9	E	8.3	E

<sup>a</sup> The Freitas segment limit is different between scenarios as the intersections are identified to be signalized in the future.

Note: The arterial LOS is performed between signalized intersections only.

Source: San Rafael Department of Public Works.

**Impact IV.2-6 Unacceptable City Roadway Segment Level of Service Resulting from Draft General Plan 2020**

*Implementation of the proposed Draft General Plan 2020 would result in LOS on some City roadway segments degrading from acceptable to unacceptable LOS. This degradation would occur despite implementation of improvements included in Draft General Plan 2020. Therefore, this would be considered a significant impact.*

**Exhibit IV.2-15** indicates that implementation of *Draft General Plan 2020* would result in traffic operations on A Street and on Freitas Parkway degrading from acceptable LOS under Baseline conditions to unacceptable LOS under *Draft General Plan 2020*.

The unacceptable traffic operations would occur even with implementation of feasible mitigation measures included in *Draft General Plan 2020*. According to significance thresholds described in the *Significance Criteria* section, this degradation from acceptable to unacceptable conditions is considered a significant impact.

The City has considered various possible mitigations to reduce these impacts and has determined that, in order to improve operations and reduce LOS at on these segments, the City would have to widen A Street to provide an additional lane or, alternatively, modify signal timing, and widen Freitas Parkway and overpass and realign the 101 southbound and northbound on- and offramps. Widening A Street would require extremely expensive right-of-way acquisition, due to the development pattern of buildings close to the street. In addition, the impacts of losing the land uses in Downtown would be substantial. Changing the traffic signal coordination to improve operations on A Street would result in not meeting the City’s policy to maintain the CMP’s LOS standard for Second and Third Streets. The expansion of Freitas and redesign of the Freitas interchange would require right-of-way acquisition on Freitas between Las Gallinas and Del Presidio and modifications to North San Rafael’s main storm drainage way along Freitas. In addition, because of the original design of the Freitas interchange, reconfiguration would be extremely challenging and expensive. Therefore, the potential mitigations are determined to be infeasible. For these reasons, this impact is determined to be significant and unavoidable.

**Mitigation Measure IV.2-6** There are no additional feasible mitigation measures that would further reduce this impact.

**Significance After Mitigation** Significant and unavoidable.

**Impact IV.2-7 City Roadway Segment Level of Service Resulting from Draft General Plan 2020**  
*Implementation of the proposed Draft General Plan 2020 would result in the continuation of traffic operations at LOS E or F on some City roadway segments. However, implementation of Draft General Plan 2020 would not worsen traffic operations to the point of exceeding significance thresholds. Therefore, this would be a less-than-significant impact.*

There are roadway segments that would continue to operate at LOS E or F, as shown in **Exhibit VIII.3-5** in **Appendix VIII Transportation Data**. However, these segments do not exceed the significance thresholds of either a decline from an acceptable LOS to an unacceptable LOS, or for a segment already operating at an unacceptable LOS a decrease in travel speeds of five miles per hour or more.

As shown below in **Exhibit IV.2-16**, for seven roadway segments that would operate at LOS E or F in baseline, implementation of *Draft General Plan 2020* would result in both the AM peak hour and PM peak hour traffic operations improving (i.e., vehicle speed increasing) or staying the same. For six roadway segments that would operate at LOS E or F in baseline, implementation of *Draft General Plan 2020* would result in traffic operations improving during one of the two peak hours.

**Exhibit IV.2-16**  
**Segments That Would Improve Under Draft General Plan 2020**

<b>2020 Segments that would improve or stay the same in both the AM and PM peak hour</b>	<b>2020 Segments that would improve in either the AM or the PM peak hour</b>
<ul style="list-style-type: none"> <li>▪ Eastbound Bellam from Andersen to Kerner</li> <li>▪ Westbound Bellam from Kerner to Andersen</li> <li>▪ Northbound C Street between 1<sup>st</sup>/2<sup>nd</sup> and 5<sup>th</sup></li> <li>▪ Southbound Del Presidio from Freitas to Las Gallinas</li> <li>▪ Southbound E Street from 2<sup>nd</sup> to 5<sup>th</sup></li> <li>▪ Northbound Irwin from 2<sup>nd</sup> to Mission</li> <li>▪ Southbound Lindaro from 3<sup>rd</sup> to Andersen</li> </ul>	<ul style="list-style-type: none"> <li>▪ Northbound Del Presidio from Las Gallinas to Freitas</li> <li>▪ Northbound E Street from 5<sup>th</sup> to 2<sup>nd</sup></li> <li>▪ Southbound Grand from Mission/4<sup>th</sup> to 2<sup>nd</sup></li> <li>▪ Southbound Hetherton from Mission to 2<sup>nd</sup></li> <li>▪ Northbound Lindaro from Andersen to 3<sup>rd</sup></li> <li>▪ Westbound Mission from Irwin/Grand to Lincoln</li> </ul>

Source: City of San Rafael Department of Public Works.

For seven segments, implementation of *Draft General Plan 2020* would result in an improvement or no degradation in traffic operation. For the six segments where the implementation of *Draft General Plan 2020* would result in a degradation of traffic operations (i.e., a decrease in vehicle speed), the decrease in vehicle speed does not exceed the significance threshold of five miles per hour described in the *Significance Criteria* section. Because implementation of *Draft General Plan 2020* does not result in an unacceptable impact, this would be a less-than-significant impact.

**Exhibit VIII.3-5** in *Appendix VIII.3 Transportation Data* indicates that implementation of *Draft General Plan 2020* would result in both the AM peak hour and PM peak hour traffic operations degrading (i.e., vehicle speed decreasing), compared to Baseline conditions on the following segments:

- Southbound A Street between 4<sup>th</sup> and 2<sup>nd</sup>
- Southbound B Street between 5<sup>th</sup> and 2<sup>nd</sup>

The decrease in vehicle speed on these two roadway segments does not exceed the significance threshold of five miles per hour described in the *Significance Criteria* section.

Because implementation of *Draft General Plan 2020* would result in an overall improvement in traffic operations on these roadway segments during one or both of the two peak hours, with the exception of two segments in Downtown where the decrease in miles per hour is 2.5 or less, and the decrease in vehicle speed on the following roadway segments would not exceed the significance threshold, this would be a less-than-significant impact.

**Mitigation Measure IV.2-7** None required.

**Impact IV.2-8 Congestion Management Agency Arterial Levels of Service**

*Implementation of the project would result in increased traffic volumes, delay, and a minor decrease in LOS along some arterials for which the Congestion Management Agency has established LOS standards. This would be a less-than-significant impact.*

The CMA is responsible for setting standards and thresholds for the Second, Third, and Fourth Street arterials. The CMA has selected LOS D as the standard for urban and suburban arterials. Portions of Second Street, Third Street, and Fourth Street were analyzed using CMA LOS methods; LOS on these roadways are presented in **Exhibit IV.2-17**. It should be noted that the LOS shown for these roadways differs from the results presented in the previous **Exhibit IV.2-15** because different LOS analysis methods and different criteria (i.e., vehicle speed versus V/C ratios) are used. All of the roadways shown in **Exhibit IV.2-17** have baseline and *Draft General Plan 2020* operations (including improvements) at LOS C or better. Therefore, this would be a less-than-significant impact.

**Mitigation Measure IV.2-8** None required.

**Exhibit IV.2-17**  
**Marin County Congestion Management Agency Level of Service Baseline and Draft**  
**General Plan 2020 Conditions**

Roadway	Baseline Conditions				Draft General Plan 2020 Conditions			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Volume to Capacity Ratio	Level of Service	Volume to Capacity Ratio	Level of Service	Volume to Capacity Ratio	Level of Service	Volume to Capacity Ratio	Level of Service
Fourth Street Between Ross Valley Drive and Marquard Ave.								
Eastbound	0.66	B	0.51	A	0.67	B	0.53	A
Westbound	0.41	A	0.69	B	0.44	A	0.72	C
Second Street Between Marquard Ave. and Irwin St.								
Eastbound	0.65	B	0.58	A	0.67	B	0.61	B
Third Street Between Irwin St. and Marquard Ave.								
Westbound	0.53	A	0.66	B	0.55	A	0.70	C

Source: Marin County Congestion Management Agency methodology and City of San Rafael traffic model

**FREEWAY FACILITIES**

Freeway facilities have been analyzed with the proposed project. A proposed future improvement to the freeway network includes the *Marin 101 Gap Closure Project*. Implementation of the Gap Closure project would provide a continuous High Occupancy Vehicle (HOV) lane, closing the gap in the present HOV lane system. This would reduce delay, and encourage the use of buses, vanpools and carpools, enhance existing inter-modal transportation options, relieve congestion, and add capacity in the off-peak period. The congestion on I-580, at the US 101 junction, would also be expected to improve with this project. The Gap Closure project includes the following:

- An additional northbound and southbound lane between Sir Francis Drake Boulevard and San Pedro Road, and
- A second southbound to eastbound connector lane from US 101 to I-580.

Phase I (Cal Park Hill) has been completed. Phase II (Corte Madera Creek Bridge) is in design and is scheduled to begin during the summer of 2004. Phase III (Coleman School overcrossing to I-580, including Francisco Boulevard) and Phase IV (Coleman School overcrossing to Puerto Suello) are programmed in the Metropolitan Transportation Commission's (MTC) State Transportation Improvement Program (STIP). Construction for Phase III is scheduled from January 2005 to 2007. Phase IV is scheduled from Summer 2005 through 2007. Phase IV is unfunded.<sup>7</sup>

<sup>7</sup> Communication with Andy Preston, City of San Rafael Public Works Director, December 8, 2003.

Regarding the impact of SMART commuter rail service on highway 101 traffic, the City's traffic analysis for city streets does not anticipate a mode shift, nor does it analyze at-grade crossing affecting city streets. The Marin County's traffic model for US 101 and I-580, which is used in this EIR, includes assumptions for the completion of the north and southbound HOV lanes on US 101, and for SMART ridership from Larkspur Landing to Santa Rosa.

**Exhibit IV.2-18** presents freeway mainline operations under Existing conditions and under *Draft General Plan 2020* project conditions. Degradation of LOS and increases in the V/C ratio associated with the *Draft General Plan 2020* condition are due to increases in traffic volumes. Conversely, in general, improvements in LOS and decreases in the V/C ratio are due to the Gap Closure project.

**Exhibit IV.2-18** also presents a description of the percentage of traffic on the freeways that are attributable to the additional travel generated from new development in San Rafael under *Draft General Plan 2020* conditions. For example, for US 101 north of Miller Creek, southbound, PM Peak, *Draft General Plan 2020* conditions, additional San Rafael traffic attributable to new development consistent with San Rafael *Draft General Plan 2020* would account for approximately 90 of the 6,432 vehicles projected.<sup>8</sup> The highest percentage attributable to new development under San Rafael *Draft General Plan 2020* is 3.6 percent on the southbound-to-eastbound movement at the US 101/I-580 interchange. The freeway analysis, presented in **Exhibit IV.2-18**, was prepared by the CMA and represents cumulative conditions. In preparing the freeway analysis the CMA modeling includes project growth within the Planning Area, as projected under *Draft General Plan 2020*, as well as the CMA land use assumptions for Marin County and the MTC land use assumptions for the Bay Area.

Caltrans, the State agency with jurisdiction over freeway facilities requested analysis on the following:<sup>9</sup>

- Level of service analysis for freeways, ramps and ramp terminal intersections, including vehicle queues for off-ramps,
- Merge/diverge analysis for freeway and ramp junctions, based on AM and PM peak hour volumes, and
- Individual LOS and traffic volumes applicable to all intersection road approaches and turn movements.

In this EIR, the analysis of both local roadway facilities and freeway facilities includes both mainline and intersection analysis, as well as an assessment of vehicle queues on off-ramps. Although an assessment of merge/diverge movements can be useful in analyzing traffic operations, the information was not available to conduct this analysis. However, the mainline analysis and intersection analysis is considered adequate for characterizing the transportation and circulation impacts of the *Draft General Plan 2020*.

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<sup>8</sup> 1.4 percent of 6,432 vehicles is 90 vehicles ( $0.014 \times 6,432 = 90.05$ ).

<sup>9</sup> Timothy C. Sable, District Branch Chief, Department of Transportation, Letter to City of San Rafael, June 9, 2003.

**Impact IV.2-9 Level of Service along US 101 and I-580 Mainlines Resulting from Draft General Plan 2020**

*Implementation of Draft General Plan 2020 would cause some freeway segments to deteriorate below LOS E. This would be a significant project specific impact. This would also be a significant cumulative impact.*

According to significance thresholds described in the *Significance Thresholds* section, changes in LOS from acceptable E or better to unacceptable LOS F, or for segments at LOS F in baseline changes resulting in an increase in the V/C of 0.01 or more would be considered a significant impact.

**Exhibit IV.2-18** indicates that:

- Northbound US 101 north of Miller Creek during the PM peak hour would change from acceptable LOS D under existing conditions to LOS F with implementation of *Draft General Plan 2020*.
- Eastbound I-580 at the Richmond Bridge during the PM peak hour would change from acceptable LOS D under existing conditions to LOS F with implementation of *Draft General Plan 2020*.
- Westbound I-580 at the Richmond Bridge during the AM peak hour would change from acceptable LOS D under existing conditions to LOS F with implementation of *Draft General Plan 2020*.

**Exhibit IV.2-18** also indicates that:

- Westbound I-580 to northbound US 101 at the interchange would remain at LOS F in the AM and PM peak hours under *Draft General Plan 2020* conditions, with an increase in V/C for both AM and PM.

The increase in commute traffic is consistent with recent findings by the CMA. Between 1999 and 2002, the average daily traffic on Richmond Bridge has increased ten percent. Of morning commuters from the East Bay, 76 percent are destined for Marin County, and 24 percent go on to Sonoma County. Over half (57 percent in the AM commute, and 52 percent in the PM commute) of the traffic on the freeways is generated or ended outside of San Rafael, for example, by people who live in Novato and work in San Rafael. In 2002, a Marin County congestion monitoring report determined that 29 percent of Marin's highways experienced moderate congestion, and ten percent experienced severe congestion, depending on the segment.<sup>10</sup>

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<sup>10</sup> Communication with Nader Mansourian, City Traffic Engineer, City of San Rafael Department of Public Works, January 2004.

**Exhibit IV.2-18  
 Freeway Mainline Operations under Existing Conditions and Draft General Plan 2020 Conditions**

Highway Section	Existing Conditions						Draft General Plan 2020 Conditions							
	AM Peak			PM Peak			AM Peak			PM Peak				
	Volumes per hour	V/C	LOS <sup>a</sup>	Volumes per hour	V/C	LOS <sup>a</sup>	Volumes per hour	V/C	LOS <sup>a</sup>	Volumes per hour	V/C	LOS <sup>a</sup>	% of Traffic <sup>b</sup>	
<b>US 101 north of Miller Creek</b>														
a. Southbound	7,415	0.87	D	5,281	0.59	C	8,532	1.00	D	0.4%	6,432	0.71	C	1.4%
b. Northbound	3,356	0.37	B	8,232	1.00	D	4,587	0.51	B	1.9%	9,262	1.11	F	1.0%
<b>Pacheco Hill</b>														
<b>US 101 north of Sir Francis Drake</b>														
c. Southbound	7,026	1.17	F	5,428	0.90	D	7,719	0.87	D	1.9%	6,884	0.76	C	0.8%
d. Northbound	4,100	0.59	C	6,520	0.93	E	5,197	0.58	C	0.0%	8,504	1.00	D	1.1%
<b>Cal Park Hill</b>														
<b>US 101 &amp; I-580 Interchange</b>														
e. Southbound US 101 to Eastbd I-580	2,075	1.65	F	2,000	1.59	F	2,529	0.84	D	3.6%	2,213	0.74	C	2.3%
f. Westbd I-580 to Northbd Hwy 101	2,263	1.80	F	1,751	1.39	F	2,609	2.07	F	1.0%	2,047	1.62	F	3.4%
<b>I-580 at Richmond Bridge</b>														
g. Eastbound	2,728	0.68	C	3,530	0.88	D	3,577	0.89	D	3.0%	4,075	1.02	F	1.4%
h. Westbound	3,468	0.87	D	2,451	0.61	C	4,193	1.05	F	0.2%	3,059	0.76	C	2.8%

<sup>a</sup> Boldface text indicates unacceptable LOS

<sup>b</sup> The percent of traffic attributable to new development as a result of Draft General Plan 2020.

Sources: Marin Transportation Model (MTM), November 2003; and San Rafael Department of Public Works, December 2003

The CMA “grandfathered” US 101 and I-580 at LOS F facilities, and has completed a multimodal plan to increase the management of the demand for many of these segments.<sup>11</sup> This analysis of change in LOS includes increases in traffic due to development under *Draft General Plan 2020* as well increases in traffic due to development throughout the Bay Area.<sup>12</sup> As shown in **Exhibit IV.2-18**, traffic due to development as a result of *Draft General Plan 2020* would represent between 0.0 percent and 3.6 percent of the traffic volume in 2020 conditions. In some of the highway sections, this increase alone would represent a significant project specific impact. As discussed above, when this increase is considered along with development throughout the Bay Area, this would represent a significant cumulative impact. Implementation of the *Draft General Plan 2020* would make a cumulatively considerable contribution to the cumulative impact.

The analysis of future conditions on freeway facilities assumes the Marin 101 Gap Closure Project. Improvements beyond the Gap Closure Project would be needed to reduce the impact to a less-than-significant level. The City has examined possible mitigation measures to reduce this impact and has determined that, in order to improve operations and reduce LOS, the US 101/I-580 interchange would have to be redesigned with a reconfiguration to include additional lanes and longer merge areas and/or a flyover. In addition, US 101 would have to be expanded with additional north bound and southbound lanes on US 101. An alternative mitigation would be expanded commute bus service to the East Bay and along the 101 corridor. Impacts from interchange reconfiguration and additional freeway expansion would be considerable because a wider right-of-way beyond that already achieved for the Gap Closure Project would result in demolition of land uses (such as auto dealerships, furniture/home and computer sales, etc.) essential to the well-being of the local economy and City finances. These potential mitigations would require extensive design and environmental work, as well as funding for land acquisition and construction of significant new infrastructure. Completing the design work, securing the funding and building the project within the timeframe of the plan is not likely. Therefore, this impact is determined to be significant and unavoidable.

**Mitigation Measure IV.2-9** There are no additional feasible mitigation measures that would further reduce this impact.

**Significance after Mitigation** Significant and unavoidable.

**Impact IV.2-10 Level of Service on Freeway Off-ramps Resulting from General Plan 2020**

*Implementation of Draft General Plan 2020 would cause some queues on freeway off-ramps to extend into the ramp’s deceleration area or onto the freeway, or to exceed existing lane storage. This would be a less-than-significant impact.*

According to significance thresholds described in the *Significance Thresholds* section, changes that extend vehicle queues on the off-ramp deceleration area or onto the freeway, or that result in a vehicle queue exceeding existing lane storage would be considered a significant impact.

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<sup>11</sup> *Congestion Management Program*, page 7, Marin Congestion Management Agency, 2001.

<sup>12</sup> The freeway analysis prepared by CMA accounts for growth within the Planning Area, as projected under *Draft General Plan 2020*, as well as the CMA land use assumptions for the County and the MTC land use assumptions for the Bay Area.



**Exhibit VIII.3-6** in *Appendix VIII.3, Transportation Data* shows that none of the queues at the freeway off-ramps would exceed the threshold. **Exhibit VIII.3-6** shows that vehicle queue exceeds existing lane storage at two off-ramps:

- US 101 northbound at Second and Irwin
- I-580 eastbound/US 101 northbound at Bellam

The off-ramp approach analysis indicates that the approach vehicle queue would remain within the off-ramp boundaries and not encroach into the deceleration lane on the freeway. Thus, both of these queues would operate at acceptable levels, and mitigation would not be required. This impact would be less-than-significant.

**Mitigation Measure IV.2-10** None required.

## **PARKING FACILITIES**

### **Impact IV.2-11 Removal of On-Street Parking Spaces along Las Gallinas Avenue**

*Implementation of the proposed land uses in Draft General Plan 2020 would result in increased traffic volumes, delay, and a decrease in intersection LOS. Improvements would be needed to intersections. Some improvements include the removal of on-street parking spaces to accommodate an additional travel lane to provide more capacity for traffic. These improvements have been included as part of the proposed project. The removal of on-street parking spaces would be a less-than-significant impact.*

As noted in the *Significance Threshold* section, the proposed project would be considered to have a significant impact if it “caused a substantial reduction in availability of on-street parking, either through removal or through increased demand for existing on-street parking.” With implementation of the proposed project, on-street parking spaces would be removed from Las Gallinas Avenue between Los Ranchitos Road and Northgate Drive. The City’s Public Works Department estimates that approximately ten spaces would be lost. On-site surveys by Public Works reveal that these parking spaces are generally vacant during the peak period (see **Exhibit VIII.3-7a** in *Appendix VIII.3, Transportation Data*). Therefore, *Draft General Plan 2020* would not be considered to cause a substantial reduction in the availability of on-street parking, and this impact would be less-than-significant.

**Mitigation Measure IV.2-11** None required.

### **Impact IV.2-12 Removal of On-Street Parking Spaces along Grand Avenue**

*Implementation of the proposed land uses in Draft General Plan 2020 would result in increased traffic volumes, delay, and a decrease in intersection LOS. Improvements would be needed to intersections. Some improvements include the removal of on-street parking spaces during the peak period to accommodate additional turn lanes and travel lanes, which would provide more capacity for the increase traffic volumes. These improvements have been included as part of the proposed project. The removal of on-street parking spaces would be a less-than-significant impact.*

As noted in the *Significance Threshold* section, the proposed project would be considered to have a significant impact if it “caused a substantial reduction in availability of on-street parking, either through removal or through increased demand for existing on-street parking.” With implementation of

the proposed project, on-street parking spaces would be removed from Grand Avenue between Third Street and Mission Avenue. Removal of on-street parking would be needed to accommodate intersection turn lanes. Parking removed to accommodate signalization would be permanently removed. Also, during the PM peak period, parking restrictions would be needed to accommodate an extra travel lane in each direction. Land uses in the vicinity of these parking restrictions are generally commercial uses. Removal of parking during the AM peak period would not affect many vehicles, as most businesses are not open. A survey of parking along Grand Avenue (see **Exhibit VIII.3-7b** in **Appendix VIII.3-2, Transportation Data**) indicates that during the PM peak period, enough on-street parking exists along side streets and within off-street parking lots to accommodate the lost on-street parking spaces. Therefore, *Draft General Plan 2020* would not be considered to cause a substantial reduction in the availability of on-street parking, and this impact would be less-than-significant.

**Mitigation Measure IV.2-12** None required.

**Impact IV.2-13 Removal of On-Street Parking Spaces along Lincoln Avenue**

*Implementation of the proposed land uses in Draft General Plan 2020 would result in increased traffic volumes, delay, and a decrease in intersection LOS. Improvements would be needed to intersections. Some improvements include the removal of on-street parking spaces during the peak period to accommodate an additional travel lane, which would provide more capacity for the increase traffic volumes. These improvements have been included as part of the proposed project. The removal of on-street parking spaces would be a significant impact.*

As noted in the *Significance Threshold* section, the proposed project would be considered to have a significant impact if it “caused a substantial reduction in availability of on-street parking, either through removal or through increased demand for existing on-street parking.” With implementation of the proposed project, on-street parking spaces would be restricted on the west side of Lincoln Avenue (southbound) during the AM peak hour, and both sides of Lincoln Avenue during the PM peak hour. Removal of on-street parking is needed to accommodate an extra travel lane in each direction during the peak periods. Land uses in the vicinity of these parking restrictions are generally residential in the northern section and commercial uses in the southern section.

A survey of parking along Lincoln Avenue (see **Exhibit VIII.3-7c** in **Appendix VIII.3-2, Transportation Data**) indicates that, currently, on-street parking spaces are heavily-occupied. Removal of on-street parking would be needed to maintain acceptable LOS at nearby intersections. Not removing the parking and, therefore, not adding a travel lane would result in LOS F operations along Lincoln Avenue as an arterial, and LOS at intersections along Lincoln Avenue. Because on-street parking spaces are heavily occupied, removal of on-street parking associated with *Draft General Plan 2020* would be considered to cause a substantial reduction in the availability of on-street parking, and is considered a significant impact.

Available on-street parking on the nearby side streets would not compensate for the amount of on-street parking that would be lost on Lincoln Avenue. Construction of off-street parking facilities would be needed to replace on-street parking spaces. This would probably involve the replacement of existing land uses with the new parking facilities. Alternatively, removal of land uses along Lincoln Avenue would be needed to widen Lincoln Avenue without removing on-street parking. Either replacing existing land uses with parking facilities or removing residential uses to provide a parking lane along Lincoln would be significant impacts. Therefore, this impact is considered significant and unavoidable.

**Mitigation Measure IV.2-13** There are no feasible mitigation measures that would further reduce this impact.

**Significance After Mitigation** Significant and unavoidable.

**Impact IV.2-14 Parking in Newly-Developed Areas Citywide**

*Implementation of the proposed land uses in Draft General Plan 2020 would result in new land use development. This development would result in the demand for additional parking supply. However, the zoning code would require adequate new parking for new development. This would be a less-than-significant impact.*

As noted in the *Significance Threshold* section, the proposed project would be considered to have a significant impact if it “caused a demand for parking that would be substantially greater than the planned parking supply.” With implementation of *Draft General Plan 2020*, new land use development would occur at various location in the City. The new land use development, whether it is residential or non-residential, would generate demand for additional parking supply. The City’s zoning code contains requirements for parking supply, which would apply to the new development.<sup>13</sup> The zoning code requires an amount of new parking supply considered adequate to meet the additional demand. Therefore, *Draft General Plan 2020* would not be considered to cause a substantial reduction in the availability of on-street parking, and this impact would be less-than-significant.

**Mitigation Measure IV.2-14** None Required

**BICYCLE AND PEDESTRIAN FACILITIES**

**Impact IV.2-15 Increased Demand for Bicycle and Pedestrian Facilities under Draft General Plan 2020**

*Implementation of the proposed land uses in Draft General Plan 2020 would result in increased urban land uses and, therefore, demand for bicycle and pedestrian facilities. However, implementation of policies included in Draft General Plan 2020 would result in improvements in bicycle and pedestrian facilities. This would be a less-than-significant impact.*

As noted in the *Significance Threshold* section, bicycle/pedestrian impacts would be significant if the project:

- Caused a substantial inconvenience or substantial reduction in level of service to users of existing bicycle or pedestrian travel;
- Substantially reduced bicycle or pedestrian access; or
- Substantially reduced safety for bicyclists or pedestrians

Implementation of the proposed project would result in additional residential and nonresidential land use development. A portion of the people associated with the additional development would walk and use bicycles. Thus, the demand for bicycle and pedestrian facilities would increase. *Draft General Plan 2020* contains the following policies that would improve bicycle and pedestrian facilities and increase capacity:

Policy **C-11 Alternative Transportation Mode Users** would require the provision of bicycle parking facilities and bus shelters in new development. Policy **C-13 School-Related Automobile Traffic** would encourage implementation of the Safe Routes to Schools program to promote walking to

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<sup>13</sup> Chapter 16.18 of the San Rafael Municipal Code.

schools. Policy **C-20 Intermodal Transit Hubs** would propose multi-modal facilities for bicyclists and pedestrians at the existing Downtown and proposed Civic Center transit hubs. Policy **C-22 Attractive Roadway Design** would create streets more attractive for bicycle and pedestrian use. Policies **C-23 Connections Between Neighborhoods and with Adjoining Communities** and **C-24 Connections Between Neighborhoods and Activity Centers** would encourage bicycle and pedestrian path connections between neighborhoods, adjacent towns and between residences and commercial activity centers. Policies **C-26 Bicycle Plan Implementation** and **C-27 Pedestrian Plan Implementation** would implement improvements proposed in the City's Bicycle and Pedestrian Master Plan. Program **C-26c Bicycle Parking** would require an update to the City's bicycle parking requirements for new development. Policy **C-28 Urban Trail Network** would require preparation of a plan to retain and maintain existing pedestrian walkways.

Improving the safety of using pedestrian and bicycle facilities is addressed in the following policies and programs:

Policy **C-4 Safe Roadway Design** and Program **C-27e Pedestrian Safety** would require consideration of pedestrian and bicycle safety in the design of transportation improvements. Policy **C-21 Residential Traffic Calming** would retain the City's program to reduce vehicle speeds and increase pedestrian and bicycle safety. Policy **C-25 Meeting Local Circulation Needs Around Highway Interchanges** would advocate pedestrian improvements in highway interchange redesign.

Funding of pedestrian and bicycle facility improvements is addressed in Policy **C-2 Regional Transportation Funding**, **C-10 Alternative Transportation Mode Projects** and **C-26 Bicycle Plan Implementation**.

Implementation of these policies would increase the availability and safety of bicycle and pedestrian facilities and, therefore, would reduce potential bicycle and pedestrian impacts to a less-than-significant level.

**Mitigation Measure IV.2-15** None required.

## **TRANSIT**

### **Impact IV.2-16 Increased Demand for Transit Services under Draft General Plan 2020**

*Implementation of the Draft General Plan 2020 would result in increased demand for transit services. However, implementation of policies included in Draft General Plan 2020 would result in improvements in transit service. This would be a less-than-significant impact.*

As noted in the *Significance Threshold* section, transit impacts would be significant if the project:

- Induced substantial growth or concentration of population beyond the capacity of existing or planned public transit facilities
- Increased demand for public transit service to such a degree that accepted service standard are not maintained
- Reduced availability of public transit to users, or interfere with existing transit users.

Implementation of the proposed project would result in additional residential and non-residential land use development. A portion of the people associated with the additional development would use public transit. Thus, the demand for transit service would increase. *Draft General Plan 2020* contains the following policies that would improve transit service:

Policy **C-10 Alternative Transportation Mode Projects** would encourage regional funding decisions which benefit transit. Policy **C-11 Alternative Transportation Modes** would require upgrade of transit facilities such as bus shelters in conjunction with new development. Policy **C-13 School-Related Automobile Traffic** would encourage use of transit to reduce school-bound traffic. Policy **C-14 Transit Network** would support improvements to the local transit network. Policy **C-15 Transit Needs** would propose to survey users to improve service and increase use. Policy **C-16 Transit Information** would disseminate transit information to increase ridership. Policy **C-17 Regional Transit Options** would encourage future transit options such as a commuter rail service and improved ferry service. Policy **C-18 Local Transit Options** would support improvements in local transit service and facilities. Policy **C-19 Paratransit Options** would encourage upgrades to paratransit service. Policy **C-20 Intermodal Transit Hubs** would encourage improvements to the Downtown intermodal transit center and creation of a similar facility at the Civic Center to serve North San Rafael users.

Housing Program **H-22a Higher Density Infill Housing Near Transit** would also direct the creation of opportunities for higher density housing near transit facilities as a means of encouraging transit use through land use actions.

Implementation of these policies would increase transit service and, therefore, reduce potential transit impacts to a less-than-significant level.

**Mitigation Measure IV.2-16** None required.



## IV.3 AIR QUALITY

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### **Air Quality – The Setting**

Existing air quality conditions are described in pages B-16 to B-25, Environmental Context – Air Quality of the *San Rafael General Plan 2020 Background Report (Background Report)*. This section of the *Background Report* was reviewed and the information was found to be current as of the issuance of the Notice of Preparation in May 2003. This section is hereby incorporated by reference, and summarized below.

#### **Air Pollution Potential**

San Rafael is located in eastern Marin County, part of the nine county San Francisco Bay Air Basin. San Rafael is partially sheltered from prevailing northwesterly winds from off the Pacific Ocean by elevated terrain. The prevailing wind directions are northwesterly and southeasterly reflecting the influence of marine airflows through the Golden Gate to the south and the Petaluma Gap to the northwest. Temperatures in San Rafael are moderated by the cooling effect of the bay in the summer and the warming effect of the ocean in the winter.

Eastern Marin County has a relatively higher potential for air pollution compared to the rest of Marin County. Air pollution potential is a function of climate alone and not indicative of actual air pollution levels. Marin County does not have many polluting industries and is located on the up-wind edge of the air basin, so that current air quality is good despite a high climatological pollution potential.

#### **Pollutants**

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

Problem pollutants in San Rafael or the Bay Area include ozone, carbon monoxide, suspended particulate matter (PM), and toxic air contaminants (TACs). Ground level ozone, often referred to as smog, is not emitted directly, but is formed in the atmosphere through complex chemical reactions. Carbon monoxide is an odorless, colorless gas that is formed by the incomplete combustion of fuels. Motor vehicles are the largest source of both ozone precursors emissions and carbon monoxide in the Bay Area. Suspended particulate matter (PM) is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. "Inhalable" PM consists of particles less than 10 microns in diameter, and is defined as PM<sub>10</sub>. Fine particles are less than 2.5 microns in diameter (PM<sub>2.5</sub>). PM<sub>2.5</sub>, by definition, is included in PM<sub>10</sub>.

There are many sources of PM<sub>10</sub> emissions, including combustion, industrial processes, grading and construction, and motor vehicles. The greatest quantity of PM<sub>10</sub> emissions associated with motor

vehicle uses is generated by re-suspended road dust, therefore reductions in motor vehicle use are needed to reduce PM<sub>10</sub> emissions, rather than changes to motor vehicle technology. Wood burning in fireplaces and stoves is another significant source of PM<sub>10</sub>.

The Bay Area is currently classified as a federal and State nonattainment area for ozone and a federal and State attainment area for carbon monoxide. The Bay Area is attainment for the federal particulate matter standards, but is a nonattainment area for the state PM<sub>10</sub> standard.

TACs are another group of pollutants of concern in the Bay Area, however no safe levels of exposure to TACs can be established. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Diesel engine particulate matter has been identified as a TAC of growing concern. Mobile sources, such as trucks, buses, automobiles, trains, ships, and farm equipment are by far the largest source of diesel emissions.

Other air quality issues of concern in the Bay Area include nuisance impacts of odors and dust. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries, and chemical plants. Similarly, nuisance dust may be generated by a variety of sources including quarries, agriculture, grading, and construction.

#### ***Sensitive Receptors and Stationary Pollutant Sources***

Sensitive receptor land uses include schools, retirement homes, convalescent homes, hospitals, and medical clinics. Sensitive receptors are located throughout the San Rafael Planning Area.

The BAAQMD inventory lists only one major emitting facility for criteria pollutants in the Planning Area: the San Rafael Rock Quarry, located at Point San Pedro, a major emitter of particulate matter. The BAAQMD inventory identifies numerous dry cleaners as sources of TACs spread over the commercial districts of San Rafael. Other TAC sources in the Planning Area include the Central Marin Sanitation Agency plant on Andersen Drive and the Las Gallinas Valley Sanitary District plant off Smith Ranch Road. Both are also considered as potential sources of odors.

Highways 101 and Interstate 580 would be the largest sources of diesel particulate emissions within San Rafael.

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### ***Air Quality – Significance Criteria***

The Bay Area Air Quality Management District has developed guidelines and thresholds of significance for local plans. Inconsistency with the most recently adopted Clean Air Plan (CAP) is considered a significant impact. According to the BAAQMD, the following criteria must be satisfied for a local plan to be determined to be consistent with the CAP and not have a significant air quality impact:<sup>1</sup>

- The local plan must be consistent with the CAP population and Vehicle Miles Traveled (VMT) assumptions. This is demonstrated if the population growth over the planning period will not

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<sup>1</sup> Bay Area Air Quality Management District, *BAAQMD CEQA Guidelines*, April 1996. Revised December 1999.



exceed the values included in the current CAP and the rate of increase in VMT is equal to or lower than the rate of increase in population.

- The local plan demonstrates reasonable efforts to implement the Transportation Control Measures (TCMs) included in the CAP that identify cities as implementing agencies.
- For local plans to have a less than significant impact with respect to potential odors and/or toxic air contaminants, buffer zones should be established around existing and proposed land uses that would emit these air pollutants.

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## **Air Quality – Impacts and Mitigation Measures**

### **Impact IV.3-1 Consistency with Clean Air Plan**

*The project is consistent with the BAAQMD Thresholds of Significance that population not exceed ABAG projections and VMT should not increase faster than population. This would be a less-than-significant impact.*

The *Draft General Plan 2020* would be generally consistent with the latest Association of Bay Area Government (ABAG) projections that are used in the regional Clean Air Plan. VMT from trips with origins or destinations within the Planning Area is forecast to grow at an average annual rate of 0.80 percent through 2020.<sup>2</sup> At the same time, population would increase at an average annual rate of 0.86 percent. Since VMT growth is less than population growth, the BAAQMD threshold of significance for consistency with the planning assumptions of the regional Clean Air Plan would not be exceeded.

Furthermore, the *Draft General Plan 2020* contains numerous policies and programs in the Land Use, Clean Air and Waterways, Housing, Circulation and other Elements that, if adopted and implemented, would act to help reduce VMT and/or reduce the rate of increase in VMT.

Programs **C-11e Reduction of Single Occupancy Vehicles**, **C-13a School Transportation**, and **C-16a Transit Information Dissemination**, and Policies **C-13 School-Related Automobile Traffic**, **C-16 Transit Information** would reduce VMT by encouraging alternatives to the single occupancy vehicle.

**C-11c Electric Vehicle Technology** would reduce the impact of VMT by encouraging the use of alternative energies.

Programs **C-17a SMART Service**, and **C-17b Northern Ferry Terminal**, and Policies **C-20 Intermodal Transit Hubs**, and **C-33 Park and Ride Lots** would potentially reduce VMT, particularly on Highway 101, by encouraging the development of alternative transportation services.

Policies **EV-11 Promotion of Workplace Alternatives**, **H-22 Infill Near Transit**, and **H-23 Mixed Use**, and Programs **EV-18a Public/Private Partnerships**, and **EV-18c Land Inventory**, would reduce the rate of increase in VMT by encouraging alternative work and development models.

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<sup>2</sup> Between 1998 and 2020 the Marin County Transportation Model projects VMT for trips with origins or destinations within San Rafael will increase from 2,310,541 to 2,716,171, which is equivalent to 0.80 percent per year.

Programs **LU-1a Five-Year Growth Assessment**, and **LU-3a Project Selection Process** would potentially reduce VMT by requiring ongoing reviews and actions related to growth and development.

Because, the BAAQMD threshold of significance for consistency with the planning assumptions of the regional Clean Air Plan would not be exceeded, this would be a less-than-significant impact. Adoption and implementation of the *Draft General Plan 2020* policies and programs listed above would further reduce any potential impacts.

**Mitigation Measure IV.3-1** None required.

**Impact IV.3-2 Consistency with Clean Air Plan Transportation Control Measures**

*The Draft General Plan 2020 policies would support regional TCMs that are to be implemented by Cities. This would be a less-than-significant impact.*

**Exhibit IV.3-1** lists *Draft General Plan 2020* policies that are supportive of the Clean Air Plan Transportation Control Measures (TCMs). For each TCM a description is provided and a listing of relevant *Draft General Plan 2020* strategies given. The proposed General Plan policies clearly support and implement regional TCMs. Therefore, this would be a less-than-significant impact.

**Mitigation Measure IV.3-2** None required.

**Exhibit IV.3-1  
 Transportation Control Measures (TCMs) to be Supported by City General Plans**

<b>TCM</b>	<b>Description</b>	<b>Relevant Draft General Plan 2020 Programs and Policies</b>
<b>1. Expand Employee Assistance Program</b>	Provide assistance to regional and local ridesharing organizations.	<p><b>C-8.</b> Support efforts to limit traffic and congestion through eliminating low-occupancy auto trips or shifting peak hour trips to off-peak hours. Possible means include telecommuting, flexible work schedules, car and vanpooling and other Transportation Demand Management approaches.</p> <p><b>C-11.</b> Encourage and Promote individuals to use alternative modes of transportation, such as regional and local transit, carpooling, bicycling, walking and use of low-impact alternative vehicles. Support development of programs that provide incentives for individuals to choose alternative modes.</p> <p><b>C-11a.</b> Support car and vanpooling in San Rafael through programs such as the regional “RIDES for Bay Area Commuters” program.</p> <p><b>C-11b.</b> Support efforts to organize and run car-sharing programs in San Rafael.</p> <p><b>C-12b.</b> Serve as a resource to employers wishing to implement TDM by providing information through printed materials, workshops and other means. Encourage employers to “pool” resources to create effective TDM programs.</p>
<b>9. Improve Bicycle Access and Facilities</b>	<p>Establish and maintain bicycle advisory committees in all nine Bay Area Counties.</p> <p>Develop comprehensive bicycle plans.</p> <p>Encourage employers and developers to provide bicycle access and facilities.</p> <p>Improve and expand bicycle lane system.</p>	<p><b>C-11d.</b> Encourage City employees, other San Rafael workers and residents to participate in Bike to Work Day Annually and provide support services for the program.</p> <p><b>C-23.</b> Identify opportunities to improve pedestrian, bicycle and transit connections between San Rafael neighborhoods and between San Rafael and adjacent communities.</p> <p><b>C-26.</b> Make bicycling and walking an integral part of daily life in San Rafael by implementing San Rafael’s Bicycle and Pedestrian Master Plan.</p> <p><b>NH-6.</b> Create bicycle and pedestrian friendly residential streets with large street trees, sidewalks and other appropriate amenities.</p>

<b>TCM</b>	<b>Description</b>	<b>Relevant Draft General Plan 2020 Programs and Policies</b>
<p><b>12. Improve Arterial Traffic Management</b></p>	<p>Continue ongoing local signal timing programs.                      Study signal preemption for buses on arterials with high volumes of bus traffic.                      Expand signal timing programs.                      Improve arterials for bus operations and encourage bicycling.</p>	<p><b>C-3.</b> Take a leadership role in looking for opportunities to be innovative and experiment with transportations improvements and services.  <b>C-3a.</b> Use the most effective technologies in managing the City’s roadways and congestion. For example, support timed connections at transit hubs, and promote the use of transportation information systems.  <b>C-5.</b> In order to ensure an effective roadway network, maintain adequate traffic levels of service (LOS) consistent with standards for signalized intersections in the A.M. and P.M. peak hours.  <b>C-5a.</b> Use appropriate methodologies for calculating traffic Levels of Service.  <b>C-5b.</b> To assure acceptable traffic operations standards over time, monitor traffic conditions throughout San Rafael on an ongoing basis. Based on such evaluation, the City Traffic Engineer shall identify traffic mitigations to reduce congestion and address safety concerns.</p>
<p><b>15. Local Clean Air Plans, Policies and Programs</b></p>	<p>Incorporate air quality beneficial policies and programs into local planning and development activities, with a particular focus on subdivision, zoning and site design measures that reduce the number and length of single-occupant automobile trips.</p>	<p><b>C-12.</b> Work cooperatively with governmental agencies, non-profits, businesses, institutions and residential neighborhoods to create new and effective Transportation Demand Management (TDM) programs to minimize single occupancy automobile use and peak period traffic demand.  <b>H-22.</b> Allow higher densities on sites adjacent to a transit hub, such as the Downtown Transportation Center or the potential Civic Center SMART station and along major bus corridors.  <b>H-22a.</b> Revise the Zoning Ordinance to be consistent with the General Plan to encourage higher density infill housing near transit service.  <b>AW-3.</b> Integrate air quality considerations with land use and transportation processes by mitigating air quality impacts through land use design measures, such as encouraging project design that will foster walking and biking.  <b>AW-3a.</b> Require developers to implement strategies for air quality improvement described within the BAAQMD/ABAG document “Design Strategies for Encouraging Alternatives to Auto Use through Local Development Review” or subsequent standards.  <b>AW-3b.</b> Participate in and implement strategies of Metropolitan Transportation Commission’s regional “Smart Growth Initiative” and “Transportation for Livable Communities Program”.  <b>AW3c.</b> Require new development projects to include traffic and air pollutant reduction measures to help meet or exceed air quality standards.</p>

<b>TCM</b>	<b>Description</b>	<b>Relevant Draft General Plan 2020 Programs and Policies</b>
<b>17. Conduct Demonstration Projects</b>	Promote demonstration projects to develop new strategies to reduce motor vehicle emissions. Projects include low emission vehicle fleets and LEV refueling infrastructure.	<p><b>C-3.</b> Take a leadership role in looking for opportunities to be innovative and experiment with transportation improvements and services.</p> <p><b>C-11c.</b> Encourage the use of street-legal alternative vehicles that minimize impacts on the environment.</p> <p><b>C12c.</b> Identify cost-effective City of San Rafael TDM programs for City employees. Consider approaches taken by the County in its Employee Commute Alternative Program.</p>
<b>19. Pedestrian Travel</b>	<p>Review/revise general/specific plan policies to promote development patterns that encourage walking and circulation policies that emphasize pedestrian travel and modify zoning ordinances to include pedestrian-friendly design standards. Include pedestrian improvements in capital improvements programs.</p> <p>Designate a staff person as a Pedestrian Program Manager.</p>	<p><b>C-23.</b> Identify opportunities to improve pedestrian, bicycle and transit connections between San Rafael neighborhoods and between San Rafael and adjacent communities.</p> <p><b>C-26.</b> Make bicycling and walking an integral part of daily life in San Rafael by implementing San Rafael’s Bicycle and Pedestrian Master Plan.</p> <p>Promote walking as a transportation mode of choice for short trips by implementing the pedestrian of the City’s Bicycle and Pedestrian Master Plan. In addition to policies and programs outlined in the Bicycle and Pedestrian Master Plan, provide support for annual monitoring of progress, prioritization of pedestrian improvements, the Bay Trail System, pedestrian safety enforcement and new pedestrian projects and programs.</p>
<b>20. Promote Traffic Calming</b>	<p>Include traffic calming strategies in the transportation and land use elements of general and specific plans.</p> <p>Include traffic calming strategies in capital improvement programs.</p>	<p><b>C-21.</b> Protect residential areas from the effects of traffic from outside the neighborhood by continuing to evaluate and construct neighborhood traffic calming solutions as appropriate such as speed humps, bulb outs, speed limits, stop signs and roundabouts. Ensure that traffic calming approaches do not conflict with emergency response vehicle needs.</p> <p><b>C-21a.</b> Continue to maintain a neighborhood traffic calming program under the direction of the City Traffic Engineer, and seek funding for its development and evaluation of potential traffic calming solutions.</p>

Source: Don Ballanti and Associates.

**Impact IV.3-3 Odor/Toxics Buffer Zones**

*The Draft General Plan 2020 policies and land use maps would provide adequate buffer zones around existing and proposed land uses that could emit odor and toxic contaminants, but do not establish buffer zones from major mobile sources of toxic contaminants. This impact would be potentially significant.*

According to BAAQMD CEQA Guidance, for a general plan to have a less than significant impact with respect to odors and/or toxic air contaminants buffer zones should be established around existing and proposed land uses that would emit these air pollutants. Buffer zones to avoid odors and toxics impacts should be reflected in local plan policies, land use maps, and implementing ordinances.

The Central Marin Sanitation Agency plant on Andersen Drive and the Las Gallinas Valley Sanitary District plant off Smith Ranch Road are identified stationary sources of both toxic air contaminants and odors. Existing land uses separate these sources from sensitive land uses by providing a large buffer zone comprised of non-sensitive land uses such as parklands, open space/conservation lands, industry and light industry/office. These intervening land uses limit potential exposure to odors and/or toxic air contaminants.

The proposed Land Use Map and the Zoning Ordinance would continue to utilize non-sensitive land uses to provide substantial buffer zones between identified stationary sources of toxic air contaminants/odors and sensitive land uses. Proposed land use changes would not affect the maintenance of the existing buffer zones and would not increase the potential for land use conflicts related to toxic air contaminants or odors.

Avoidance of odor-related land use conflicts and protection of existing buffer zones are addressed in the following policies and programs of the *Draft General Plan 2020* Land Use and Clean Air and Waterways Elements:

- Policy **LU-23 Odor Impacts** which would require consideration of odor impacts when evaluating land uses and development projects near wastewater treatment plants, or treatment plant expansion projects.
- Program **LU-23a Project Evaluation** which requires evaluation of odor impacts as part of development review.
- Policy **AW-2 Land Use Compatibility** which would ensure excellent air quality, promote land use compatibility for new development by using buffering techniques such as landscaping, setbacks, and screening in areas where different land uses abut one another.
- Program **AW-2a Sensitive Receptors** which, through project review, would ensure that siting of any new sensitive receptors provides for adequate buffers from existing sources of toxic air contaminants or odors.
- Program **AW-2b Buffers** which, through project review, would ensure that any proposed new sources of toxic air contaminants or odors would provide adequate buffers to protect sensitive receptors and comply with existing health standards.
- Program **AW-4a Project Review** which, through project review, would ensure that any proposed new sources of particulate matter would use the latest control technology (such as enclosures, paving unpaved areas, street sweeping and landscaping) and would provide adequate buffer setbacks to protect existing or future sensitive receptors.

The above general plan policies and programs do not specifically address the siting of sensitive receptors near mobile sources of toxic air contaminants. This would be a potentially significant impact of the project.

**Mitigation Measure IV.3-3** The following wording should be added to Program **AW-2a Sensitive Receptors**:

Project review for sensitive receptors (facilities or land uses such as hospitals, day care centers, schools and residences that are occupied for substantial amounts of time by members of the population particularly sensitive to the effects of air pollutants, such as children, the

elderly and people with illnesses) proposed within 500 feet from the edge of the closest traffic lane of U.S. Highway 101 or I-580 should include an analysis of mobile source toxic air contaminant health risks, based on appropriate air dispersion modeling. Project review should include an evaluation of the adequacy of the setback from the highway and, if necessary, identify design mitigation measures to reduce health risks to acceptable levels.

**Significance After Mitigation** With adoption and implementation of the above mitigation measure the BAAQMD thresholds of significance for air toxics and odors would be met, and this impact would be reduced to a less-than-significant level.

**Responsibility and Monitoring** The City Council would be responsible for adopting the amended program, as described in Mitigation Measure IV.3-3, as part of the updated *General Plan 2020*. The Community Development Department would be responsible for monitoring the implementation of the amended program.





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### Noise – The Setting

#### GENERAL INFORMATION ON NOISE

The decibel scale is based on the logarithmic relationship of a measured sound pressure to a reference sound pressure. As it turns out, people tend to respond to changes in sound pressure in a logarithmic manner. In general, a 1 dB change in the sound pressure levels of a given sound is detectable only under laboratory conditions. A 3 dB change in sound pressure level is considered a “just detectable” difference in most situations. A 5 dB change is readily noticeable and a 10 dB change is considered a doubling (or halving) of the subjective loudness.

For each doubling of distance from a point noise source, the sound level will decrease about 6 dBA. In other words, if a person is 100 feet from a machine, and moves to 200 feet from that sound source, sound levels will drop about 6 dBA. For each doubling of distance from a line source, like a roadway, noise levels are reduced by 3 - 5 decibels, depending on the ground cover between the source and the receiver.

Many methods have been developed for evaluating community noise to account for, among other things:

- the variation of noise levels over time;
- the influence of periodic individual loud events; and
- the community response to changes in the community noise environment.

The simplest and most commonly used method is the day/night average level or  $L_{dn}$ . The  $L_{dn}$  is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the  $L_{eq}$ , or equivalent sound level.

The State Office of Noise Control, in its Land Use Compatibility Standards table, defines an outdoor level of  $L_{dn}$  60 dB or less as being “normally acceptable” for residential uses, schools, libraries, churches, and hospitals. The intent of the 60 dBA ( $L_{dn}$ ) level is partly to provide acceptable outdoor levels. A 60 dBA ( $L_{dn}$ ) is generally considered to be an appropriate exterior level near roadways where outdoor use is a major consideration, such as in backyards, recreation areas in residential projects, and many park areas.

A second intent of the 60 dBA ( $L_{dn}$ ) standard is to provide, either through design, location, or insulation, for interior noise levels no greater than 45 dBA ( $L_{dn}$ ), which is generally accepted as the maximum acceptable noise level for most indoor residential activities. This assumes that the typical building reduces outdoor noise by 10 - 15 decibels with windows open and 20 - 24 decibels with windows closed (smaller windows and better construction will provide the higher end of the range).

Typically, if outdoor noise is less than 60 dBA ( $L_{dn}$ ), average wall and window construction will reduce noise levels below 45 dBA ( $L_{dn}$ ), even with partially open windows. Closed windows and mechanical ventilation may be needed where outdoor noise levels are above 60 dBA ( $L_{dn}$ ).

### **EXISTING NOISE CONDITIONS AND RECENT STUDIES**

Existing noise conditions are described in pages B-73 to B-100, Environmental Context - Noise of the *San Rafael General Plan 2020 Background Report (Background Report)*. This section of the *Background Report* was reviewed to be current as of the issuance of the Notice of Preparation in May 2003. This section is hereby incorporated by reference, the existing conditions are further described below, and updated where necessary. Topics addressed in the *Background Report* include:

- Noise Measurement Survey
- Traffic Noise Contour Distances
- San Rafael Rock Quarry
- Miracle Mile
- Marin 101 HOV Gap Closure

The noise measurement survey was conducted for the *Background Report* in the beginning of 2001, almost three years before this EIR's Notice of Preparation. A review of the traffic volume counts compiled for the *Draft General Plan 2020* indicates that the traffic volumes have not changed dramatically. Over the three year span, the difference in traffic volumes results in a difference in noise exposure of 1 dBA or less along those roadways where noise measurements were taken and the traffic data is available. Since 1 dBA is a less-than-noticeable change in noise, the noise measurement survey remains applicable.

The *Background Report* also contains a table with existing traffic noise exposure contour distances. These were calculated based on the traffic volume counts available at the time. The existing noise exposure has been re-calculated for this EIR based on the current traffic counts. This data is included in **Exhibit IV.4-1** along with the future noise contours. This table reflects the latest traffic volume information obtained by the City for the *Draft General Plan 2020*.

### **FUTURE NOISE EXPOSURE AREAS IN SAN RAFAEL**

State General Plan law requires cities to identify noise contours around major noise sources to identify high noise exposure areas. "Noise exposure areas" are defined as those areas where noise levels exceed 60 dBA ( $L_{dn}$ ). The noise contour information contained in **Exhibit IV.4-1** specifies the extent of the noise exposure generated by the major roads. The noise contour distances were calculated using the Federal Highway Administration's Traffic Noise Prediction Model (FHWA RD-77-108). Traffic volumes are based on the existing and future traffic volumes projected by the City for the *Draft General Plan 2020*.

Existing noise exposure areas in the Planning Area, as identified in the *Background Report*, are located along Highways 101 and 580 and major streets, including Andersen Drive, Francisco Boulevard West, Woodland Avenue, D Street, Irwin Street, Lincoln Avenue, Hetherton, Second and Third Streets, Fourth Street, portions of Fifth Avenue, Mission and B Streets, Francisco Boulevard East, portions of Kerner and Bellam Boulevards, Grand Avenue, Pt. San Pedro Road, N. San Pedro Road, Merrydale, Civic Center Drive, Redwood Highway, Los Ranchitos, Las Gallinas, Manuel T. Freitas Parkway, Lucas Valley Road, Smith Ranch Road, and Miller Creek Road. Residential uses are

found within these existing noise exposure areas primarily along D Street, Lincoln Avenue, Grand Avenue, Pt. San Pedro Road, Merrydale, and Las Gallinas Avenue, although some homes are affected on other routes. No commercial or industrial uses have been identified to be major on-going high noise sources for which noise contours need to be prepared.

The contour distances and maps shown in this section are intended to be used to assess the compatibility of new noise sensitive projects with the existing and future noise environment. Their primary purpose is a screening tool for determining when more detailed study is necessary. For example when new residential development is proposed within the  $L_{dn}$  60 dB contour a site specific noise study should be performed. This site specific study then identifies the precise noise exposure at the site and identifies appropriate noise reduction measures. The noise contours do not take into account acoustical shielding from terrain or intervening buildings. These features tend to reduce the noise exposure at sites that are farther from the roadway. In this way, the noise contours tend to be conservative and the noise exposure at a site might be less than that indicated by the contours.

**Exhibit IV.4-1  
Existing and Future Traffic Noise Levels**

Road Segment	Existing and Future $L_{dn}$ at 100 Feet From Roadway Centerline (dB)			$L_{dn}$ Contour Distance from Center of Roadway Future Condition with Project (feet)				
	Existing	Future	Increase	80	75	70	65	60
<b>HIGHWAY 101</b>								
Sir Francis Drake to 17/580	79.9	81.0	1.1	116	250	538	1,159	2,497
to Irwin	80.5	81.1	0.7	119	256	553	1,190	2,565
to Mission	79.1	79.8	0.7	97	210	451	973	2,096
to Lincoln	80.7	81.3	0.6	122	263	566	1,220	2,629
to No. San Pedro	81.0	81.6	0.6	128	277	596	1,285	2,768
to Freitas	80.7	81.4	0.6	123	266	572	1,233	2,657
to Smith Ranch	80.6	81.3	0.7	123	264	569	1,225	2,640
to Miller Creek	80.4	81.1	0.7	118	254	548	1,180	2,543
to n/o Miller Creek	80.4	81.0	0.6	117	253	545	1,174	2,529
<b>HIGHWAY 17/580</b>								
Sir Francis Drake to Bellam	75.4	76.3	0.9	57	122	263	567	1,221
to Highway 101	76.0	76.8	0.7	61	131	283	609	1,313
<b>ANDERSEN DRIVE</b>								
s/o Bellam	68.2	69.1	0.8	--	40	87	187	403
n/o Bellam	67.2	68.1	0.8	--	--	75	161	346
<b>W. FRANCISCO</b>	64.3	65.9	1.6	--	--	53	115	247
<b>WOODLAND AVENUE</b>								
Bellam to B Street	61.7	62.4	0.7	--	--	--	67	145
<b>D STREET</b>								
City Limits to end	61.6	61.9	0.3	--	--	--	62	134
<b>IST</b>	59.0	59.0	0.1	--	--	--	--	71
<b>C STREET</b>								
s/o Third	59.3	59.4	0.0	--	--	--	42	91

continued, next page

**Exhibit IV.4-1 – continued**

<b>Road Segment</b>	<b>Existing and Future L<sub>dn</sub> at 100 Feet From Roadway Centerline (dB)</b>			<b>L<sub>dn</sub> Contour Distance from Center of Roadway Future Condition with Project (feet)</b>				
	<b>Existing</b>	<b>Future</b>	<b>Increase</b>	<b>80</b>	<b>75</b>	<b>70</b>	<b>65</b>	<b>60</b>
<b>LINCOLN</b>								
Irwin to 2nd	63.0	63.8	0.8	--	--	--	83	178
Mission to Linden	62.9	63.4	0.5	--	--	--	78	168
to Highway 101	65.0	65.3	0.3	--	--	49	105	225
	64.7	65.0	0.3	--	--	47	101	217
<b>HETHERTON</b>								
Highway 101(s) to Mission	63.5	63.8	0.3	--	--	--	83	179
to Highway 101(n)	62.8	63.4	0.6	--	--	--	78	168
<b>IRWIN STREET</b>								
DuBois to Woodland	62.3	63.3	1.1	--	--	--	77	167
Second to Mission	64.4	64.8	0.4	--	--	45	97	209
<b>SECOND</b>								
Fourth St "Y" to Hetherton	65.8	66.2	0.4	--	--	56	120	260
to Third	64.0	64.3	0.3	--	--	42	90	194
<b>THIRD/PT. SAN PEDRO</b>								
Fourth St. "Y" to Irwin	65.1	65.5	0.4	--	--	50	107	231
to Jct. W. 2nd	63.2	63.8	0.5	--	--	--	83	178
<b>FOURTH</b>								
San Rafael City Limit (w) to Fourth St. "Y"	66.4	66.8	0.4	--	--	61	132	285
to Irwin	61.8	62.0	0.3	--	--	--	64	137
to End	59.7	60.5	0.8	--	--	--	50	108

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Exhibit IV.4-1 – continued

Road Segment	Existing and Future $L_{dn}$ at 100 Feet From Roadway Centerline (dB)			$L_{dn}$ Contour Distance from Center of Roadway Future Condition with Project (feet)				
	Existing	Future	Increase	80	75	70	65	60
<b>FIFTH</b>								
California to H	57.3	57.6	0.4	--	--	--	--	69
to Irwin	59.3	59.7	0.4	--	--	--	44	95
to end	55.5	57.2	1.7	--	--	--	--	65
<b>MISSION</b>								
Court to 101 on-ramp	62.0	62.6	0.6	--	--	--	69	148
<b>B STREET</b>								
Woodland to Second	61.7	62.3	0.6	--	--	--	66	143
to Mission	58.9	59.5	0.6	--	--	--	43	93
<b>GRAND</b>								
Francisco to Third	59.9	60.7	0.7	--	--	--	51	111
to Mission	58.9	59.6	0.7	--	--	--	43	93
to Mt. View	58.9	59.8	0.9	--	--	--	45	97
to Villa	57.3	58.3	1.0	--	--	--	--	77
<b>POINT SAN PEDRO</b>								
Jct. W. 2nd Street to Manderly	69.1	69.4	0.3	--	42	91	196	422
to Quarry entrance	65.3	65.8	0.4	--	--	52	112	242
<b>NORTH SAN PEDRO</b>								
Los Ranchitos to Merrydale	62.2	63.1	0.9	--	--	--	75	162
to Civic Center	64.2	64.9	0.7	--	--	46	98	211
to Meadow	63.5	64.2	0.7	--	--	41	88	191

continued, next page

**Exhibit IV.4-1 – continued**

<b>Road Segment</b>	<b>Existing and Future L<sub>dn</sub> at 100 Feet From Roadway Centerline (dB)</b>			<b>L<sub>dn</sub> Contour Distance from Center of Roadway Future Condition with Project (feet)</b>				
	<b>Existing</b>	<b>Future</b>	<b>Increase</b>	<b>80</b>	<b>75</b>	<b>70</b>	<b>65</b>	<b>60</b>
<b>MERRYDALE</b> N. San Pedro to 101 on-ramps	60.3	61.1	0.8	--	--	--	55	118
<b>CIVIC CENTER DRIVE</b> N. San Pedro to Freitas	63.0	63.8	0.8	--	--	--	84	180
<b>REDWOOD HIGHWAY</b>	63.1	63.7	0.6	--	--	--	82	176
<b>LOS RANCHITOS</b> Highway 101(s) to N. San Pedro to Northgate(s)	63.0 61.5	63.3 62.2	0.3 0.7	-- --	-- --	-- --	77 65	166 139
<b>MANUEL FREITAS</b> Montecillo to Las Pavadas to Las Gallinas to Civic Center	61.5 67.8 67.8	62.0 68.3 68.3	0.5 0.5 0.5	-- -- --	-- -- --	-- 77 77	63 165 165	136 356 356
<b>LAS GALLINAS</b> Northgate to Freitas to Lucas Valley to Miller Creek	62.3 61.5 61.4	62.4 61.6 62.1	0.1 0.1 0.7	-- -- --	-- -- --	-- -- --	67 59 64	145 128 137
<b>LUCAS VALLEY</b> Mt. McKinley to Las Gallinas to Highway 101	63.7 64.9	64.4 65.9	0.7 1.1	-- --	-- --	42 53	91 115	195 248
<b>SMITH RANCH ROAD</b>	67.4	68.2	0.8	--	--	76	164	354
<b>MILLER CREEK</b> Las Gallinas to Highway 101	63.2	63.8	0.6	--	--	--	83	179

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**Exhibit IV.4-1 – continued**

Road Segment	Existing and Future $L_{dn}$ at 100 Feet From Roadway Centerline (dB)			$L_{dn}$ Contour Distance from Center of Roadway Future Condition with Project (feet)				
	Existing	Future	Increase	80	75	70	65	60
<b>MEDWAY</b>	60.6	61.4	0.8	--	--	--	58	124
<b>BELLAM</b>								
e/o Kerner to Kerner	64.3	64.4	0.1	--	--	42	91	197
to Highway 580	69.1	68.8	-0.3	--	--	84	180	388
to Anderson	69.5	69.3	-0.2	--	41	89	192	414
<b>KERNER</b>								
Irene to Bellam	63.6	64.1	0.5	--	--	40	87	188
to Canal	60.2	60.7	0.5	--	--	--	52	111
<b>E. FRANCISCO</b>								
s/o Bellam	67.7	68.2	0.5	--	--	76	163	352
n/o Bellam	66.4	67.0	0.6	--	--	63	136	293

Source: Rosen Goldberg & Der, Inc.

**Future Transitway**

An expected major additional noise source is the Sonoma Marin Area Rail Transit (SMART) rail service. The SMART Commission has prepared the *Commuter Rail Implementation Plan for Sonoma and Marin Counties*. This report evaluates three types of vehicles for the transit service. All of these vehicle types are diesel powered but vary in size and noise emissions, the heaviest/noisiest being conventional diesel locomotives.

There has not been a full evaluation of noise impacts for the proposed transitway, but it is very likely that noise levels would exceed the City's "normally acceptable" level for residential development. Given the high number of existing and proposed residences located close to the transit corridor, a detailed noise assessment of the various alternatives should be prepared before a decision as to the type of vehicle is made. It should be noted that trains must sound horns at grade crossings. Train horns and stationary crossing bells can be a significant source of noise nuisance.

Preparation has begun on an environmental impact report for the SMART rail line. The City has requested that noise impacts be evaluated for residential areas along the rail line. With analysis of noise impacts of the various train car options, SMART will be able to identify appropriate mitigation measures to be further modified with a final decision on the rail transit vehicle type.

Once a decision on the type of rail transit vehicle is made, estimates can then be determined on the daily average number of trips and the distribution throughout the day. The proposed transitway project would need to include appropriate mitigation measures to reduce noise impacts. The mitigation should be determined by a detailed noise and vibration assessment using the latest



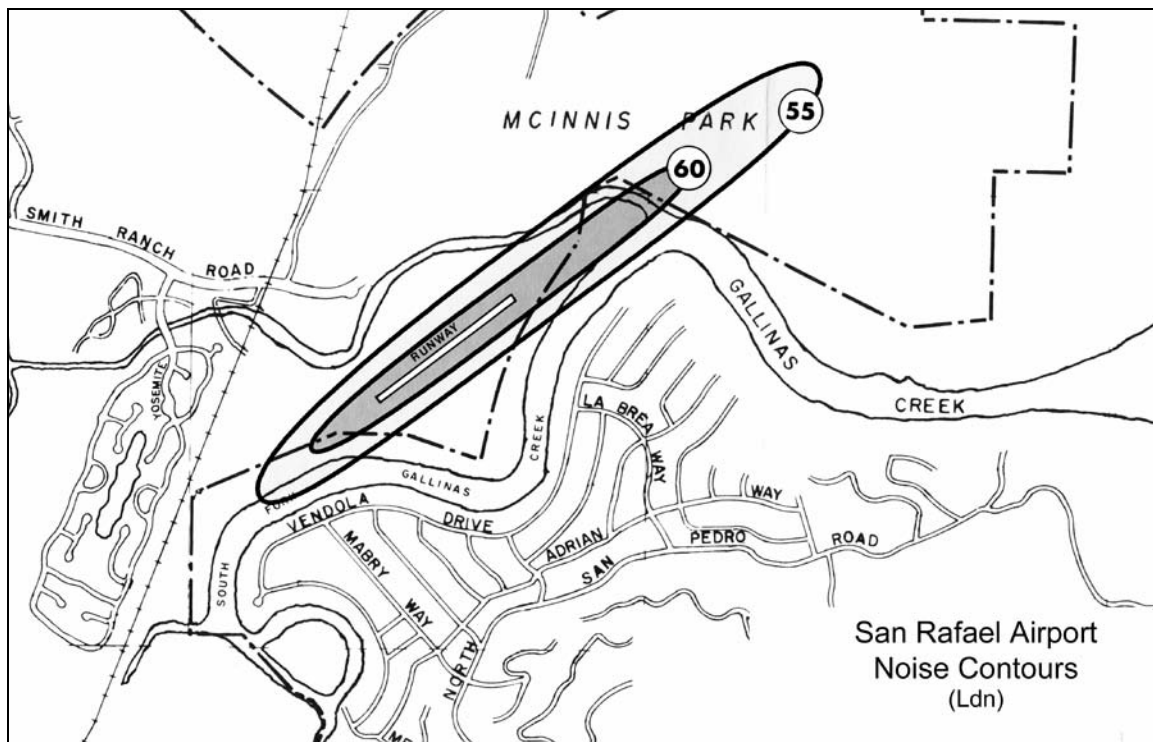
guidelines from the Federal Transit Administration.<sup>1</sup> The Noise Element would then need to be amended to include noise contours for the project.

### **Airport**

Noise contours for the San Rafael Airport are shown on **Exhibit IV.4-2**. The 55 dBA ( $L_{dn}$ ) contour does not currently affect any existing residences. Recent noise measurements near the San Rafael Airport confirm that airport noise does not exceed an  $L_{dn}$  of 55 dBA at the nearby existing residential uses.<sup>2</sup> Two five-day noise measurement programs were conducted, one in July 2002 and another in December 2003. Noise measurements were conducted near the homes along Vendola Drive and in the Contempo Marin Mobile Home Park.

The airport noise contours have been retained from the previous General Plan. There has not been a significant change in the aviation use of the airport, nor are there expected to be significant changes in the future.<sup>3</sup> Therefore, the airport noise contours are applicable for the existing and future conditions.

### **Exhibit IV.4-2 Existing Airport Noise Contours**



Source: City of San Rafael

<sup>1</sup> *Transit Noise and Vibration Impact Assessment*, Federal Transit Administration, April 1995.

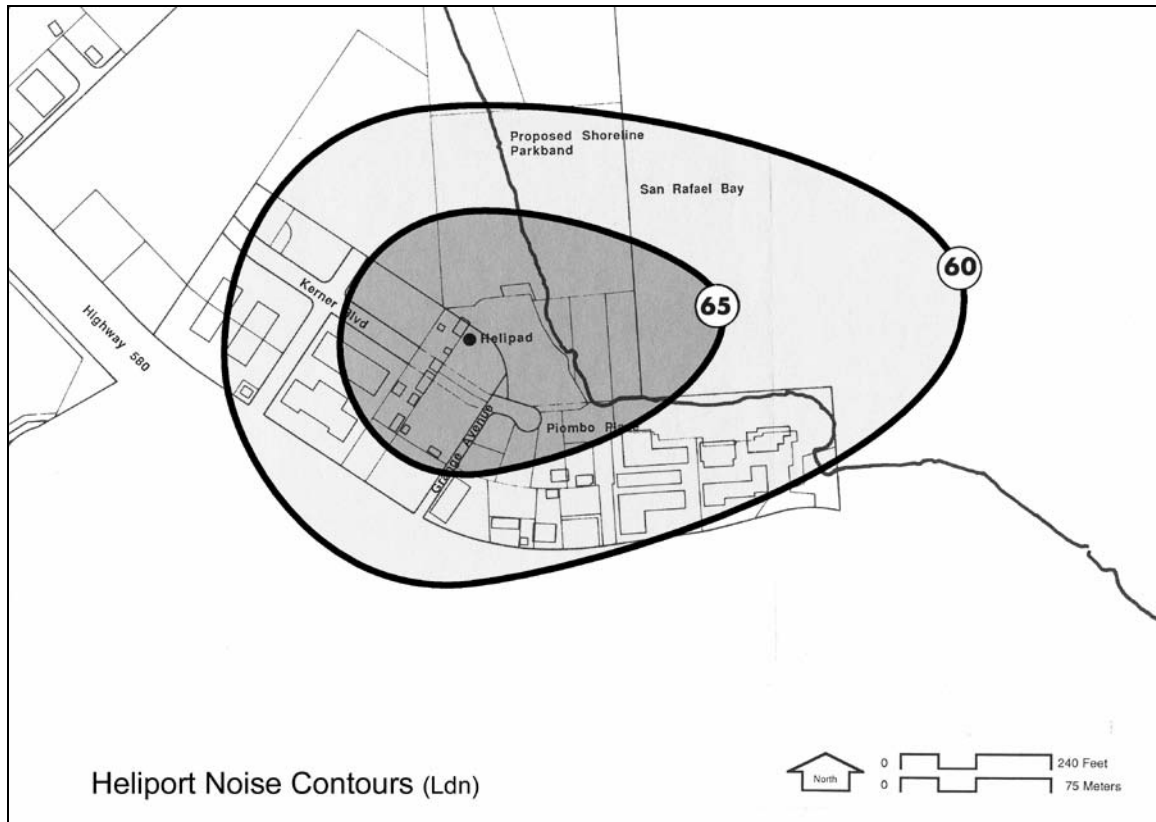
<sup>2</sup> Illingworth and Rodkin, Inc communication with Len Nibbi, San Rafael Airport Manager, August 2, 2002; and Rosen Goldberg & Der, Inc. communication with the City of San Rafael, January 9, 2004.

<sup>3</sup> *San Rafael Airport Environmental Checklist Form*, Dean Parsons, City of San Rafael Senior Planner, undated.

### Heliport

A limited use heliport is located in the southeast portion of the City. Surrounding uses include light industrial and office. It is located on the Phase II portion of the 2350 Kerner Boulevard office complex and City Corporation Yard. Under Phase II of the Office/Corporate Yard project, the heliport would be eliminated. **Exhibit IV.4-3** shows the noise contours that were developed during the heliport's permit review and subsequently incorporated into the previous General Plan. The heliport is currently permitted for up to 12 flights per day between 7:00 am and 10:00 pm for a Bell 206B helicopter only. According to City records, the heliport is used about three to four times per month.<sup>4</sup> Since the permitted operations at the heliport have not changed, the noise contours are applicable for the existing and future conditions.

### Exhibit IV.4-3 Existing Heliport Noise Contours



Source: City of San Rafael

<sup>4</sup> *Environmental Checklist Form, 2350 Kerner Boulevard Office Complex and City Corporation Yard*, Kraig Tambornini, City of San Rafael, undated.

### **San Rafael Rock Quarry**

The San Rafael Rock Quarry is located in unincorporated Marin County adjacent to the City of San Rafael at 1000 Point San Pedro Road. Noise sources associated with the quarry include on-site machinery, trucks, blasting, and haul trucks traveling on Point San Pedro Road west of the quarry.

The Marin Countywide Plan Noise Technical Background Report addresses noise from on-site machinery at the quarry.<sup>5</sup> It states that the  $L_{dn}$  at the closest residential development is about 49 dBA. This level is within the City's "normally acceptable" level of  $L_{dn}$  60 dBA for residential areas. Due to the ongoing neighborhood concerns regarding quarry noise, the City has included a *Draft General Plan 2020* program (**N-10d** San Rafael Rock Quarry) to minimize the effects of quarry operations through cooperative efforts with the County of Marin.

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<sup>5</sup> *Draft Marin Countywide Plan Noise Technical Background Report*, County of Marin, April 2002.

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## Noise – Significance Criteria

The *State CEQA Guidelines* include qualitative guidelines for determining the significance of noise impacts. The noise analysis uses criteria from the *State CEQA Guidelines*. The Initial Study determined that the proposed project would have potentially significant noise impacts. Based on the findings of the Initial Study the project would have a significant noise impact if it would:

- Result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. The following are standards used in the noise impacts analysis.
  - *Draft General Plan 2020 Policy N-1 Noise Impacts on New Development* which contains a table of Noise and Land Use Compatibility Standards.
  - *Draft General Plan 2020 Policy N-2 Exterior Noise Standards for Residential Use Areas* which specifies the standard of Ldn 60 and 65 dB outdoor use areas in residential development, depending on the density.
  - *Draft General Plan 2020 Policy N-4 Noise from New Commercial and Industrial Development* and *N-5 Traffic Noise from New Development* which set thresholds for noise increase of 3 and 5 dB depending on the type of land use affected.
  - Recently adopted **Municipal Noise Ordinance**<sup>6</sup> which sets limits on noise generated by various activities.
- Result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above existing levels without the project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels without the project.

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<sup>6</sup> *San Rafael Municipal Code*, Chapter 8.13.

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## Noise – Impacts and Mitigation Measures

### **Impact IV.4-1 Increased Traffic Noise**

*Existing noise sensitive land uses would be exposed to minor increases in noise levels from traffic. In addition, roadway improvement projects have the potential to generate noise impacts due to increased traffic noise. This would be a less-than-significant impact.*

Vehicular traffic is the largest contributor to noise levels in San Rafael. With the new development anticipated in the *Draft General Plan 2020*, traffic noise would increase in most areas. **Exhibit IV.4-1** shows the calculated  $L_{dn}$  at a reference distance of 100 feet with the existing and future with project conditions. This table also includes the future noise contour distances for use by the Community Development Department. The noise from US 101 would increase by about 1 dBA or less. The same is true for most other roadways that affect residences including Freitas Parkway, Pt. San Pedro Road, and Miracle Mile (Fourth Street). In fact, the exhibit indicates that future traffic noise would increase by less than 2 dBA along all roadway segments. Since this increase is less than the threshold of 3 dBA of **Policy N-5 Traffic Noise from New Development** (and *General Plan 2000* Policy N-11), the increased traffic noise would be a less-than-significant impact.

Individual roadway improvement projects such as those listed in **Policy C-6 Proposed Improvements** have the potential to generate noise impacts due to increased traffic noise. Significant noise increases are more likely to be caused by major realignments than from minor changes such as traffic signal upgrades. **Policy N-5 Traffic Noise from New Development** would require that mitigation measures be incorporated into projects that increase traffic noise levels by more than 3 dB if the exterior  $L_{dn}$  is 65 dBA or greater. Noise barriers such as walls or berms are typically used to reduce noise levels in adjacent residential areas by 5 to 10 dBA. The noise reduction provided by a barrier can offset the expected noise increase from a new project and effectively mitigate the impact.

**Policy N-5 Traffic Noise from New Development** would also encourage revisions in a proposed project so that the increase in noise is not more than 3 dBA. Such revisions could include realigning off-ramps or widening roadways away from the existing homes. In this way **Policy N-5** would act as a performance standard to limit the noise increases generated by new development projects.

This would be a less-than-significant impact.

**Mitigation Measure IV.4-1** None required.

### **Impact IV.4-2 Increased Rail Noise**

*Existing noise sensitive land uses could be exposed to substantially increased noise levels from rail activity. This would be a significant impact.*

The Sonoma Marin Area Rail Transit (SMART) project has the potential to increase noise levels along the existing (but currently unused) railroad corridor in the City of San Rafael. Much of the corridor is near existing residential uses. Residences that would most likely experience significant noise increases are located far away from major roadways. For example, the railroad corridor east of Los Ranchitos Road and west of US 101 is bordered, on both sides, by the backyards of homes on Corillo Drive, Constance Drive and Ranchitos Road. These backyards are currently exposed to distant freeway noise. SMART Trains would likely be the major noise source at these homes. The same is true for residences along the west side of the railroad tracks both north and south of Smith Ranch Road. In general, the noise from SMART trains is less likely to generate a noise impact where it is adjacent to US 101 south of the Lincoln Avenue on/off ramps.

Noise sources associated with the SMART project would include the train engines, wheel squeals, train whistles, and stationary crossing bells. Policy **N-9a Future Transitway Mitigation Measures** would require that the environmental analysis for the SMART Project address the City's noise standards and the Federal Transit Administration (FTA) Guidelines. The FTA Guidelines address noise and vibration from transit trains. The SMART project environmental analysis will use these criteria to determine potential noise and vibration impacts. Because of the uncertainties associated with the types of vehicles and operational details, no comprehensive noise predictions are provided in the *Draft General Plan 2020* and further discussion of potential impacts of increased rail noise would be speculative. The City will remain involved in the rail project's environmental review process, which is currently underway.

This would be a significant impact.

**Mitigation Measure IV.4-2** SMART shall conduct a detailed noise assessment and implement appropriate mitigation measures to reduce potential noise and vibration impacts to an acceptable level under City and FTA Guidelines for any rail project within its right-of-way in the Planning Area.

**Significance After Mitigation** Implementation of this mitigation measure would be beyond the jurisdiction of the City of San Rafael. Therefore, this would remain a significant and unavoidable impact.

**Responsibility and Monitoring** SMART would be responsible for conducting the noise assessment and for implementing the appropriate mitigation measures.

**Impact IV.4-3 Stationary Noise Sources**

*Existing noise sensitive land use would be exposed to substantially increased noise levels from stationary noise sources. This would be a less-than-significant impact.*

New commercial projects (or significant modifications of existing facilities) have the potential to increase noise at existing noise sensitive land uses. For example, *Draft General Plan 2020* Policy **LU-16 Convenience Shopping** encourages the retention and improvement of existing retail stores and services in residential neighborhoods. Potential noise sources include on-site activities, ventilation equipment and engine-generators. Even small residential equipment such as air-conditioners can cause unacceptable noise at adjacent residences. These projects will continue to be reviewed by the City planning staff on a case-by-case basis.

Policy **N-2a Noise Ordinance** states that the Police Department will implement the City's Noise Ordinance that limits the noise levels generated by stationary noise sources. Policy **N-4 Noise from New Commercial and Industrial Development** would set performance standards for noise increases caused by commercial projects.

These policies would be applied during the environmental review of the new projects associated with some of the proposed land use changes contained in the *Draft General Plan 2020*. They would be particularly helpful in avoiding noise impacts in mixed-use developments where residential and commercial uses are very close together. For example, the new commercial and mixed-use developments identified in **Exhibit III.3-2** would be reviewed in light of these policies and would be required to meet the performance standards.

This would be a less-than-significant impact.

**Mitigation Measure IV.4-3** None required.

**Impact IV.4-4 Increased Airport Noise**

*Existing noise sensitive land uses would not be exposed to increased noise levels from the private use San Rafael Airport. This would be a less-than-significant impact.*

The *Draft General Plan 2020* does not propose any changes to the location of the existing private San Rafael Airport, nor the establishment of any new airport. Properties surrounding the airport are built-out. The airport has a conditional use permit that allows a maximum of 100 airport-based aircraft. The conditional use permit also prohibits the following:

- a. Flight training.
- b. Helicopters.
- c. Charter flights.
- d. Public uses.
- e. Commercial flight activity.
- f. Non-based aircraft performing landings or departures.

Under the conditional use permit, the activity at the San Rafael Airport is not expected to increase. Furthermore, the *Draft General Plan 2020* Policy **NH-153 San Rafael Airport** states the types of uses allowed on the property, including private and public recreational uses, public utility uses and open space, and Policy **N-7 Airport/Heliport** would require consideration and mitigation of noise impacts from changes in facilities or operations at the site. Therefore, this would be a less-than-significant impact.

**Mitigation Measure IV.4-4** None required.

**Impact IV.4-5 Future Noise Sensitive Development**

*Future noise sensitive development could potentially be exposed to noise levels greater than those considered normally acceptable. This would be a less-than-significant impact.*

The *Draft General Plan 2020* contemplates new noise sensitive development as part of land use changes and development of vacant lands. For example, *Draft General Plan 2020* Policy **H-22 Infill Near Transit** and Program **H-18b Rezone Commercial Sites** encourage new residential development in areas near Downtown or adjacent to busy roadways. Without requirements for mitigation, high noise levels could interfere with activities such as conversation and sleep.

Policy **N-1 Noise Impacts on New Development** would establish land use compatibility standards that identify the acceptability of a project based on its noise exposure. Program **N-1a Acoustical Studies** would require acoustical studies for all new residential projects within the  $L_{dn}$  60 dB noise contours so that noise mitigation measures can be incorporated into project design to achieve the appropriate outdoor and indoor noise standards. Policy **N-2 Exterior Noise Standards for Residential Use Areas** would set standards for backyards and/or common useable outdoor areas in new residential development. Policy **N-3 Planning and Design of New Development** would provide guidance on using various types of noise abatement measures to meet the performance standards in Policy **N-1 Noise Impacts on New Development**. These measures include site planning, architectural layout of buildings, noise barriers, construction modifications and alternatives to soundwalls.

The policies discussed above would result in noise mitigation requirements for individual projects. For example, noise studies may be required for the new residential or mixed-use developments at the Brookdale Avenue area, the Loch Lomond Marina, and surrounding Davidson Middle School.

There are some locations where new development anticipated in the *Draft General Plan 2020* would require noise studies and, possibly, noise abatement measures to achieve acceptable traffic noise levels. For example, vacant lands along N. San Pedro Road are designated for Low Density and High Density Residential development. The same is true for the Low Density Residential designated lands along Pt. San Pedro Road near the Loch Lomond Marina between Sea Way and Bellevue Avenue. Along the freeways, vacant lands that might be developed with residences are mostly designated as Hillside Residential. There are also small parcels designated Low and Medium Density Residential along US 101 between Downtown and the Marin County Civic Center. Program **N-1a Acoustical Studies** would require residential projects on these parcels to have acoustical studies that specify the noise abatement measures to achieve acceptable traffic noise levels.

The San Rafael Rock Quarry and the McNear Brickworks are located just south of the City limit along Pt. San Pedro Road. The existing industrial operations at these facilities are expected to continue through 2020. Noise from these facilities must be addressed if new development is proposed in the vicinity of these facilities. However, under *Draft General Plan 2020*, very little development would occur in the vicinity of the Quarry. Furthermore, Policies **N-1 Noise Impacts on New Development** and **N-2 Exterior Noise Standards for Residential Use Areas**, as described above, would reduce potential impacts to development in these areas by assuring that noise sensitive development is either not sited within noise exposure areas or adequate noise abatement is included in the development.

This would be a less-than-significant impact.

**Mitigation Measure IV.4-5** None required.



## IV.5 PUBLIC SERVICES AND UTILITIES

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### **Public Services and Utilities – The Setting**

Existing public services and utilities conditions are described in the *San Rafael General Plan 2020 Background Report (Background Report)* pages G-1 to G-33, Public Services and Facilities; C-16 to C-37, C-51 to C-60, Community Life – Education; and, Community Life – Recreation. These chapters are hereby incorporated by reference, and summarized below. These sections of the *Background Report* were reviewed to be current as of the issuance of the Notice of Preparation in May 2003. These sections are hereby incorporated by reference, summarized below, and updated where necessary.

#### **PUBLIC SERVICES**

##### **Fire**

Fire services in the San Rafael Planning Area are provided by the City of San Rafael, the County of Marin, the Marinwood Community Services District, and the California Division of Forestry (in China Camp State Park). The various fire departments have joint powers agreements and standard mutual aid agreements that minimize response time in fire emergencies. The San Rafael Fire Department, under a joint powers agreement, also provides paramedic services throughout the Planning Area.

The Fire Department's *Standard of Cover Plan* sets forth a community risk assessment, service level objectives and distribution of resources.<sup>1</sup> The Department staff includes 78 suppression personnel (chief, captains, engineers, and paramedics/firefighters), seven additional Safety Personnel, and three emergency dispatchers, one fire mechanic, and two administrative assistants. Current staffing is one Chief Officer, one Dispatcher and 22 suppression personnel on duty at any one time.<sup>2</sup> The Fire Department is currently restructuring to accommodate the loss of three firefighter positions. There are seven operating stations within the city.

Fire insurance protection classification is designated by the Insurances Services Office (ISO) and is the ISO's rating of the City's ability to defend against major fires within its service area. The ratings, which are based on a scale of 1 to 10, reflect considerations related to water supply, communications, staffing, and availability of equipment. A rating of 1 indicates the best fire protection capability, and 10 indicates little or no protection available. The San Rafael Fire Department ISO rating as of 1995 is Public Protection Class 3.

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<sup>1</sup> *Standard of Cover Plan*, San Rafael Fire Department, August 2002.

<sup>2</sup> City of San Rafael communication with Steven Riggs, Fire Prevention Inspector, San Rafael Fire Department, December 5, 2003.

The *Standard of Cover Plan* reports that approximately 76 percent of the request of service handled by the SRFD are medical calls. All San Rafael firefighters are trained as Emergency Medical Technicians.

The Department is able to send its first engine within five minutes. A full first alarm structure fire response within nine minutes is achieved for 85 percent of the City. Due to limited accessibility, intermittent traffic, and maximum safe travel times, greater response times are sometimes required in outlying areas, and in areas along narrow streets in hillside areas.

#### *Hazardous Materials*

Consistent with Ordinance No. 1510 the City of San Rafael has required since 1985 that any person who uses or handles a hazardous material to obtain a permit from the Fire Department, with some limited exceptions. Based on a 1990 memorandum of understanding with the Regional Water Quality Control Board, the City of San Rafael Fire Department has been the lead agency for identifying, characterizing, and monitoring sites within the City with known releases of hazardous materials. The Fire Department manages the Countywide Household Hazardous Waste Program for every city except Novato.

The City of San Rafael is now certified as a Unified Program Agency (CUPA) under authority granted by the California Environmental Protection Agency. The City has implemented the CUPA program by adding Ordinance No. 1733, Chapter 4.20 to the San Rafael Municipal Code. The Hazardous Materials Division is responsible for the following CUPA programs:

- Hazardous Materials Business Plan Program (CA Health & Safety Code Chapter 6.95).
- Hazardous Waste Program (CA Health & Safety Code, Chapter 6.5).
- Underground Storage Tank Program (CA Health & Safety Code, Chapter 6.7).
- Accidental Release Program (CA Health & Safety Code, Chapter 6.95).
- Aboveground Storage Tank (CA Health & Safety Code, Chapter 6.67).
- Uniform Fire Code (Section 8001.3.2 - 8001.3.3a).

Other agencies involved in the use, handling, storage, and transport of hazardous materials and hazardous waste include: the U.S. Department of Transportation (DOT), which regulates the transportation of hazardous materials; the North Coast Regional Water Quality Control, which regulates water quality issues, including groundwater contamination; and the California Environmental Protection Agency (Cal EPA) and the Department of Toxic Substances Control (DTSC), which regulate the generation, transportation, treatment, storage, and disposal of hazardous waste.

#### **Police**

Police protection and traffic enforcement are provided by the City of San Rafael for all incorporated areas of the City. In unincorporated areas the County Sheriff's Department provides law enforcement and the California Highway Patrol provides traffic enforcement on Highways 101 and 580.

The San Rafael Police Department serves the residents within the City Limits of San Rafael. The Department has an officer-to-resident service-standard ratio of 1.4 officers per 1,000 residents. There are currently 78 sworn officers in the Department.<sup>3</sup> Under the supervision of the Chief of Police, delivery of services is divided into two divisions: operation and support services. The operations division includes Community Oriented Policing, patrol, and traffic enforcement. Support services include administration, information services and criminal investigations. Police services are organized on a geographical beat basis. Other specific functions, such as community policing (C.O.P.S.), crime prevention, investigations, youth, and traffic services are organized on a citywide basis.

Traffic related problems are the Department's biggest problem and have increased at a rate faster than the pace of growth. The Department has instituted a volunteer decoy program to reduce speeding in neighborhoods, increased enforcement at intersections with a high number of accidents, and started the Pedestrians in Crosswalks and Safety Operations (PICASO) to cite drivers failing to yield to pedestrian rights of way and to educate pedestrians about traffic signal safety. The traffic collision rate dropped from 440.1 per 1,000 vehicles for 2000-01 to 396.1 for 2001-02. The statewide rate for 2001-02 was 485.95.

Nationwide, the crime rate has been declining for several years. A survey of 485 California jurisdictions in 2001 ranked San Rafael's crime rate 201<sup>st</sup> in the State. Part I crimes, such as homicide, rape, robbery, assault burglary, larceny, and auto-theft have been decreasing in San Rafael since 1996. The total number of calls for service, however, has increased. Thefts are the most common type of crime in San Rafael, and typically the retail, commercial, and light industrial areas have a higher crime rate than residential areas.

For 2001 – 02, San Rafael's Part I Crime Index number was 3,709, which is 6.3 percent above the five year average, and 16.4 percent below the ten-year average.<sup>4</sup> Crime rates for the City of San Rafael are generally higher than those for nearby towns due to the city's larger population. The highest demand for service is in the Downtown area, and the lowest is in north San Rafael and other low density single-family areas.

Local response times to calls for service are adequate and fall within reasonable ranges. For incoming calls, the Police Department has response goals of three minutes for Priority One (emergency, such as robbery or assault in progress) calls, seven minutes for Priority Two (primarily calls about property, car and home burglaries) calls, and thirty minutes for Priority Three (requests for information, theft reports) calls. The Department currently meets service standard goals for Priority One and Two calls.

The Police Department maintains a station at City Hall, 1400 Fifth Avenue. The *Strategic Programming Analysis* report<sup>5</sup> reviewed needed facility improvements at City Hall. More

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<sup>3</sup> City of San Rafael communication with Lynne Ohlson, Management Analyst, San Rafael Police Department, December 2003.

<sup>4</sup> The Crime Index is part of the Uniform Crime Reporting Program, which is a nationwide cooperative statistical effort of voluntary reporting data. The Crime Index is composed of selected offenses used to gauge fluctuations in the overall volume and rate of crime reported to law enforcement.

<sup>5</sup> *Strategic Programming Analysis*, City of San Rafael, May 16, 2001.

recently, a review of City facilities<sup>6</sup> looked at future building needs citywide, including seismic safety of public safety buildings, space needs for public safety operations (Police and Fire Departments) and emergency services (Community Centers). Buildings were rated on a number of criteria such as life safety and building age. Three buildings ranked high as a facility in need of improvements. The Police Department was identified as deficient in terms of space for employees and services. No action has been taken on the study's recommendations, pending current fiscal issues. Follow-up actions include identifying an overall program addressing the City's seismic safety and building needs issues as well as an approach to funding needed improvements. To provide additional space, the Department leases space at an office building on Fifth Avenue and B Street.

### **Schools**

There are currently three school districts providing educational services in San Rafael: Dixie Elementary School District (K-8 for most of north San Rafael), San Rafael Elementary School District (K-8 for Santa Venetia and San Rafael south of Puerto Suello), and San Rafael High School District (9-12 citywide). San Rafael Elementary and San Rafael High School Districts are governed by one five-member Board of Trustees and share a Superintendent. This organization is referred to as the San Rafael City Schools. In total, fifteen public schools and seven private schools serve the community. Two institutions of higher education include the College of Marin, a community college in an adjacent community, and Dominican University with 1,600 students.

San Rafael City Schools is in the process of a major modernization and reconstruction program funded through General Obligation Bonds approved by the voters in 1999 and 2002. This building program will repair and replace aging infrastructure but will not significantly increase capacity except where kindergarten classrooms are being added at certain sites to allow for extended kindergarten programs.

### **Parks and Recreation**

Within the City of San Rafael there are 19 City-owned parks plus the joint Mont Marin Homeowners Association / City-owned park for a total of 141 acres of parkland. Since the Background Report was prepared, a new 3-acre neighborhood park has been approved and is under construction at the Redwood Village subdivision off North San Pedro Road. In addition, plans are underway to expand the Pickleweed Community Center with a new gym and library. Fundraising is near completion, and final design and environmental review will begin in 2004.

Community Services Districts in the unincorporated San Rafael Planning Area provide six neighborhood park or recreation facilities in Marinwood / Lucas Valley and Santa Venetia, for an additional 31.4 acres of parkland. Marin County provides the 450 acre McInnis Park in northwest San Rafael, as well as the informal turf play and children's playground areas at the Civic Center. Two County parks and China Camp State Park provide significant region-wide facilities totaling 2,125 acres. Secured public open space totaling over 2,600 acres provide hiking and limited other recreation opportunities. Fifteen public schools and five private schools throughout the Planning Area further supplement the local public recreation facilities system, providing an estimated 150 acres of hard court and playfields for organized sport activities.

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<sup>6</sup> *City of San Rafael Essential Facilities: Strategic Analysis*, City of San Rafael, August 2003.

## **Library**

On average, every week over 3,000 people visit the San Rafael Public Library, one of the most heavily used services in the City of San Rafael. The library provides access to all public libraries and to 750,000 books in the MARINet catalog.<sup>7</sup> Users can access books and place holds on titles and then, have them delivered for pickup to any library within Marin County. San Rafael Public Library checked out 336,566 items in fiscal year 2002-03.

The 14,000 sq. ft. library houses 128,122 volumes, including a growing Spanish and Vietnamese language collection. In addition, the Canal Learning Center at Pickleweed Park includes a reference collection and a small book collection. Services include story times, computers, and homework tutors.

Other library services include youth children's and teen's services, Outreach to the Homebound, adult programs (author talks, art lectures, book clubs, and special events) and book sales to support these and other programs and the work of the Friend's of San Rafael Public Library. In addition, the grant-funded Marin Literacy Program served 800 students in 2000.

Planning is currently underway for needed library facilities to meet current and projected demand. Fundraising is currently underway for expansion of the Pickleweed Park Community Center, and a Proposition 14 grant has been awarded for construction of the Library portion of the project.<sup>8</sup> Project design will begin in winter 2004. The *San Rafael Downtown Library Feasibility Study* identified the need for an additional 30–40,000 square feet at the Public Library and two medium-sized branches in east and north San Rafael.<sup>9</sup> Grant funding has been secured for library facilities at Pickleweed Community Center, and the City is considering a bond measure to fund expansion or a new Library in Downtown and possibly a library facility in north San Rafael.<sup>10</sup>

## **UTILITIES**

### **Wastewater**

Wastewater from San Rafael is handled by two entities: the Las Gallinas Valley Sanitary District (LGVSD), which serves the Planning Area north of Puerto Suello Hill, and the Central Marin Sanitation Agency (CMSA), which serves the Planning Area south of Puerto Suello Hill.

#### *North of Puerto Suello Hill*

Sewage treatment in the Planning Area north of Puerto Suello Hill and in the adjacent unincorporated areas is provided by the LGVSD, a special district with an elected board. The

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<sup>7</sup> MARINet is a consortium of libraries within Marin County.

<sup>8</sup> Proposition 14 is the California Reading and Literacy Improvement and Public Library Construction and Renovation Bond Act of 2000.

<sup>9</sup> *San Rafael Downtown Library Feasibility Study*, City of San Rafael, 2003.

<sup>10</sup> City of San Rafael communication with Gail Lockman, Library Manager, San Rafael Public Library, October and November 2003.

LGVSD serves all northern City areas, and the unincorporated neighborhoods of Los Ranchotos, Lucas Valley, Marinwood, and Santa Venetia. The LGVSD also serves the Marin Valley Mobile Country Club, which is located within the City of Novato, and the St. Vincent's/Silveira properties, which are no longer within the Planning Area. The LGVSD provides all treatment and transport facilities, which include the treatment plant, about 300 acres of ponds and land irrigation areas, pump stations, force mains, and gravity flow sewer mains. Sewer laterals are privately owned.

#### *South of Puerto Suello Hill*

Wastewater services south of Puerto Suello Hill within the Planning Area are provided by the San Rafael Sanitation District, which is one of three member service districts that comprise the Central Marin Sanitation Agency (CMSA). The other two service districts are the Sanitary District No. 1 of Marin County, also known as the Ross Valley Sanitary District, and Sanitary District No. 2 of Marin County. In addition to serving the Planning Area south of Puerto Suello Hill, SRSD also maintains sewers for the San Quentin Village near the north entrance to San Quentin Prison. Wastewater from all three districts flows to the CMSA plant. The capacity of the plant in dry weather is ten million gallons a day (MGD); dry weather flow is currently measured at eight MGD. The capacity of the plant in wet weather is 125 MGD under favorable tidal conditions, and is reduced from there depending on what the actual tide is during wet weather events. The trend over the past 20 years has been increasing wet weather flows as pumping capacity has been increased and force mains have been enlarged to prevent sewer overflows in the gravity systems. During recent storms, wet weather flows to the CMSA facility have reached 110 MGD. CMSA is currently studying wet weather flows to identify projects that may be needed.<sup>11</sup>

#### **Water Supply**

The Marin Municipal Water District (MMWD), a public utility governed by an elected board, provides water service generally to all eastern Marin cities south of Novato, including San Rafael. MMWD facilities include six area reservoirs, two water treatment plants, storage tanks, pumps, and lines. The primary source of water for MMWD is rainfall stored in two of the area reservoirs. The district also maintains a line intertie with the North Marin Water District for Russian River water. The total current storage capacity of the MMWD is approximately 80,000 acre feet. Seventy-two percent of the water used within the MMWD is from local reservoirs, 26 percent came from the Russian River in Sonoma County, and two percent was from recycled water. The annual use for fiscal year 2001-02 was 21,338 acre-feet with a peak demand of 44 MGD in July.

MMWD's most recent urban water management plan (UWMP), *Urban Water Management Plan 2000* was adopted February 19, 2003. This document, developed in response to the Urban Water Management Plan Act, AB 2853, contains historical and forecasted water use and water conservation information.<sup>12</sup> MMWD's most recent supplement to the 1992 *Long Range Capital*

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<sup>11</sup> Jason Dow, Central Marin Sanitation Agency, letter to City of San Rafael, November 24, 2003; and communication with City of San Rafael, January 2004.

<sup>12</sup> The *Urban Water Management Plan* is available for review at the City of San Rafael, Community Development Department, Planning Division, 1400 Fifth Street, San Rafael, California.

*Program* was published in 1994. This plan provides the MMWD with a planning tool that considers all projects necessary to provide adequate water supply to the service area.

Consistent with CEQA Guidelines 15083.5 and Water Code Section 1901, the City requested water supply information from MMWD. The MMWD response letter is attached in ***Appendix VIII.5 Marin Municipal Water District Response Letter***.

### ***Solid Waste***

Two agencies provide solid waste disposal services in the Planning Area: the Marin Sanitary Service and the Las Gallinas Valley Sanitary District. The Marin Sanitary Service is responsible for solid waste disposal in central Marin County, including the Planning south of Puerto Suello Hill. Marin Sanitary Service also operates the Resource Recovery and Recycling Plant. Solid waste disposal north of Puerto Suello Hill is provided by the Las Gallinas Valley Sanitary District through a franchise agreement with Marin Sanitary Service. Marin Sanitary Service operates a transfer station where waste from commercial collectors is taken and then hauled by transfer truck to Redwood Landfill.

In 1999, businesses in San Rafael disposed of over 52,000 tons of material. Waste from residences in the same year amounted to 23,000 tons. The principal landfill for residential and commercial wastes generated within the Planning Area is the Redwood Sanitary Landfill, located in northern Marin County. The projected landfill closure year for Redwood Landfill is 2032. Permitted capacity is 19,100,000 cubic yards; remaining capacity is 12,900,000 cubic yards.<sup>13</sup>

### ***Energy***

The Pacific Gas and Electric Company (PG&E), an investor-owned utility regulated in part by the California Public Utilities Commission (PUC), is the sole provider of electricity and natural gas in San Rafael. PG&E is responsible for maintaining the physical infrastructure for gas and electric distribution. The majority of San Rafael's power comes from the substation on Second Street near Lindaro, which is a significant component of the major grid system for Marin County.

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## ***Public Services and Utilities – Significance Criteria***

The public services and utilities analysis uses criteria from the *State CEQA Guidelines*. The Initial Study determined that the proposed project would have potentially significant public services and utilities impacts. Based on the findings of the Initial Study the project would have a significant public services or utilities impact if it would:

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<sup>13</sup> California Integrated Waste Management Board, [www.ciwmb.ca.gov](http://www.ciwmb.ca.gov), December 2003.

### *Public Services*

#### *Fire Protection*

- Result in the need for new or altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable response times or other performance objectives.
- 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.

#### *Hazardous Materials*

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- 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.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- 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, would create a significant hazard to the public or the environment.

#### *Police Protection*

- Result in the need for new or altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times and/or other performance objectives.

#### *Schools*

- Result in the need for new or altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable performance objectives.

#### *Parks and Recreation*

- Result in the need for new or altered park facilities or services, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives.
- 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.
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.



### *Library*

- Result in the need for new or altered library facilities or services, the construction of which could cause significant environmental impacts, in order to maintain acceptable service standards.

### *Public Facilities*

#### *Wastewater*

- Would not meet wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Result in the determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

#### *Water*

- Have insufficient water supplies available to serve the project from existing entitlements and resources, or would need new or expanded entitlements.
- Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

#### *Solid Waste*

- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

#### *Energy*

- Encourage activities that would result in the use of large amounts of fuel or energy, or use fuel or energy in a wasteful manner.

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## **Public Services and Utilities – Impacts and Mitigation Measures**

### **Impact IV.5-1 Fire Protection and Emergency Services**

*Development consistent with the Draft General Plan 2020 would increase the demand for fire protection and emergency services, which would require one additional paramedic unit. This would be a less-than-significant impact.*

The Fire Department has determined that the projected growth would require one additional paramedic unit, which could be added to an existing facility.<sup>14</sup> The cost for additional service would be at least partially offset by increased paramedic tax revenues generated by new development in the City.<sup>15</sup>

As noted above, the City recently reviewed the structural integrity of its fire safety buildings and concluded that seismic upgrades are needed. A bond measure to finance building improvements is currently under consideration. While the construction of seismic upgrades to the fire safety buildings could result in secondary impacts to water and air quality, such impacts are unlikely. The fire station is located in an already urbanized area and would not be expected to alter existing drainage patterns or otherwise impact water quality.

Furthermore, the *Draft General Plan 2020* includes a number of policies and programs that would likely limit any potential construction-related impacts to a less-than-significant level. Policies **AW-8 Reduce Pollution from Urban Runoff** and **AW-9 Erosion and Sediment Control** would reduce potential water quality impacts due to erosion at construction sites by requiring and enforcing on-site runoff and sediment control. Program **N-10b Mitigation for Construction Activity Noise** would, through environmental review, minimize the exposure of neighboring properties to excessive noise levels from construction-related activities. Policy **AW-4 Particulate Matter Pollution Reduction**, and Program **AW-4a Project Review** would, through project review, help reduce particulate matter pollution due to construction activities.

Because development consistent with the *Draft General Plan 2020* would not result in the need for new fire protection facilities, this would be a less-than-significant impact.

**Mitigation Measure IV.5-1** None required.

### **Impact IV.5-2 Wildland Fires**

*Development consistent with the Draft General Plan 2020 would not significantly increase the potential for wildland/urban interface problems. This would be a less-than-significant impact.*

Because the City is essentially built out, the Fire Department does not project a significant increase in the number of wildland/urban interface problems.<sup>16</sup> A potential problem would occur should there be a significant density increase due to the construction of second units in hilly areas with narrow streets that restrict emergency access and evacuation. However, few second

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<sup>14</sup> A *paramedic unit* consists of one paramedic ambulance (with equipment) with two paramedics.

<sup>15</sup> Steve Riggs, Fire Prevention Inspector, San Rafael Fire Department, letter to City of San Rafael, December 5, 2003; and communication with City of San Rafael, January 2004.

units have been built in the hillside lots because they typically have limited flat areas to accommodate the required parking (three spaces, two for the residence plus one for the second unit). Because of site constraints, second unit parking requirements, and the existing very low density of hillside residential areas (up to two units per acre), impacts related to wildland fires would be less-than-significant.

**Mitigation Measure IV.5-2** None required.

**Impact IV.5-3 Release of Hazardous Materials**

*Development consistent with the Draft General Plan 2020 could cause a release of hazardous materials. This would be a significant impact.*

The *Draft General Plan 2020* would allow development or redevelopment of commercial and industrial facilities, particularly in East San Rafael and the area around Davidson Middle School. These facilities often require the use, storage or disposal of hazardous material in their operations. There would also be the potential for environmental, health, and safety risks associated with the transport of hazardous materials within the entire San Rafael Planning Area. These risks include accidents involving vehicles transporting hazardous materials, accidental spills or leaks, releases during seismic events, and improper use, handling, storage, and disposal of hazardous materials. Hazardous material releases may also occur from excavation on sites that have been previously contaminated with hazardous materials.

The *Draft General Plan 2020* contains policies and standards in the Safety Element, which if adopted and implemented could be used to reduce the potential for a hazardous materials release.

Policy **S-11 Potential Hazardous Soils Conditions** would reduce the potential for an accidental release of hazardous materials by developing a map showing sites with known soil and groundwater contamination. This map would be available to the Community Development Department in order to identify sites that warrant environmental investigation and testing prior to development. Where development is proposed on sites with known previous contamination, sites filled prior to 1974 or sites that were historically auto service, industrial or other land uses that may have involved hazardous materials, this policy would require that the site be evaluated for the presence of toxic or hazardous materials. The requirements for site-specific investigation are contained in the Geotechnical Review Matrix in the *Draft General Plan 2020, Appendix H*.

Policy **S-12 Hazardous Materials Storage, Use and Disposal** would reduce the potential for improper use, storage and disposal of hazardous materials that could cause leakage, explosions, fires or the escape of harmful gases. Policy S-12 would also reduce the potential for individually innocuous materials to combine and form hazardous substances, especially at the time of disposal. These regulations would reduce the potential for an accidental release of hazardous materials from improper storage, use and disposal through the City's continued participation in the Certified Unified Program Agency (CUPA) program.

Policy **S-13 Hazardous Waste Management** would support measures to responsibly manage hazardous waste consistent with the protection of the public health, welfare and safety of the environment, including the Marin County *Hazardous Waste Management Plan* as adopted by the State, County and Cities within Marin County. Compliance with the *Waste Management Plan*, as

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<sup>16</sup> *ibid.*

outlined in the *Background Report*, would reduce the potential for exposure to or release of hazardous materials.

Policy **S-14 Transportation of Hazardous Materials** would require that hazardous materials used in business and industry are transported, handled, and stored in accordance with applicable local regulations. This policy would also support, as appropriate, legislation that would strengthen safety requirements for the transportation of hazardous materials in order to reduce the potential for a hazardous materials release during transportation.

Policy **S-34 Emergency Connectors** would pursue the establishment and/or improvement of emergency connectors that would provide access routes for emergency personnel and equipment to respond to a hazardous material condition (accident, spill, fire, etc.) that could significantly effect the health and safety of the public and environment.

While these policies would help reduce the potential for hazardous materials release, they eliminate the potential for hazardous materials release. Nor would these policies and programs eliminate the potential for damage or loss from a hazardous materials release. This would be a significant impact.

**Mitigation Measure IV.5-3** A new implementing program (S-11b) shall be prepared and incorporated into Policy S-11 of the *Draft General Plan 2020* that requires remediation and cleanup in order to develop on sites where hazardous materials have impacted soil or groundwater. At a minimum, remediation and clean up of contaminated sites shall be in accordance with regional and local standards. The required level of remediation and clean-up shall be determined by the Fire Department based on the intended use of the site and health risk to the public. The time frame for this program shall be implemented in the short term and maintained on an ongoing basis.

**Significance After Mitigation** While the implementing program outlined in Mitigation Measure IV.5-3 would reduce potential impacts where hazardous materials have impacted soil or groundwater, the potential for damage or loss from a hazardous materials release would remain a significant and unavoidable impact.

**Responsibility and Monitoring** The City Council would be responsible for adopting the implementing program, as listed in Mitigation Measure IV.5-3, as part of the updated *General Plan 2020*. The Fire, Police, and Community Development Departments would be responsible for implementing and monitoring the program.

**Impact IV.5-4 Hazardous Materials, Substances, or Waste Near Schools**

*The Draft General Plan 2020 land use map would allow development of industrial facilities that transport, store, use, emit, or dispose of hazardous materials within one quarter mile of existing school sites. This would be a significant impact.*

There are existing schools within one-quarter mile of zoned industrial areas that may transport, store, use and dispose of hazardous materials. Two schools, Davidson Middle School and Laurel Dell Elementary, are located within or very near an area zoned industrial. The industrial land use areas identified in the *Draft General Plan 2020* may also allow development of new facilities that transport, store, use, emit, or dispose of hazardous materials within one-quarter mile of other existing school sites. In addition, business and industrial expansion could increase the volume of hazardous materials and hazardous wastes used and generated in San Rafael, potentially adjacent

to sensitive uses, such as school sites. The City of San Rafael School District indicated that there are no known new school sites planned for construction within or near zoned industrial areas.

The *Draft General Plan 2020* contains policies and standards in the Safety Element, which if adopted and implemented could be used to reduce the potential for a hazardous materials release.

**Policy S-9 Location of Public Improvements** would reduce the potential for exposure of schools to hazardous materials and minimize the threat to human health or any extraordinary construction and monitoring expenses. This policy would require the locating of schools, public improvements and utilities well away from areas with dangerous levels of identified hazardous materials. Through the environmental review process, information would be provided about available environmental history of a site. When the location of schools, public improvements and utilities in such areas cannot be avoided, effective mitigation measures would be implemented.

**Policy S-11 Potential Hazardous Soils Conditions** would reduce the potential for an accidental release of hazardous materials by developing a map showing sites with known soil and groundwater contamination. This map would be available to the Community Development Department in order to identify sites that warrant environmental investigation and testing prior to development. Where development is proposed on sites with known previous contamination, sites filled prior to 1974 or sites that were historically auto service, industrial or other land uses that may have involved hazardous materials, this policy would require that the site be evaluated for the presence of toxic or hazardous materials. The requirements for site-specific investigation are contained in the Geotechnical Review Matrix in *Appendix H of Draft General Plan 2020*.

**Policy S-12 Hazardous Materials Storage, Use and Disposal** would reduce the potential for improper use, storage and disposal of hazardous materials that could cause leakage, explosions, fires or the escape of harmful gases. Policy S-12 would also reduce the potential for individually innocuous materials to combine and form hazardous substances, especially at the time of disposal. These regulations would reduce the potential for an accidental release of hazardous materials from improper storage, use and disposal through the City's continued participation in the Certified Unified Program Agency (CUPA) program.

**Policy S-13 Hazardous Waste Management** would support measures to responsibly manage hazardous waste consistent with the protection of the public health, welfare and safety of the environment, including the Marin County *Hazardous Waste Management Plan* as adopted by the State, County and Cities within Marin County. Compliance with the *Waste Management Plan*, as outlined in the *Background Report*, would reduce the potential for exposure to or release of hazardous materials.

Although these policies would help reduce the potential impacts related to hazardous materials near schools, the presence and/or expansion of such facilities within one quarter of a mile of a school would remain a significant impact.

**Mitigation Measure IV.5-4** A new implementing program (S-9a) shall be prepared and incorporated into Policy S-9 of the *Draft General Plan 2020* that would require the City to survey existing industrial facilities within 1/4 mile of the schools. The survey would be used to determine the presence of hazardous materials and evaluate the risk of an accidental release that could adversely effect the health and safety of students and school staff. In addition, the City shall adopt a policy in the *Draft General Plan 2020* that would restrict siting of businesses or expansion of businesses (including hazardous waste repositories, incinerators or other hazardous waste disposal facilities) that have the potential for a significant hazardous materials release

within one quarter mile of schools. The time frame for this policy and program shall require short-term implementation.

**Significance After Mitigation** Implementation of the proposed policy and program would reduce the potential for a significant hazardous materials release to effect schools to a less-than-significant level.

**Responsibility and Monitoring** The City Council would be responsible for adopting the implementing program, as listed in Mitigation Measure IV.5-4, as part of the updated *General Plan 2020*. The Fire, Police, and Community Development Departments would be responsible for implementing and monitoring the program.

**Impact IV.5-5 Exposure to Underground Hazardous Wastes**

*Sites impacted by hazardous materials or petroleum products are located throughout the City. With continued compliance with hazardous materials laws and regulations, as well as implementation of applicable Draft General Plan 2020 policies and programs, this would be a less-than-significant impact.*

Chemical storage and handling activities associated with industrial and commercial uses in the City, including underground storage tanks, have resulted in releases of hazardous materials and petroleum products to soil and groundwater. There are hundreds of properties in San Rafael that have been identified as contaminated sites on one or more federal, state or local databases that track hazardous materials. Areas affected by these releases may interfere with future development as outlined in the *Draft General Plan 2020*.

Development consistent with the *Draft General Plan 2020* could result in an expansion of general and light industrial business and commercial land uses within San Rafael. Hazardous materials that may be used during typical business operations could result in increased employee or public exposure to hazardous materials. In addition, expanded hazardous material usage and potential generation of hazardous wastes would likely result in an increased volume of hazardous materials and hazardous wastes being transported within San Rafael.

If improperly handled, hazardous materials and wastes can result in public health hazards if released to the soil, groundwater or atmosphere. Soil and groundwater having concentrations of constituents higher than certain regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from an aquifer. The California Code of Regulations, Title 22, Sections 66261.20-24 contains technical descriptions of characteristics that could cause soil or groundwater to be classified as hazardous waste.

The *Draft General Plan 2020* contains many policies and standards in the Safety Element, which if adopted and implemented could reduce the potential for a hazardous materials release.

Policy **S-11 Potential Hazardous Soils Conditions** would reduce potential impacts related to contaminated soils by developing a map showing sites with known soil and groundwater contamination. This map would be available to the Community Development Department in order to identify proposed developments that warrant environmental investigation and testing. Where development is proposed near schools on sites with known previous contamination, sites filled prior to 1974 or sites that were historically auto service, industrial or other land uses that may have involved hazardous materials, this policy would require that the site be evaluated for the presence of toxic or hazardous materials. The requirements for site-specific investigation are contained in the Geotechnical Review Matrix.

Policy **S-13 Hazardous Waste Management** would support measures to responsibly manage hazardous waste consistent with the protection of the public health, welfare and safety of the environment, including the Marin County *Hazardous Waste Management Plan* as adopted by the State, County and Cities within Marin County. Compliance with the *Waste Management Plan*, as outlined in the *Background Report*, would reduce the potential for exposure to or release of hazardous materials.

With the implementation of the *Draft General Plan 2020* policies listed above and the continued compliance with local, state, and federal regulations related to hazardous materials, this would be a less-than-significant impact.

**Mitigation Measure IV.5-5** None required.

**Impact IV.5-6 Police Services**

*Development consistent with the Draft General Plan 2020 would generate demand for police services beyond the existing capacity of the San Rafael Police Department. This would be a significant impact.*

The increased number of employees and residents in the City would increase the number of calls to the San Rafael Police Department. The Police Department has estimated that seven additional police officers and 1.5 supervising officers would be required due to population increases resulting from *Draft General Plan 2020*. The Department also estimates that additional facilities would be needed to accommodate the space needs for lockers, equipment and vehicles of the new officers.<sup>17</sup> The cost for added Police Department staff could be at least partially offset by increased general fund revenues generated by new development in the City.

The *Draft General Plan 2020* Programs **LU-1a Five-Year Growth Assessment**, and **S-38a Public Safety Facilities**, and Policy **I-2 Adequacy of City Infrastructure and Services** would help reduce potential impacts related to Police Department facilities expansion by requiring monitoring of development and growth. These policies and programs would also use the Capital Improvements Program (CIP) to analyze the long-term facility needs and pursue studies to determine needed public safety facility improvements. By analyzing and forecasting potential facility needs, these programs can help the City prepare for future expansions and use existing facilities more efficiently.

Even with such forecasting and long-term planning, the construction of the required facilities would potentially result in secondary construction-related impacts. The Police Department is currently in the process of determining its facility needs. These needs could require an expansion of the existing facilities or the construction of entirely new facilities elsewhere in the City. Analysis of such site-specific impacts is beyond the scope of this EIR and would be evaluated as part of a separate site-specific environmental review. Therefore, this would be a significant impact.

**Mitigation Measure IV.5-6(a)** In order to meet the existing and projected future needs of the San Rafael Police Department, the City shall amend program **S-38a Public Safety Facilities** to assure that the San Rafael Police Department takes the following actions:

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<sup>17</sup> Jim Kelly, Police Lieutenant, San Rafael Police Department, letter to City of San Rafael, November 2003.

- Determine the department's existing and projected facility needs;
- Obtain the necessary funding for the needed improvements; and
- Purchase, construct, and/or renovate the necessary additional facilities.

**Mitigation Measure IV.5-6(b)** The *Draft General Plan 2020* includes a number of policies and programs that would help limit potential impacts related to the construction of the needed police facilities. For example, Policy **CON-6 Creek and Drainageway Setbacks** would reduce potential impacts to creeks and riparian habitats by requiring future development be sited a minimum of 25 feet (or up to 100 feet in certain circumstances) from the top of banks for all creeks. Policies **AW-8 Reduce Pollution from Urban Runoff** and **AW-9 Erosion and Sediment Control** would reduce potential water quality impacts due to erosion at construction sites by requiring and enforcing on-site runoff and sediment control. Program **N-10b Mitigation for Construction Activity Noise** would, through environmental review, minimize the exposure of neighboring properties to excessive noise levels from construction-related activities. Policy **AW-4 Particulate Matter Pollution Reduction**, and Program **AW-4a Project Review** would, through project review, help reduce particulate matter pollution due to construction activities.

**Significance After Mitigation** Mitigation Measure IV.5-6(a) would reduce the impacts related to the existing space deficiency to a less-than-significant level. The policies and programs listed in Mitigation Measure IV.5-6(b), as well as other *Draft General Plan 2020* policies and programs, would likely reduce many of the environmental impacts associated with the construction or expansion of police facilities to a less-than-significant level. However, analysis of potential impacts without identified sites and complete designs would be speculative. Therefore, this would remain a significant unavoidable impact.

**Responsibility and Monitoring** The City Council would be responsible for adopting the amended program, as listed in Mitigation Measure IV.5-6(a), and the policies and programs listed in Mitigation Measure IV.5-6(b), as part of the updated *General Plan 2020*. The Police Department would be responsible for implementing the program listed in Mitigation Measure IV.5-6(a). The Community Development Department and Public Works department would be responsible for implementing and monitoring the policies and programs listed in Mitigation Measure IV.5-6(b), as well as other *Draft General Plan 2020* policies and programs that reduce construction-related impacts and monitoring their implementation.

**Impact IV.5-7 Schools**

*Development consistent with the Draft General Plan 2020 would not generate demand for school services beyond the existing public school capacity. This would be a less-than-significant impact.*

Many of the new housing units would be in multifamily developments, which generate fewer potential students than single-family homes. In addition, new development is projected throughout the city, and not in any one area that would impact a specific school. After a substantial increase in school enrollment due to immigration and increased births between 1980 and 2000, school populations have stabilized. Based on projected population growth resulting from the *Draft General Plan 2020*, the San Rafael City Schools (which includes the San Rafael



Elementary San Rafael High School Districts)<sup>18</sup> and the Dixie School District<sup>19</sup> expect that the increase in student population would not exceed planned capacity or service standards, nor require additional non-planned facilities, for the respective school districts. This would be a less-than-significant impact.

**Mitigation Measure IV.5-7** None required.

**Impact IV.5-8 Parks**

*Population increases consistent with the Draft General Plan 2020 would not exceed current service standards for recreational facilities; however, the existing deficiency in certain types of park facilities would be further exacerbated, thereby requiring the construction of new facilities. This would be a significant impact.*

Service standards for recreational facilities are set in the Municipal Code section 15.09.020 for the parklands dedication ordinance: three acres of park and recreation facilities per 1,000 residents. The current Planning Area population of 66,396 would require 199 acres to meet this standard. Within the City limits there are currently 144 acres, and within the entire Planning Area there are 2,894 acres of parklands. The projected year 2020 Planning Area population of 79,104 would require 237 acres to meet this standard. This is well within the 2,894 acres currently provided within the Planning Area.

However, certain user groups are currently identified as deficient in park facilities. Needed facilities include full size soccer fields, a swim complex in central San Rafael, neighborhood parks in the Dominican and Canal neighborhoods, and a senior center.<sup>20</sup>

The *Draft General Plan 2020* Programs **LU-1a Five-Year Growth Assessment**, and **S-38a Public Safety Facilities**, and Policy **I-2 Adequacy of City Infrastructure and Services** would help reduce potential impacts related to recreational facilities expansion by requiring monitoring of development and growth. These policies and programs would also use the Capital Improvements Program (CIP) to analyze the long-term facility needs and pursue studies to determine needed public safety facility improvements. By analyzing and forecasting potential facility needs, these programs can help the City prepare for future expansions and use existing facilities more efficiently.

Even with such forecasting and long-term planning, the construction of the required facilities would potentially result in secondary construction-related impacts. Analysis of such site-specific impacts are beyond the scope of this EIR and would be evaluated as part of a separate site-specific environmental review. Therefore, this would be a significant impact.

**Mitigation Measure IV.5-8** The *Draft General Plan 2020* includes a number of policies and programs that would help limit potential impacts related to the construction of the needed recreational facilities. For example, Policy **CON-6 Creek and Drainage Setbacks** would

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<sup>18</sup> Gregg Bender, Associate Superintendent, Business Services, San Rafael City Schools, letter to City of San Rafael, November 2003.

<sup>19</sup> Thomas Lohwasser, Superintendent, Dixie School District, letter to City of San Rafael, November 2003.

<sup>20</sup> Carlene McCart, City of San Rafael Community Services Director, letter to City of San Rafael, October 2003.

reduce potential impacts to creeks and riparian habitats by requiring future development be sited a minimum of 25 feet (or up to 100 feet in certain circumstances) from the top of banks for all creeks. Policies **AW-8 Reduce Pollution from Urban Runoff** and **AW-9 Erosion and Sediment Control** would reduce potential water quality impacts due to erosion at construction sites by requiring and enforcing on-site runoff and sediment control. Program **N-10b Mitigation for Construction Activity Noise** would, through environmental review, minimize the exposure of neighboring properties to excessive noise levels from construction-related activities. Policy **AW-4 Particulate Matter Pollution Reduction**, and Program **AW-4a Project Review** would, through project review, help reduce particulate matter pollution due to construction activities.

**Significance After Mitigation** While these and other *Draft General Plan 2020* policies and programs would likely reduce many of the environmental impacts associated with the construction or expansion of recreational facilities to a less-than-significant level, analysis of potential impacts without identified sites and complete designs would be speculative. Therefore, this would remain a significant unavoidable impact.

**Responsibility and Monitoring** The City Council would be responsible for adopting the policies and programs that would reduce construction-related impacts, such as those listed in Mitigation Measure IV.5-8, as part of the updated *General Plan 2020*. The Community Development Department and Public Works Department would be responsible for implementing and monitoring those policies and programs.

**Impact IV.5-9 Library Services**

*Development consistent with the Draft General Plan 2020 could increase the demand for library services. This would be a significant impact.*

The City of San Rafael currently meets established library service standards.<sup>21</sup> Based on the population increase projected in *Draft General Plan 2020*, two additional branch libraries would need to be opened to maintain established service standards.<sup>22</sup> As described in the setting section above, planning is underway for needed library facilities. Environmental review of the proposed expansion of Pickleweed Community Center (and library) will begin winter 2004. The Downtown Library will either be expanded or replaced at its current location. A location has not been selected for a north San Rafael facility so analysis of site-specific impacts would be speculative at this time; such impacts would be evaluated as part of a site-specific environmental review. Therefore, this would be a significant impact.

**Mitigation Measure IV.5-9** The *Draft General Plan 2020* includes a number of policies and programs that would help limit potential impacts related to the construction of the needed library facilities. For example, Policy **CON-6 Creek and Drainageway Setbacks** would reduce potential impacts to creeks and riparian habitats by requiring future development be sited a minimum of 25 feet (or up to 100 feet in certain circumstances) from the top of banks for all creeks. Policies **AW-8 Reduce Pollution from Urban Runoff** and **AW-9 Erosion and Sediment Control** would reduce potential water quality impacts due to erosion at construction sites by requiring and enforcing on-site runoff and sediment control. Program **N-10b Mitigation**

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<sup>21</sup> *San Rafael Downtown Library Feasibility Study*, City of San Rafael, 2003.

<sup>22</sup> Gail Lockman, San Rafael Library Manager, letter to City of San Rafael, November 2003.

**for Construction Activity Noise** would, through environmental review, minimize the exposure of neighboring properties to excessive noise levels from construction-related activities. Policy **AW-4 Particulate Matter Pollution Reduction**, and Program **AW-4a Project Review** would, through project review, help reduce particulate matter pollution due to construction activities.

**Significance After Mitigation** While these and other *Draft General Plan 2020* policies and programs would likely reduce many of the environmental impacts associated with the construction or expansion of library facilities to a less-than-significant level, analysis of potential impacts without identified sites and complete designs would be speculative. Therefore, this would remain a significant unavoidable impact.

**Responsibility and Monitoring** The City Council would be responsible for adopting the policies and programs that would reduce construction-related impacts, such as those listed in Mitigation Measure IV.5-9, as part of the updated *General Plan 2020*. The Community Development Department and Public Works Department would be responsible for implementing and monitoring those policies and programs.

**Impact IV.5-10 Wastewater Treatment Capacity – North of Puerto Suello Hill**

*Development consistent with the Draft General Plan 2020 would not generate wastewater flows that exceed the treatment capacity of the Las Gallinas Valley Sanitary District facilities. This would be a less-than-significant project specific impact. This would also be a less-than-significant cumulative impact.*

The Las Gallinas Valley Sanitary District (LGVSD) owns and operates the treatment plant for the Planning Area north of Puerto Suello. The capacity of the plant in dry weather is 2.92 MGD; dry weather flow is currently measured at 2.2 MGD. As described in the setting section, the LGVSD service area includes all of the northern portion of the Planning Area. In addition, the LGVSD provides wastewater treatment service to the Marin Valley Mobile Country Club, which is located within the City of Novato, and the St. Vincent's/Silveira properties, which are no longer within the Planning Area. LGVSD currently accommodates 15,300 equivalent dwelling units (EDU) with 2.2 MGD.<sup>23</sup> The district has determined that another 4,500 EDUs could be accommodated within the 2.92 MGD capacity of the facility. The projected growth in the northern portion of the Planning Area is well within the 4,500 EDU capacity. Furthermore, there is no significant increase in wastewater demand projected at the Marin Valley Mobile Country Club<sup>24</sup> or due to development on the St. Vincent's/Silveira properties. In addition, to prepare for additional future growth, the LGVSD Board of Directors is developing a Capital Improvements Program (CIP) to expand capacity of the plant to 3.5 MGD. This CIP could be implemented within four years if the need arises. LGVSD reports that the district trunk lines and pump stations have sufficient capacity to handle present and future dry weather flow. However, the Las Gallinas trunk line has had some capacity problems during the heavy storm periods due to rainwater infiltration. Additionally, it was previously identified that future development in the Northgate area could

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<sup>23</sup> Equavalent Dwelling Units (EDUs) are a unit of measurement used for comparison purposes. One EDU is one single-family unit, which equals 200 gallons of water coming into the sewer system.

<sup>24</sup> Nichols • Berman communication with Mark Pierce, Resident Manager, Marin Valley Mobile Country Club, January 2004.

require major upgrades to sewer lines. While LGVSD has made plans to implement such upgrades, LGVSD does not currently expect to need to upgrade those lines.<sup>25</sup>

Based on information available from LGVSD, there is currently adequate capacity to accommodate development in the northern part of the Planning Area consistent with the *Draft General Plan 2020*. Such development would not require the construction of new facilities nor would it be expected to exceed the Regional Water Quality Control Board's wastewater treatment requirements. This would be a less-than-significant project-specific impact. Furthermore, because there is no projected need for additional wastewater services in LGVSD service areas outside of the Planning Area, development consistent with the *Draft General Plan 2020* would not result in a significant cumulative impact nor would it make a cumulatively considerable contribution to a cumulative impact.

**Mitigation Measure IV.5-10** None required.

**Impact IV.5-11 Wastewater Treatment Capacity – South of Puerto Suello Hill**

*Development consistent with the Draft General Plan 2020 could generate wastewater flows that exceed treatment capacity of the Central Marin Sanitation Agency. This would be a significant project specific impact. This would also be a significant cumulative impact.*

As described in the setting section, above, the San Rafael Sanitation District (SRSD) collects wastewater in the Planning Area south of Puerto Suello Hill. This wastewater is treated by the Central Marin Sanitation Agency (CMSA), which receives wastewater flows from three agencies, the SRSD, Sanitation District 1, and Sanitation District 2. Sanitation District 1 serves the Larkspur, Ross Valley, and San Quentin areas. Sanitation District 2 serves the town of Corte Madera, portions of the Tiburon peninsula, portions of the Greenbrae boardwalk, portions of downtown Larkspur, and portions of unincorporated areas of the county. The SRSD states that its mainlines have adequate capacity to accommodate the additional growth expected under *Draft General Plan 2020*.<sup>26</sup> CMSA capacities vary depending on weather conditions: during dry weather conditions it has a capacity of 10 MGD, and during wet weather conditions the capacity varies from 90 to 125 MGD, depending on tidal conditions. Dry weather flows from SRSD to CMSA average around 4.5 MGD. Recent peak wet weather flows from SRSD to CMSA have been around 45 MGD.<sup>27</sup>

Dry weather wastewater flow from all three member agencies to CMSA is currently measured at eight MGD. Therefore, CMSA can handle an increase flow during dry weather of two MGD for all of the service areas combined. The projected San Rafael population increase would result in a 12 percent increase in flows throughout the Planning Area. A 12 percent increase in dry weather flows from SRSD would result in approximately 0.5 MGD of additional dry weather flows. Similar increases throughout all three service areas would result in approximately one MGD of

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<sup>25</sup> Al Petrie, District Manager, Las Gallinas Valley Sanitary District, letter to City of San Rafael, October 16, 2003; and communication with City of San Rafael, December 2003.

<sup>26</sup> Nichols • Berman communication with Cynthia Hernandez, San Rafael Sanitation District, January 2004.

<sup>27</sup> City of San Rafael communication with Jason Dow, Central Marin Sanitation Agency, December 2003 and January 2004.

additional dry weather flows. The additional flows from SRSD as well as the additional flows from all of the member agencies would be within the current capacity of the plant. Additionally, even as the dry weather flow capacity is approached, CMSA indicates that it would likely seek an increase in rated capacity from regulatory agencies, rather than construct additional facilities, as they feel there is existing excess capacity in their system to justify a dry weather rated capacity increase.<sup>28</sup>

Wet weather flows vary with storm events, with a recent maximum flow at the CMSA plant reaching 110 MGD. As stated above, the trend over the past two decades has been increasing wet weather flows from CMSA member agencies to the CMSA treatment plant. This is for the most part due to changes made by the member agencies to their wastewater transport infrastructure. Member agencies systems, for the most part, rely on gravity to transport wastewater to the CMSA plant. Storm events can cause these systems to overflow, thus CMSA member agencies have been increasing their pumping capacity to prevent such sewer overflows. The added flow that results from this increased pumping has placed additional strain on the CMSA plant.

In wet weather conditions, with the same 12 percent increase in flows, an additional 6 MGD would be expected from the SRSD. Throughout both the Planning Area and the remaining service areas, an additional 13 MGD would be expected. These additional flows would be within the facility's maximum wet weather capacity of 125 MGD. However, due to the variability of the wet weather capacity (it ranges from 90 to 125 MGD) the system could potentially overflow in the case of a storm event coinciding with unfavorable tidal conditions. The additional flows from SRSD alone could cause this overflow condition, which would be compounded by flows from the other member agencies. CMSA is currently studying wet weather flows to identify means to reduce flow in the wet weather period as well as to identify ways to increase capacity.<sup>29</sup>

Based on this information there would be sufficient capacity at CMSA to accommodate the proposed development in the southern part of the Planning area during dry weather flows without the construction of new facilities or exceeding wastewater treatment requirements. However, wet weather flows could potentially exceed plant capacities, which would potentially result in exceeding wastewater treatment requirements if additional facilities are not constructed. Thus, any development could result in significant water-quality impacts if wet weather flows exceeded planned capacities, as well as significant construction-related impacts for the construction of the necessary new facilities. This would be a significant project-specific impact.

The CMSA analysis includes development assumptions for both the Planning Area as well as the entire CMSA service area. Because flows to the CMSA plant already potentially exceed its treatment capacity, the additional flows expected from development in the Planning Area would represent a project-specific impact. Furthermore, those flows combined with the additional flows that could be expected due to an increase in development in the remainder of the CMSA service area would represent a significant cumulative impact. Implementation of the *Draft General Plan 2020* would make a cumulatively considerable contribution to the cumulative impact.

**Mitigation Measure IV.5-11(a)** The CMSA shall conduct and complete a Capacity Management Alternative Study to determine the scope of needed improvements, costs, and expected benefits.

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<sup>28</sup> Jason Dow, Central Marin Sanitation Agency, letter to City of San Rafael, November 24, 2003.

<sup>29</sup> City of San Rafael communication with Jason Dow, Central Marin Sanitation Agency, December 2003.

The study shall include an analysis of storage alternatives at the CMSA treatment plan and the collection system to contain the peak flows. The study shall also identify feasible plant improvements, including increasing the number of treatment tanks, expanding the effluent pond, or building additional tanks to hold inflow, that shall be studied as part of the Capacity Management Study. In conjunction with the Capacity Management Study, the CMSA member agencies, including the San Rafael Sanitation District, shall conduct a condition assessment of their respective collection systems and develop planning documents for controlling stormwater infiltration inflow into sewer lines, which impacts peak flow conditions. Upon completion of the study, the CMSA Commission shall determine which improvements to pursue and the sources of funding.

**Mitigation Measure IV.5-11(b)** The *Draft General Plan 2020* includes a number of policies and programs that would help limit potential impacts related to the construction of the needed wastewater treatment facilities. For example, Policy **CON-6 Creek and Drainageway Setbacks** would reduce potential impacts to creeks and riparian habitats by requiring future development be sited a minimum of 25 feet (or up to 100 feet in certain circumstances) from the top of banks for all creeks. Policies **AW-8 Reduce Pollution from Urban Runoff** and **AW-9 Erosion and Sediment Control** would reduce potential water quality impacts due to erosion at construction sites by requiring and enforcing on-site runoff and sediment control. Program **N-10b Mitigation for Construction Activity Noise** would, through environmental review, minimize the exposure of neighboring properties to excessive noise levels from construction-related activities. Policy **AW-4 Particulate Matter Pollution Reduction**, and Program **AW-4a Project Review** would, through project review, help reduce particulate matter pollution due to construction activities.

**Significance After Mitigation** While these and other *Draft General Plan 2020* policies and programs would likely reduce many of the environmental impacts associated with the construction or expansion of wastewater treatment facilities to a less-than-significant level, analysis of potential impacts without identified sites and complete designs would be speculative.

In addition, the completion of a Capacity Management Alternative Study and the construction of additional wastewater treatment facilities would be beyond the jurisdiction of the City of San Rafael and would be the responsibility of CMSA and its member agencies. Although CMSA is currently planning on recommending to the CMSA Commission that such a study be undertaken in 2004,<sup>30</sup> the City of San Rafael cannot be certain that the Capacity Management Alternative Study would be completed, additional facilities would be constructed, nor that construction-related mitigation would be implemented.

This would remain a significant unavoidable impact.

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<sup>30</sup> City of San Rafael communication with Jason Dow, Central Marin Sanitation Agency, January, 2004.

**Responsibility and Monitoring** CMSA would be responsible for constructing additional treatment facilities, as needed, as identified in Mitigation Measure IV.5-11(a). The City Council would be responsible for adopting the policies and programs that would reduce construction-related impacts, such as those listed in Mitigation Measure IV.5-11(b), as part of the updated *General Plan 2020*. The Community Development Department and Public Works Department would be responsible for implementing and monitoring those policies and programs.

**Impact IV.5-12 Water Supply**

*Development consistent with the Draft General Plan 2020 could increase the demand for water in the Planning Area. This would be a significant project specific impact. This would also be a significant cumulative impact.*

The Marin Municipal Water District (MMWD) serves Marin County from the Golden Gate Bridge northward up to the southern boundary of Novato, eastward to San Francisco Bay, and through San Geronimo Valley in the west, including all of the Planning Area. In response to the City of San Rafael request for additional information regarding water supply, the MMWD provided the following documents:<sup>31</sup>

- *Marin Municipal Water District Urban Water Management Plan 2000*, adopted February 19, 2003.
- *Report on Water production and Related Statistics*, Marin Municipal Water District, data as of July 2002.
- *Marin Municipal Water District Long Range Capital Program*, June 1992.
- *1994 Supplement to the Marin Municipal Water District Long Range Capital Program*, Marin Municipal Water District, July 1994.

In addition, the MMWD response letter is included in **Appendix VIII.5 Marin Municipal water District Response Letter**.

Usage of potable and recycled water within the MMWD for fiscal year 2001-02 totaled 31,338 acre-feet.<sup>32</sup> MMWD presently has two sources of potable water: 1) the MMWD watershed (surface water), and 2) Sonoma County Water Agency (SCWA) water. In addition, MMWD has implemented a recycled water program with the Las Gallinas Valley Water District treatment plant for water used in irrigation and toilet flushing.

The potable water available from the MMWD watershed is effectively defined by the capacity of its reservoirs and the operational yield they supply.<sup>33</sup> It is currently managed for an operational

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<sup>31</sup> These documents are available for review at the City of San Rafael, Community Development Department, Planning Division, 1400 Fifth Street, San Rafael, California.

<sup>32</sup> *Report on Water Production and Related Statistics*, Marin Municipal Water District, July, 2002.

<sup>33</sup> “Operational yield” is the amount of water that can be supplied 90 percent of all years with reductions in use during drought periods.

yield of 29,500 acre-feet per year.<sup>34</sup> MMWD has two contracts with SCWA for water from the Russian River: the Off Peak Water Supply Agreement and the “As-Available” Water Supply Agreement. The Off Peak Agreement provides for delivery of up to 4,300 acre-feet of water per year, primarily during the period from October through May. The “As-Available” contract allows delivery of an additional 10,000 acre-feet per year. Total combined daily deliveries are limited to 12.8 MGD during summer months and 23 MGD during winter months. In addition, these deliveries are limited by the pipeline capacity in SCWA and North Marin Water Districts. Water use above the operational yield is considered a supply deficit as water transfers from the Russian River are not considered reliable at this point.<sup>35</sup>

At the current level of use, SCWA water transfers are constrained by existing piping and water diversion issues. While SCWA is working to address these issues, the Agency is not projected to be able to deliver above the current supply level for at least five years. In addition, there are concerns about the long-term reliability due to the potential impact of increased Russian River diversions on salmon and steelhead populations. For this reason, MMWD is not proceeding with previous plans to fund pipeline improvements.<sup>36</sup>

Other limitations of use include daily treatment plant capacities. However, with current daily production of approximately 29 MGD and a maximum capacity of 59 MGD, these would not likely be the ultimate limiting factor on water supply to the Planning Area.

As shown in **Exhibit IV.5-1**, a water supply deficit of 1,650 acre-feet was identified in 2000 and this shortfall is expected to increase to 7,900 acre-feet by year 2020 for the entire MMWD service area. As described in the *Urban Water Management Plan*, the District believes that additional water efficiency and demand management improvements and additional water supply will be necessary to meet its projected water demand through year 2025.<sup>37</sup>

**Exhibit IV.5-1**  
**Projected MMWD Water Supply and Demand Comparison**

	2000 (acre-feet per year)	2005 (acre-feet per year)	2010 (acre-feet per year)	2015 (acre-feet per year)	2020 (acre-feet per year)
Current Supply Availability Over Time	29,500	29,000	28,500	28,000	27,500
Demand Projections <sup>a</sup>	31,165	32,310	33,690	34,690	35,400
Difference (Deficit)	(1,650)	(3,310)	(5,190)	(6,690)	(7,900)

<sup>a</sup> Includes demand for entire MMWD service area.

Source: *Urban Water Management Plan 2000*, Marin Municipal Water District, February 2003.

<sup>34</sup> One acre-foot equals 325,851 gallons of water, enough water to cover one acre to a depth of one foot.

<sup>35</sup> *Urban Water Management Plan*, Marin Municipal Water District, February 2003.

<sup>36</sup> Eric McGuire, Environmental Services Coordinator, Marin Municipal Water District, letter to City of San Rafael, June 23, 2003.

<sup>37</sup> *Urban Water Management Plan*, op. cit.



In 2000, MMWD served a population of 184,818, including the population within the Planning Area. For future water demand forecasts, MMWD uses, in part, ABAG population projections, and projects to serve a population of 198,846 by year 2020.<sup>38</sup> While MMWD does not track water use in the Planning Area separately, this projection assumes a Planning Area population of 74,560 in the year 2020, less than the 79,104 residents projected for the *Draft General Plan 2020*. However, these projections also assume 30,500 households in the Planning area, which is slightly less than the 31,234 households projected for the *Draft General Plan 2020*. Thus MMWD projections are based on lower density development than that estimated for the *Draft General Plan 2020*. Typically approximately one-half of individual household water use is consumed by landscape irrigation, therefore the MMWD considers that the difference in population estimates is at least compensated by the increased population density assumptions. Thus, the MMWD considers that the water use planning estimates for the *Urban Water Management Plan* are consistent with the growth projected under the *Draft General Plan 2020*.<sup>39</sup>

MMWD has several aggressive water conservation programs in place. The MMWD also has a water shortage contingency plan, included in the *Urban Water Management Plan*, which includes a dry year water use reduction program and mandatory rationing. Water rationing, both voluntary and mandatory, is instituted based on the reservoir level. Voluntary rationing is triggered when there is total reservoir storage of less than 50,000 acre-feet on April 1. Mandatory rationing is triggered when there is total reservoir storage of less than 40,000 acre-feet on April 1. In addition, the *Draft General Plan 2020* includes a policy, **CON-21 Water Conservation**, which would help reduce water use by supporting the extension of recycled water infrastructure and by providing water-conserving landscaping and water-recycling methods information to residents and businesses.

Because of the water supply limitations, as identified above, MMWD has determined that it cannot serve additional growth within its service area without further increasing the supply deficit. Through its Integrated Water Resources Management Program MMWD is continuing its efforts to increase water conservation; is exploring additional opportunities to partner on water recycling with the Las Gallinas Valley Sanitary District, and has begun research into a new supply source based on desalination of water from the San Francisco Bay. In addition to the plant, which is currently proposed to be located in San Rafael, a three million gallon storage tank to hold the treated water would be constructed on San Quentin Ridge. In August 2003 MMWD distributed a Notice of Preparation for an EIR on the potential desalination project and has subsequently held scoping meetings and published a scoping report. Issues of concern at this time include energy use, water quality impacts, construction impacts, wildlife impacts, and cost.<sup>40</sup>

While the MMWD Board has approved work on an EIR for the proposed desalination plant, which would initially provide an additional 10 MGD of potable water, such a plant is still in the

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<sup>38</sup> *ibid.*

<sup>39</sup> City of San Rafael communication with Eric McGuire, Environmental Services Coordinator, Marin Municipal Water District, November 2003.

<sup>40</sup> *Marin Municipal Water District Desalination Project Scoping Report*, Marin Municipal Water District, November 2003.

early planning phases and cannot be relied upon for additional water supply at this time.<sup>41</sup> Therefore, with the current water supply deficit (as well as the projected deficit), any additional development within the Planning Area would represent a significant impact. In addition, when considered along with the potential development outside of the Planning Area but within the MMWD service area, development consistent with the *Draft General Plan 2020* would represent a significant cumulative impact to water supply. Implementation of the *Draft General Plan 2020* would make a cumulatively considerable contribution to the cumulative impact.

**Mitigation Measure IV.5-12(a)** In order to meet the projected water demand and reduce existing and projected water supply impacts the MMWD shall:

- Continue to research water conservation opportunities;
- Research new water supply sources; and
- Construct the necessary facilities or infrastructure improvements.

As explained above, the MMWD has begun the planning process for a desalination plant and has researched funding opportunities. Potential startup would be in 2007. MMWD also has aggressive water conservation programs in place. These programs shall be continued.

**Mitigation Measure IV.5-12(b)** In order to limit potential impacts related to the construction of the water supply facilities and improvements required in Mitigation Measure IV.5-11(a), MMWD shall implement the policies and programs included in the *Draft General Plan 2020* that are intended to reduce construction-related impacts.

For example, Policy **CON-6 Creek and Drainageway Setbacks** would reduce potential impacts to creeks and riparian habitats by requiring future development be sited a minimum of 25 feet (or up to 100 feet in certain circumstances) from the top of banks for all creeks. Policies **AW-8 Reduce Pollution from Urban Runoff** and **AW-9 Erosion and Sediment Control** would reduce potential water quality impacts due to erosion at construction sites by requiring and enforcing on-site runoff and sediment control. Program **N-10b Mitigation for Construction Activity Noise** would, through environmental review, minimize the exposure of neighboring properties to excessive noise levels from construction-related activities. Policy **AW-4 Particulate Matter Pollution Reduction**, and Program **AW-4a Project Review** would, through project review, help reduce particulate matter pollution due to construction activities.

**Significance After Mitigation** Implementation of these and other *Draft General Plan 2020* policies and programs would likely reduce many of the environmental impacts associated with the construction of the desalination plant to a less-than-significant level. However, the desalination process could result in additional environmental impacts not addressed by the *Draft General Plan 2020*. It is beyond the scope of this EIR to analyze specific impacts related to the construction and operation of the desalination plant. Also, it would be speculative to analyze the impacts of other improvements that MMWD determines would be necessary, as those improvements have not yet been identified.

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<sup>41</sup> Eric McGuire, Environmental Services Coordinator, Marin Municipal Water District, letter to City of San Rafael, June 23, 2003.

In addition, research into, and development and construction of additional water supply facilities would be beyond the jurisdiction of the City of San Rafael and would be the responsibility of MMWD. The City cannot be certain that the necessary facilities would be constructed, nor that construction-related or operation-related mitigation would be implemented.

Therefore, water supply impacts and secondary construction- and operations-related impacts would remain significant and unavoidable.

**Responsibility and Monitoring** MMWD would be responsible for constructing additional water supply facilities, as needed, as identified in Mitigation Measure IV.5-12(a). The City Council would be responsible for adopting the policies and programs that would reduce construction-related impacts, such as those listed in Mitigation Measure IV.5-12(b), as part of the updated *General Plan 2020*. The Community Development Department and Public Works Department would be responsible for implementing and monitoring those policies and programs.

**Impact IV.5-13 Landfill Capacity**

*Development consistent with the Draft General Plan 2020 could result in increased waste generation. However, there is expected to be sufficient landfill capacity to accommodate this increase. This would be a less-than-significant impact.*

Landfill service for the City of San Rafael is provided by the Redwood Landfill Facility, a 600-acre site located in Marin County just north of Novato, off of Highway 101. This site includes a 420-acre active municipal solid waste landfill and numerous related operations including sewage sludge storage and disposal, composting and co-composting (with sewage sludge), green waste recycling and reuse, leachate management equipment, and landfill gas collection and control equipment. Portions of this site have been or are currently leased to other operators for auto wrecking and storage and compost packaging.

The Redwood Landfill is currently permitted to accept 2,300 tons per day, with a maximum permitted landfill capacity of 19,100,000 cubic yards. In 1999, businesses in San Rafael disposed of over 52,000 tons of material. Waste from residences in the same year amounted to 23,000 tons. Combined, residences and businesses in San Rafael disposed of a total of 75,000 tons, for an average 206 tons per day. In the same year, the landfill accepted a total of 356,348 tons, for an average of 976 tons per day. With a four percent increase in employment, and a 16 percent increase in households within the Planning Area, businesses and residences in San Rafael would be expected to dispose of an additional 2,080 tons and 3,680 tons of waste per year, respectively. Combined, this would result in a maximum of 80,760 tons per year and an average of 221 tons per day. Remaining capacity at the landfill is estimated to be 12,900,000 cubic yards, and it is currently permitted to remain open until year 2039.<sup>42</sup>

Marin County recently conducted an environmental review for the Redwood Landfill Revised Solid Waste Facilities Permit. The previous permit had been issued in 1995 and the new permit is intended to reflect changes that have been implemented since the issuance of the previous permit. The permitted capacity reflects the number of years that the landfill would be expected to operate, while accepting the 2,300 tons allowed per day, before reaching the maximum 19,100,000 cubic yards.

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<sup>42</sup> Solid Waste Information System, California Integrated Waste Management Board, 2003.

As explained above, additional development within the Planning Area would be expected to contribute additional landfill material. However, the Redwood Landfill has adequate capacity for this increase through the life of the *Draft General Plan 2020*. This would be a less-than-significant impact.

**Mitigation Measure IV.5-13** None required.

**Impact IV.5-14 Electricity, Natural Gas, and Gasoline Demand**

*Development consistent with the Draft General Plan 2020 would not increase the demand for electricity or gas beyond the capacity of these service providers. This would be a less-than-significant impact.*

PG&E has continued with a policy of upgrading their energy distribution system throughout the area, and will provide in-place infrastructure capacity suitable for expected future growth. PG&E expects that the relatively gradual residential and commercial growth projections for San Rafael would not cause a significant impact on PG&E's ability to provide service. PG&E expects that construction of major new electric distribution facilities would not be needed to meet the projected electrical demands.<sup>43</sup>

In addition, development consistent with the *Draft General Plan 2020* would primarily be infill and mixed use development, which would require less energy used for transportation in an ongoing basis. Infill and mixed use development typically reduces energy used in transportation because such development typically does not require residents to travel far for services. New energy efficiency laws would also reduce energy use for electrical and gas systems in new development or reconstruction. Therefore, development consistent with the *Draft General Plan 2020* would not be expected to result in the use of large amounts of additional fuel or energy. This would be a less-than-significant impact.

**Mitigation Measure IV.5-14** None required.

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<sup>43</sup> Steve Calvert, PG&E, letter to City of San Rafael, October 2003.

## IV.6 CULTURAL RESOURCES

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### **Cultural Resources – The Setting**

Existing cultural resources conditions are described in pages C-1 to C-15, Community Life of the *San Rafael General Plan 2020 Background Report (Background Report)*. This section of the *Background Report* was reviewed and the information was found to be current as of the issuance of the Notice of Preparation in May 2003. This chapter is hereby incorporated by reference, and summarized below.

#### **Historical Overview**

San Rafael was first inhabited by the Coastal Miwok Indians. European settlement began in 1817 with the establishment of Mission San Rafael Archangel by Spanish Franciscan friars. By 1834 when the secularization of the missions was ordered, the population of Marin Miwoks had been severely reduced.

Prior to California joining the Union in 1850, San Rafael was designated the county seat of Marin County. The county seat designation, which the City has retained to the present, has given the City continuing focus, function, and identity as the center of Marin County. San Rafael's growth and development has historically been driven by two principal factors: its role as county seat and its accessibility to San Francisco. Increasing commerce, development, and population led San Rafael to incorporate as a City in 1847, with a population of 600. Access between San Rafael and San Francisco further improved in 1937 with the opening of the Golden Gate Bridge.

#### **Archeologic and Historic Sites**

There are 63 known archeological sites, which have been identified in the San Rafael Planning Area. These sites are located primarily at the base of hills on the perimeter of the San Pedro peninsula and in the Miller Creek area. City policy protects known archeological resources to the maximum extent feasible through development review and through the Archaeological Resources Ordinance.<sup>1</sup> Generally, new development is required to avoid sites containing archaeological resources. The Community Development Department maintains a parcel-based archeological sensitivity database based on the proximity to potentially sensitive sites.

In 2002, the City of San Rafael adopted an Archaeological Resources Ordinance to recognize the importance of protecting archaeological resources. The City of San Rafael has determined to establish a procedure for identifying, when possible, archaeological resources and potential impacts on such resources, to provide information and direction to property owners in order to make them aware of these resources and to establish implementing measures to preserve and protect archaeological resources.

The City adopted an Historic Preservation Ordinance in 1978, which established guidelines regarding remodeling or demolishing historic buildings. In 1986 the City completed the San Rafael Historical /

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<sup>1</sup> *Procedures and Regulations for Archaeological Resource Protection*, City of San Rafael, 2002.

Architectural Survey to identify and rate the architectural and historical significance of selected buildings and areas. Approximately 295 structures were listed and evaluated. High concentrations of historic buildings are located in Downtown, Gerstle Park, and the Dominican neighborhoods. City policy has been to protect and build upon the historic character that exists in the City. In 2003, the Cultural Affairs Commission charged with advising City Council on historical preservation was disbanded. Responsibilities for reviewing applications involving structures on the survey are now conducted by the Planning Commission.

Under City of San Rafael Criteria, the city has designated 18 local historical landmarks, including several districts.<sup>2</sup> There are four sites listed as State Historical Landmarks, one site listed as a National Historic Landmark, and ten sites on the National Register of Historic Places.<sup>3</sup>

### **Cultural Affairs**

Arts and Culture provide a community with a sense of identity and pride as well as entertainment. San Rafael has numerous venues for culture and art ranging from the traditional to groundbreaking, and public to private, including 55 arts and cultural groups. San Rafael is rich in music, dance, theatre, literature, and history. Venues such as the Falkirk Cultural Center, the Belrose Performing Arts Center, Art Works Downtown, the Boyd Museum, the Jewish Community Center, and the City and County Libraries serve the community's cultural and artistic needs.

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## **Cultural Resources – Significance Criteria**

The cultural resources analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant cultural resources impact if it would:

- Cause a “substantial adverse change” in the significance of a “historic resource”.

“Historical resource” and “substantial adverse change” are described below:<sup>4</sup>

*Historical resource* is defined as:

- A resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (mandatory significance);
- A resource included in a local register of historical resources<sup>5</sup> or identified as significant in an historical resource survey<sup>6</sup> *unless* the preponderance of evidence suggests it is not significant (presumptive significance);

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<sup>2</sup> *San Rafael General Plan 2020 Background Report*, City of San Rafael, 2002.

<sup>3</sup> State Historic Landmarks listings are available through the California Office of Historic Preservation and online at [ohp.parks.ca.gov](http://ohp.parks.ca.gov). National Historic Landmark listings are available through the National Park Services National Historic Landmarks Program and online at [www.cr.nps.gov/nhl/](http://www.cr.nps.gov/nhl/). National Register of Historic Places listings are available through the National Park Services National Register of Historic Places and online at [www.cr.nps.gov/nr/](http://www.cr.nps.gov/nr/).

<sup>4</sup> These definitions are summaries of definitions provided in Section 15064.5 of the *CEQA Guidelines*. These significance criteria are not intended to replace this section, but only to summarize.

- An historical resource may still be considered significant even if it is not on a federal, state, or local list if substantial evidence demonstrates its significance (discretionary significance). This includes any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Generally, a resource shall be historically significant if it is:
  - Associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
  - Is associated with the lives of persons important in our past;
  - Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;
  - Has yielded or may be likely to yield information important in prehistory or history.

*Substantial adverse change* is defined as:

- Physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
  - Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources, inclusion in a local register, or identification in a historical resources survey.
- Cause a “substantial adverse change” in the significance of an “archaeological resource”.

Note that under the *CEQA Guidelines*<sup>7</sup>, most “archeological resources” meet the definition of a “historical resource” as defined above. However, some cultural resources that do not meet the definition of “historic resource” can be classified as a “unique archeological resource”, which are also protected under CEQA.

A *unique archeological resource* is defined<sup>8</sup> as an archeological 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 that there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest or best available example of its type;

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<sup>5</sup> As defined in Section 5020.1(k) of the Public Resources Code.

<sup>6</sup> With the survey meeting the requirements of Section 5024.1(g) of the Public Resources Code.

<sup>7</sup> Section 15064.5

<sup>8</sup> As provided in Section 21083.2(g) of the Public Resources Code.

- Is directly associated with a scientifically recognized important prehistoric pre-historic or historic event or person.

Note that this criterion is very rarely used, as most archeological resources meet the definition of a historical resource. If a cultural resource does not meet either the definition of a “historic resource” or a “unique archeological resource”, then no significant impact would result from a substantial adverse change.

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

According to CEQA, if the following condition occurs the lead agency (in this case the City) shall find that the project may have a significant effect on the environment: <sup>9</sup>

- The project has the potential to eliminate important examples of the major periods of California history or prehistory.

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## **Cultural Resources – Impacts and Mitigation Measures**

### **Impact IV.6-1 Impacts on Archaeological and Prehistoric Resources**

*Development consistent with the Draft General Plan 2020 has the potential to result in the disturbance of subsurface archaeological and prehistoric resources. However, the Draft General Plan 2020 would not change the requirements of the City's existing Archaeological Resource Protection Ordinance. Therefore this would be a less-than-significant impact.*

San Rafael has a rich archaeological history as documented by 63 recorded archaeological sites throughout the Planning Area. These sites are located primarily at the base of hills on the perimeter of the San Pedro peninsula and in the Miller Creek area. Most of the recorded sites are located on developed properties with the highest concentrations in and around Downtown, Gerstle Park, and in the Glenwood/Peacock Gap areas. There are some sites in north San Rafael that are already developed as well. Under the proposed *General Plan 2020*, development of lands containing campsites or burial grounds of prehistoric inhabitants may occur.

The *Draft General Plan 2020* contains a policy and program in the Culture and the Arts Element that, if adopted and implemented, would act to further reduce the impacts to subsurface archeological and prehistoric resources. Policy **CA-17 Protection of Archaeological Resources** would help reduce impacts to archaeological resources by identifying archaeological resources and potential impacts and providing information and direction to property owners with archaeological resources on their property. Program **CA-17a Archeological Resources Ordinance** would require that the City continue to implement the existing Archeological Resources Ordinance.

The City currently does, and would continue to, require archaeological evaluation as part of the development review process consistent with the City's Archaeological Resource Protection Ordinance.

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<sup>9</sup> Under *CEQA Guidelines* Section 15065.



The protections required by the Ordinance include, but are not limited to: 1) ceasing all work and contacting the City and a qualified archaeologist in the event that resources are discovered during grading and excavation; 2) contacting the Marin County Coroner; and 3) if any human remains are determined to be Native American, the Coroner shall contact the local Native American representatives and any agencies that have issued permits for the property.

Due to the implementation of *Draft General Plan 2020* Policy **CA-17 Protection of Archaeological Resources** as well as the continued implementation of the City's Archaeological Resources Ordinance this would be a less-than-significant impact.

**Mitigation Measure IV.6-1** None Required.

**Impact IV.6-2 Impacts on Historic or Cultural Resources**

*Development consistent with the Draft General Plan 2020 would not result in the disturbance of historic or cultural resources. This would be a less-than-significant impact.*

The city has numerous sites that are designated on local, state, and national lists that could be potentially impacted by development as proposed in the *Draft General Plan 2020*. Additionally, undesignated potential historical resources are located throughout the City. High concentrations of historic buildings are located in the Downtown, Gerstle Park and Dominican neighborhoods. As growth and development occur in these older areas of the community, as well as around other dispersed historic sites, potential demolition, destruction, relocation, or alteration of historic resources by redevelopment of sites with older buildings may occur.

However, the *Draft General Plan 2020* contains numerous policies and programs in the Culture and the Arts and Community Design Elements that, if adopted and implemented, would act to reduce the disturbance impacts to historic or cultural resources.

Policy **CA-14 Historic Buildings and Areas**, and Programs **CA-14a Inventory Update**, **CA-14b Preservation Ordinance**, and **CA-14c Historic Preservation Advisory Committee** would help preserve historical resources by updating the City's inventory, Preservation Ordinance, and development application procedures, as well as by establishing an advisory committee for the Design Review Board. Program **CA-14d Public Education**, **CA-14e Preservation Reference Materials**, and **CA-14f Public Events** would help preserve historical resources by supporting efforts to increase the awareness of local history and the availability of local history information.

Policy **CA-15 Reuse of Historic Buildings**, and Programs **CA-15a Historical Building Code**, **CA-15b Zoning** and **CA-15d Incentives** would help preserve historic resources by encouraging the adaptation and reuse of historic buildings. The use of the State historical building code, in particular, would help guide redevelopment efforts that include historical buildings. Policy **NH-31 Historic Character** would reduce impacts to historical value of Downtown by encouraging new development on sites in Downtown to reflect the character of Downtown's historic buildings.

Policy **CD-4 Historic Resources**, and Programs **CD-4a Documentation of Landmarks**, **CD-4b Historic Resources Information**, **CD-4c Adaptive Reuse**, and **CD-4d Sign Ordinance** would reduce impacts to historical resources by documenting landmarks, informing residents about historic resources, considering revisions to design guidelines and zoning to encourage adaptive reuse of historical structures, and revising the sign ordinance to allow appropriate identification of historic structures.

Policy **CD-7 Downtown and Marin Civic Center** would reduce potential impacts to historical resources through the use of the design review process to ensure that development in the Downtown and Marin Civic Center areas respects the historic character of these areas.

The existing design review process, the protections afforded by the federal, state, and local listings of historic resources, and the *Draft General Plan* policies listed above would all act to limit potential impacts on historic resources in the Planning Area. This would be a less-than-significant impact.

**Mitigation Measure IV.6-2** None required.

## **IV.7 VISUAL QUALITY**

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### ***Visual Quality – Environmental Setting***

The major features that give San Rafael its visual character are the hills and valleys, the Bay, creeks, the San Rafael Canal, the highways and other transportation corridors, neighborhoods, and the Downtown. The city's historic structures also add to the uniqueness and identity of San Rafael. The city's early transportation corridors were developed based on ease of movement through the hills, along the base of the hills, and alongside waterways. The Downtown and neighborhoods formed along the sections of land that were easier to build upon and close to transportation, resulting in a city with a strong relationship to natural features and distinct neighborhoods.

#### ***NATURAL FEATURES***

The San Rafael Planning Area encompasses the waters of the San Rafael and San Pablo Bays, as well as the valleys, hills and ridges of the upland areas. It is bounded to the north by Big Rock Ridge, to the east by uplands extending northward from Red Hill and San Rafael Hill, to the south by Pt. San Pedro Ridge and Southern Heights Ridge, and to the east by San Rafael and San Pablo Bays.

Elevations within the Planning Area range from sea level along the Bay to 1,880 feet along the crest of Big Rock Ridge. The lowest elevation areas are characterized by tidal marshes and diked and filled baylands. Common land uses in these areas comprise salt marsh and grassland biotic communities, subdivisions build on imported fill, and subsiding farmland surrounded by tidal levees or dikes.

At slightly higher elevations the valley slopes increase. Land uses in this mid-elevation zone include much of the urban development, grassland and riparian biotic communities, and pasture. The bulk of central San Rafael and the communities of Terra Linda and Marinwood occupy these valleys.

The highest elevation zone in the Planning Area is the rolling hills generally on the western side of the Planning Area which transition into the mountainous regions of central Marin County. Slopes in this area typically reach 20 percent. This zone is characterized by coastal scrub and riparian woodland, and is typically utilized for low-density suburban and rural development. Bedrock outcrops are common in the mountainous regions of central Marin County, including the highlands of Pt. San Pedro Ridge and Big Rock Ridge. The principal uses of these lands in the Planning Area are public and private open space.

#### ***HISTORIC FEATURES***

The city's historic structures include the Mission San Rafael Arcangel and St. Raphael's Church, historic homes, buildings in the Downtown constructed from the late 1800s through the 1920s, and the Rafael Film Center. The Marin County Civic Center, another historic resource, is also a focal point for the San Rafael Planning Area because of its notable architecture and public use.

## **NEIGHBORHOODS**

Neighborhoods are the building blocks of San Rafael's character, with the most important neighborhood being the Downtown. In addition to being the urban heart of Marin County, Downtown is a livable and walkable place where people gather to enjoy life or conduct business. The Downtown is a focal point because of its taller buildings, the St. Raphael's church, and its density, history, and scale. San Rafael's residential neighborhoods are unique areas defined by their street trees, architecture, or, in some areas, a mix of residential and commercial uses. Many of San Rafael's neighborhoods have a mix of uses, such as Dominican University in the Dominican neighborhood, or the industrial and retail areas in several north San Rafael neighborhoods.

## **TRANSPORTATION CORRIDORS**

San Rafael's transportation corridors are where most people develop their impression of the City. Some of San Rafael's major corridors are Highway 101, Interstate 580, Second and Third Streets in the Downtown, Lincoln Avenue and Redwood Highway, Miracle Mile, and the roadways that connect San Rafael to neighboring communities. Highway 101, which goes through the City of San Rafael, is not an officially designated State Scenic Highway, but is considered eligible for such designation.

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## **Visual Quality – Significance Criteria**

The visual resources analysis uses criteria from the *State CEQA Guidelines*. The Initial Study determined that the proposed project would have potentially significant visual quality impacts. Based on the findings of the Initial Study the project would have a significant visual resources impact if it would:

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

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## Visual Quality – Impacts and Mitigation Measures

### **Impact IV.7-1 Scenic Resources**

*Development consistent with the Draft General Plan 2020 could impact scenic vistas and visual natural resources within the Planning Area. However, the development review and design review processes already in place in the City, combined with new policies outlined in the Draft General Plan 2020 would limit the impact of new height allowances. This would be a less-than-significant impact.*

New development in accordance with the *Draft General Plan 2020*, if not carefully designed, could result in adverse impacts on existing vistas and the creation of aesthetically offensive sites open to public view. Exhibit CD-1 in the *Draft General Plan 2020* identifies the visually significant hillsides, ridges, and landforms that would be of the most concern. Views to the bay from these hillside areas would also be of concern and could be impacted by development as proposed in the *Draft General Plan 2020*.

Two proposed changes have been made in the *Draft General Plan 2020* that may cause some loss of these scenic vistas. In the Neighborhood Commercial land use designation, an additional six feet, from 30 to 36 feet, would be allowed to better accommodate mixed-use development as retail typically requires a higher first floor ceiling height. The Neighborhood Commercial land use designation is used in few locations in the Terra Linda, on Smith Ranch Road, Merrydale, Loch Lomond, East San Rafael, Downtown/GerstlePark/Picnic Valley, and in Bret Harte neighborhoods. All of these parcels, except for one lot in the Loch Lomond neighborhood, are currently developed. Were these parcels to redevelop, the additional height could affect views of nearby surrounding hillsides identified as visually significant in Exhibit CD-1 in the *Draft General Plan 2020*. Areas of particular concern would be where such development is in close proximity to these hillsides, such as in the Bret Harte neighborhood.

Also new to the updated plan, a one or two story height bonus would be allowed for affordable housing in the North San Rafael Town Center. *Draft General Plan 2020* Policy **LU-14 Height Bonuses** would allow this additional height in the General Commercial areas around the Northgate Mall. Such allowances could adversely affect views of the nearby surrounding hillsides identified as visually significant in Exhibit CD-1 in the *Draft General Plan 2020*, including the significant landforms directly southeast and west of the sites, and another landform to the south.

The *Draft General Plan 2020* contains several policies in the Community Design and Open Space Elements that, if adopted and implemented, would act to reduce the adverse impacts on scenic vistas and visual natural resources by preserving and ensuring that new development in San Rafael has desirable physical scale and design features, particularly in relation to existing development.

Policy **CD-5 Views** would help reduce impacts to scenic resources by developing a design plan for Canalfront, and by continuing to evaluate view impacts as part of the design review and environmental review processes. Policy **CD-6 Hillsides and Bay** would help reduce impacts to the scenic resources of the hillsides and the Bay by means of controlling development on hillsides (through the design review process) and providing setbacks and public access along the Bay.

With careful implementation of the development review and design review processes, as outlined in the *Draft General Plan 2020* policies listed above, the potential impacts related to the height allowances would be less-than-significant.

**Mitigation Measures IV.7-1** None required.

**Impact IV.7-2 Conflicts with Adjoining Development**

*Development consistent with the Draft General Plan 2020 could potentially conflict with adjoining development relative to height within the Planning Area. However, the design review processes already in place in the City, combined with the new design guidelines outlined in the Draft General Plan 2020 would limit the impact of potential conflicts. This would be a less-than-significant impact.*

The *Draft General Plan 2020* could result in development of buildings and structures that are out of scale with or considerably taller than existing adjoining development. This could be particularly significant in areas in or adjacent to Downtown or new development in hillside or waterfront areas.

However, the *Draft General Plan 2020* contains numerous policies in the Community Design and Neighborhood Elements that, if adopted and implemented, would act to reduce the potential height and scale conflicts with adjoining development.

Policy **CD-10 Downtown Design** would help reduce impacts by using the Downtown Design Guidelines and the design review process to ensure that new development fits within character-defining elements of the Downtown. Policies **CD-11 Nonresidential Design Guidelines**, **CD-12 Multi-family Design Guidelines** and **CD-14 Single-family Residential Design Guidelines** would further reduce impacts by developing design guidelines to ensure that new development is compatible with existing buildings and the neighborhood.

Policy **NH-2 New Development in Residential Neighborhoods** would help reduce impacts to related adjoining development conflicts by requiring new development to incorporate transitions in height and setbacks from adjacent properties. Policies **NH-34 Fourth Street Retail Core Design Considerations**, **NH-36 Hetherton Office District Design Considerations**, **NH-38 Lindero Office District Design Considerations**, **NH-40 Second/Third Mixed Use District Design Considerations**, **NH-42 West End Village Design Considerations**, **NH-44 Fifth/Mission Residential/Office District Design Considerations**, **NH-51 Waterfront Design**, **NH-105 New Development (Fairhills)**, and **NH-121 Loch Lomond Marina** would all work to reduce conflicts through the development and implementation of design guidelines pertaining to building heights, particularly in relation to the existing development.

Though careful implementation of the design guidelines and through the use of the design review process, as outlined above, potential impacts related to conflicting adjoining development would be less-than-significant.

**Mitigation Measure IV.7-2** None Required.

**Impact IV.7-3 Visual Setting and Character of the City**

*Development consistent with the updated General Plan could alter or degrade the visual setting or character of the city. However, the design review process already in place in the City, combined with numerous policies in the Draft General Plan 2020, would limit the impact of potential impacts to the visual setting and character of the city. This would be a less-than-significant impact.*

Implementation of the *Draft General Plan 2020* would result in increased urban growth, which could alter the visual setting or character of the Planning Area. This additional development could be perceived as a negative aesthetic impact in comparison to its current state. Many San Rafael neighborhoods have a unique and distinctive character or design quality that give each area its own identity. Many residents feel that this identity should be respected and preserved.

The *Draft General Plan 2020* contains policies under the Community Design and Neighborhoods Elements designed to preserve, protect, and promote the existing aesthetic features of San Rafael and apply them to new development. The policies and implementing programs, if adopted and implemented, would reduce the alteration or degradation of the visual setting or character of the City under the proposed *General Plan 2020*. Most of these policies, as outlined below, are intended to maintain or improve the existing character of each neighborhood through design review and further development of design guidelines.

Policy **CD-1 City Image** would reinforce the distinct features of the city through design review, funding, and signage programs. Policies **CD-2 Neighborhood Identity** and **CD-3 Neighborhoods** would protect the unique character and qualities of San Rafael's neighborhoods through the implementation and continuing development of design review guidelines and standards. Policy **CD-7 Downtown and Marin Civic Center** would build upon the character of Downtown and Marin Civic Center by controlling land uses and through design review. Policies **CD-11 Nonresidential Design Guidelines**, **CD-12 Multi-family Design Guidelines** and **CD-14 Single-Family Residential Design Guidelines** would reduce impacts to the character of the city by developing design guidelines to ensure that development fits in and improves neighborhoods and community. Policy **CD-13 Industrial Areas** would reduce visual impacts of industrial areas adjacent to residential through the use of landscape guidelines for the streetscape in such areas. Policy **CD-16 Participation in Project Review** would reduce impacts by encouraging public review of new development, renovations and public projects through the use of public notification, neighborhood meetings, and design review thresholds.

Policy **NH-2 New Development in Residential Neighborhoods** would reduce impacts to the character of neighborhoods by incorporating height and setbacks into the Zoning Ordinance that respect adjacent development character and privacy. Policy **NH-27 Special Place** and **NH-28 Downtown Design** would reduce impacts to the character of the Downtown area by developing a design strategy that capitalizes on Downtown's existing strengths and encouraging enhancing design elements.

Policies **NH-34 Fourth Street Retail Core Design Considerations**, **NH-36 Hetherington Office District Design Considerations**, **NH-38 Lindero Office District Design Considerations**, **NH-40 Second/Third Mixed Use District Design Considerations**, **NH-42 West End Village Design Considerations**, **NH-44 Fifth/Mission Residential/Office District Design Considerations**, **NH-51 Waterfront Design**, and **NH-59 Design Considerations for Development in the Vicinity of the Civic Center** would reduce impacts by specifying design considerations for the design review of projects in specific areas of the City.

Policy **NH-69 Dominican University Hillside Area** would reduce impacts by requiring that density considerations reflect the significant site constraints if sold for private development. Policy **NH-98 San Quentin Ridge** would reduce visual setting impacts by preserving San Quentin Ridge as Open Space in order to maintain its visual significance. Policy **NH-99 Environmental Resources** would reduce visual setting impacts by protecting and conserving environmental resources in the East San Rafael neighborhoods that contribute to the City's visual character.

Policies **NH-105 New Development (Fairhills)**, **NH-116 New Development (Gerstle Park)**, **NH-117 Architectural Design (Gerstle Park)**, and **NH-155 New Development (Sun Valley)** would preserve the existing character of these neighborhoods through the design review process. Policy **NH-121 Loch Lomond Marina** would reduce impacts by encouraging improvement guidelines for the Loch Lomond Marina property. Policies **NH-129 Design Blend** and **NH-140 Design Excellence** would encourage design as a way to retain harmony of existing buildings in the Montecito/Happy

Valley Neighborhood and the North San Rafael Commercial Center. Policy **NH-160 Eichler Homes** would reduce character impacts by preserving the design character of Eichler homes.

Though careful implementation of the design guidelines, through the use of the design review process, and through the implementation of the *Draft General Plan 2020* policies outlined above, potential impacts related to conflicting adjoining development would be less-than-significant.

**Mitigation Measure IV.7-3** None Required.

**Impact IV.7-4 Nighttime Lighting and Glare**

*Development consistent with the Draft General Plan 2020 could create new sources of light or glare and increase nighttime lighting in the area. This would be a significant impact.*

Nighttime lighting and glare associated with existing development in the City can impact nighttime views. Intensification of that existing development with new mid-rise offices, hotels, a cinema, and residential development could increase nighttime light trespass on adjoining areas and has the potential to increase glare visible from adjacent areas and roadways. Stationary light sources have the potential to adversely affect residences through spillover into adjacent properties. New light sources could also result in a greater overall level of light at night, thus reducing night sky visibility and affecting the general character of the community.

The *Draft General Plan 2020* contains several policies in the Community Design Element that, if adopted and implemented, would act to reduce the nighttime lighting and glare impacts due to new development.

Policies **CD-11 Non-residential Design Guidelines** and **CD-12 Multi-family Design Guidelines** would both reduce lighting impacts by developing design guidelines, including lighting guidelines, to ensure that development fits within and improves the neighborhood and community. Policy **CD-21 Lighting** would allow adequate site lighting while controlling excessive light spillover and glare through the design review process. Program **CD-21a Site Lighting** would evaluate site lighting for safety and glare through the design review process.

These policies and programs would reduce some potential lighting and glare impacts, particularly those related to spillover and glare and the general character of the community. However, they would not reduce impacts related to sky visibility and the overall level of light at night. This would be a significant impact.

**Mitigation Measure IV.7-4** In order to minimize light trespass and greater overall light levels in the city, new development and projects making significant parking lot improvements or proposing new lighting shall be required to prepare a lighting plan for review by City planning staff. A new implementing program should be added in the General Plan – **CD-21b Lighting Plan** (Timeframe: Short Term) to require design guidelines to include the following provisions for lighting plans:

- All light sources should be fully shielded from off-site view.
- All lights to be downcast except where it can be proved to not adversely affect other parcels.
- Escape of light to the atmosphere should be minimized.



- Low intensity, indirect light sources should be encouraged, except where other types of lighting is warranted for public safety reasons.
- On-demand lighting systems should be encouraged.
- Mercury, metal halide, and similar intense and bright lights should not be permitted except where their need is specifically approved and their source of light is restricted.

**Significance After Mitigation** Implementation of above mitigation measure would reduce the nighttime lighting and glare impact of the *Draft General Plan 2020* to a less-than-significant level.

**Responsibility and Monitoring** The City Council would be responsible for adopting the new program proposed in Mitigation Measure IV.7-4 as part of the *Draft General Plan 2020*. The Community Development Department would be responsible for monitoring its implementation.



## IV.8 BIOLOGICAL RESOURCES

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### **Biological Resources – The Setting**

Existing biological resources conditions are described in pages B-26 to B-50, *Environmental Context; Biology of the San Rafael General Plan 2020 Background Report (Background Report)*. This section of the *Background Report* was reviewed and the information was found to be current as of the issuance of the Notice of Preparation in May 2003. This chapter is hereby incorporated by reference, and summarized below.

#### **BIOTIC HABITATS**

Seven major biotic habitats have been identified within the Planning Area: urbanized lands (approximately 39 percent of the land area), oak savanna / woodlands (35 percent), non-native grasslands (12 percent), wetlands (six percent), agricultural lands (four percent), riparian (three percent), and chaparral (one percent). In addition, other special biotic areas of significance include eucalyptus groves, redwood groves, and the Marin Islands.

#### **SPECIAL-STATUS PLANTS AND ANIMALS**

Approximately 63 special-status<sup>1</sup> plants and animals have been known to occur or could possibly occur in the vicinity of the Planning Area. These species are summarized in *Appendix VIII.4*. Key habitats for threatened and endangered species in the Planning Area include the shorelines, wetlands, and lagoons along San Pablo and San Rafael Bays (including Gallinas Creek, Miller Creek, and Tubbs Island), the salt and freshwater marshes, the riparian and water of Miller Creek, Pacheco Ridge, McInnis Park, and even the patches of serpentine soil along Lucas Valley Road outside the City limits.

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### **Biological Resources – Significance Criteria**

The biological resources analysis uses criteria from the *State CEQA Guidelines*. The Initial Study determined that the proposed project would have potentially significant biological resources impacts. Based on the findings of the Initial Study the project would have a significant biological resources impact if it would:

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<sup>1</sup> “Special-status species” includes several categories of plants and animals in California, typically species that have low populations and / or limited distribution, including: species formally designated as threatened or endangered under state and / or federal endangered species legislation; species designated as “candidates” for such listing; species designated as “species of special concern” by the California Department of Fish and Game (CDFG); and species listed as rare, threatened, or endangered by the California Native Plant Society (CNPS).

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native nursery sites.

According to CEQA, if the following condition occurs the lead agency (in this case the City) shall find that the project may have a significant effect on the environment: <sup>2</sup>

- Does the project have the potential to degrade the quality of the environment substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal?

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## **Biological Resources – Impacts and Mitigation Measures**

### **Impact IV.8-1 Special-Status Plant and Animal Species**

*Implementation of the Draft General Plan 2020 could affect a number of federally or state listed plant and animal species directly through incidental take or indirectly through habitat destruction. This would be a significant impact.*

There are a number of state and federally listed threatened and endangered species known to occur on or in the vicinity of the Planning Area, most of which would occur in wetland habitats. Protocol level surveys were not conducted in the Planning Area during the *Draft General Plan 2020* process. The California Natural Diversity Database, assembled and updated by the California Department of Fish and Game, and other relevant resources which cite local occurrences were relied upon in compiling a species account search within the Planning Area. Biotic habitats were then used as a basis in deciding which species were of greatest concern. Most of the species of greatest concern occur in wetland habitats, although species of concern also occur in grasslands, agriculture, and oak savanna/woodlands habitats.

#### *Wetland Species*

Special-status species that may occur in the wetland habitats include:

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<sup>2</sup> Under *CEQA Guidelines* Section 15065.

- California clapper rail
  - Federally and State Endangered;
  - Documented observation in Novato and Gallinas Creeks and in marshes of San Pablo Bay and Corte Madre Creek;
- Salt marsh harvest mouse
  - Federally and State Endangered
  - Documented observation in Petaluma and Spinnaker Marshes and Canalways
- California freshwater shrimp
  - Federally Endangered
  - May occur in Miller and Gallinas Creeks
- Central California coast steelhead rainbow trout
  - Federally Threatened
  - May occur in Miller and Mahon Creeks;
- Tidewater goby
  - Federally Endangered
  - May occur in Gallinas, Miller, San Rafael, and Mahon Creeks and has been documented in Corte Madre Creek;
- California red-legged frog
  - Federally Threatened
  - May occur in Miller Creek and seasonal ponds;
- Black rail
  - State Threatened
  - Documented observation in Gallinas, Novato, and Corte Madre Creeks along with San Rafael Canal, Pablo Bay, and Tubbs Island

Areas of greatest concern (although development is not restricted to these areas) in regards to the above wetland species are those areas along the creeks and bays. In the northern portion of the Planning Area, there are a few vacant parcels along Gallinas Creek where both listed rail species and the salt marsh harvest mouse have been observed and where the tidewater goby could potentially occur. The few vacant parcels along the Miller Creek, in particular the parcels designated for Hillside Residential on the northwest corner of the intersection of Highway 101 and Lucas Valley Road, may impact the steelhead and California red-legged frog. In the southern portion of the Planning Area, there is one vacant lot designated for Low Density Residential along the San Rafael Creek where development may impact the tidewater goby, two listed rail species, western snowy plover, and salt marsh harvest mouse. Also, the parcels adjacent to the Canalways that are designated as Light Industrial/Office may impact these same species, with the exception of the tidewater goby.

The *Draft General Plan 2020* includes some policies and programs that would reduce potential impacts to wetland habitats and the associated species, as listed above. Policies **CON-2 Wetlands Preservation**, **CON-3 Unavoidable Filling of Wetlands**, and **CON-4 Wetland Setbacks** would reduce impacts to special-status species associated with wetland habitats by reducing impacts to the wetlands, encouraging the restoration and enhancement of existing wetlands, and requiring mitigation when new development would impact existing wetlands. Policies **CON-6 Creek and Drainageway Setbacks**, **CON-7 Public Access to Creeks**, and **CON-8 Enhancement of Creeks and Drainageways** would reduce impacts to the special-status species that are associated with wetland habitats by requiring development-free setbacks. These setbacks would reduce potential erosion and siltation of the waterways, which impacts the habitat value of the waterways for aquatic species. These setbacks would also reduce disturbance of riparian habitats.

Compliance with state and federal wetlands protection regulations would also minimize impacts to these species. Both state and federal laws would require prior authorization from the California Department of Fish and Game (CDFG) and/or the US Fish and Wildlife Service (USFWS) for any project that would result in a “take” of a state or federally listed species. Proposed development within wetland areas would also be required to adhere to the setback requirements associated with any Section 404 Clean Water Act permits, administered by the US Army Corps of Engineers (USACE), Section 401 Water Quality Certification, administered by the Regional Water Quality Control Board (RWQCB), and/or Section 1603 California Fish and Game Streambed Alteration Agreements, administered by the CDFG. If any development work would occur within the wetlands or associated setbacks, additional mitigation in the form of habitat creation/restoration could be required by these permits.

While implementation of the listed *Draft General Plan 2020* policies and programs, in addition to compliance with state and federal wetlands protection regulations would minimize impacts to wetland species and their habitats, development consistent with the *Draft General Plan 2020* would slightly increase the intensity of development directly adjacent to a few of these habitats, which may potentially impact these species.

#### *Other Species*

A number of other special-status species (such as various raptor and songbird species) which do not have the same protection as federally or state listed wetlands species occur, or potentially occur, in portions of the Planning Area. The undeveloped parcels that are characterized as grasslands, agriculture, and oak savanna/woodlands that are contiguous with existing developed areas would be the areas with the highest potential of supporting any of these species. Development in these areas would therefore have the greatest potential to impact special-status species. The parcels of greatest concern would be those adjacent to China Camp State Park and the other parks and preserves in that area. There are a number of currently vacant parcels along the northern, western, and southern boundaries of this park and preserve system that are designated for various residential land uses under the *Draft General Plan 2020*. Additionally, development of the vacant parcel located at the intersection of Highway 101 and Lucas Valley Road would reduce the available habitat for these species.

Vacant parcels interspersed in the existing developed areas could also support habitat suitable for these species depending on the current conditions of the parcel and the prevalence of moderate to high quality biotic habitats. Redevelopment or infill development of these parcels would potentially impact special status species using that land as habitat. Development on these types of undeveloped parcels could potentially be a significant impact to special status species due to habitat loss.

The *Draft General Plan 2020* provides land use designations, such as the Parks, Open Space, and Conservation land use categories that would protect the vast majority of the biotic habitats that support these species. These undeveloped areas are primarily made up of the oak savanna/woodland and grassland habitats located along the western boundary, northwestern corner, and eastern boundary of the Planning Area. Other areas that have been designated Parks, Open Space, or Conservation are the riparian habitats along the various creeks and wetland habitats in the eastern portion along the San Pablo and San Rafael Bays. Potential habitat for special status species is largely protected because the *Draft General Plan 2020* proposes redevelopment, infill development, and development in areas contiguous to existing development, which minimizes impacts to the wildlife habitats in the Planning Area. The *Draft General Plan 2020* provides for slight expansions in the existing urbanized/developed land uses by relying on existing infrastructure.

In addition, the *Draft General Plan 2020* would not allow for the conversion of large undeveloped parcels to developed uses. In fact, a number of the larger lots have been removed from the Planning Area or designated with a new land use in the *Draft General Plan 2020*. For instance, the St. Vincent's/Silveira properties have been removed from the Planning Area. Also, the Lucas Film property in the northwestern corner of the Planning Area and the Canalways along San Rafael Bay have been redesignated to Open Space or Conservation. The vacant parcels that are designated for future development are primarily small in size and interspersed throughout existing developed areas.

The *Draft General Plan 2020* also contains policies in the Conservation Element, in particular under *Protected Habitat: Native Plants, Animals and Wildlife Habitat*, which if adopted and implemented could be used as guidelines to reduce potential impacts to special-status plant and animal species.

Policy **CON-1 Protection of Environmental Resources** would require the protection or enhancement of resources such as ridgelines, wetlands, diked baylands, creeks and drainageways, shorelines and habitat for threatened and endangered species through zoning and project review (Program **CON-1a**) and environmental protection (Program **CON-1b**).

Two policies would address impacts to listed species: These are **CON-13 Threatened and Endangered Species** (which includes those formally listed consistent with the State and federal Endangered Species Acts) and **CON-14 Special Status Species** (including candidate species for listing under the State and federal Endangered Species Acts, California species of special concern, California Native Plant Society List 1B plants, and other species protected under provisions of California Fish and Game Code). These policies would require the preservation and protection of listed plant and animal species.

The CDFG Code and the federal Migratory Bird Treaty Act also provide some protection to these species, in particular to nesting raptors. The CDFG Code would offer some protection to the various hawks and owls that may nest within the riparian corridors of creeks and the oak savanna/woodlands of the Planning Area. The code may also offer some protection to the burrowing owls and short-eared owls that may nest in or near the grassland habitat, which is interspersed between the oak savanna/woodland habitat, urbanized/developed areas, and in agricultural fields located in the northern portion of the San Rafael Planning Area west of Highway 101. Compliance with these regulations would require that any site development activities during the raptor nesting season (February through August) be preceded by preconstruction survey. Surveys would be conducted by a qualified biologist within 30 days of the onset of construction. Upon discovery of active nests within construction zones, suitable development-free buffers would be required around each nest in consultation with the CDFG. These regulations would also require that resident burrowing owls be passively removed after the breeding season (September through January) according to CDFG approved methods. As explained above, under *Wetlands Species*, both state and federal laws would require prior authorization from the CDFG and/or the USFWS for any project that would result in a "take" of a state or federally listed species.

Implementation of the policies and programs listed in the *Draft General Plan 2020*, as listed above, in addition to compliance with state and federal laws, would provide protections to special status species in the Planning Area. However, potential impacts to special status species would remain significant due to the potential for special status species to be impacted by the development of currently vacant parcels. Therefore, this would be a significant impact.

**Mitigation Measure IV.8-1** Two new implementing programs shall be added to the General Plan 2020: **CON-14b Surveys** to require that vacant sites are surveyed for the presence or absence of relevant special status species prior to development approval; and **CON-14c Minimization** to require

that where impacts to special status species are deemed unavoidable, potential impacts to the identified species are minimized through design, construction, and operation of the project. Compensation measures could include on-site set asides or off-site acquisitions (e.g. conservation easements, deed restrictions, etc.) that would be required if project impacts result in direct loss or indirect impacts that cannot be mitigated in other ways. This might also involve species-specific enhancement restoration efforts for the mitigation lands.

If special status plant and animal species are determined to be absent based on appropriately timed protocol level surveys (were applicable), consistent with **CON-14b**, or the project was able to avoid significant impacts to these species, then further mitigation, as outlined in proposed program **CON-14c** would not be warranted. When surveys conducted as outlined above establish the presence of one or more special status species, and impacts to these species are deemed unavoidable, site-specific mitigation, as outlined in proposed program **CON-14c** may need to be implemented.

**Significance After Mitigation** The above mitigation measure outlines the actions that would be required in order to avoid potential impacts to the various federally and state listed plant and animals species that are known to occur on or in the Planning Area. If the above measures are implemented, impacts to special-status species would not be considered substantially adverse, and would thereby be reduced to a less-than-significant level.

**Responsibility and Monitoring** The City Council would be responsible for adopting the above amended policies as part of the updated *General Plan 2020* to ensure special status species are not harmed. Implementation of on- or off-site acquisitions or restoration as required by Mitigation Measure IV.8-1 would be the responsibility of the individual applicant who would be impacting the special-status species. Overall implementation and enforcement of these programs would be dependent on the development plans of the individual project and its impacts. Each applicant would be responsible to hire qualified biologists to guide them in their efforts. The Community Development Department would be responsible for monitoring the implementation of these policies.

**Impact IV.8-2 Sensitive Natural Communities**

*A number of sensitive natural communities would be affected by the implementation of the Draft General Plan 2020 either directly in undeveloped areas designated for development or indirectly by intensifying the land use adjacent to current undeveloped lands. This would be a significant impact.*

San Rafael contains a diverse assemblage of natural communities and habitats. Much of the land in the Planning Area has already been developed, but undeveloped land remains interspersed within the developed areas and along the San Pablo and San Rafael Bays. Sensitive habitats are those that are sensitive, rare, declining, unique or represent a valuable biological resource. Sensitive natural communities that are found in the Planning Area are wetland, riparian habitat, and oak savanna/woodlands. Impacts to both wetland and riparian habitats are discussed further under Impact IV.8-3.

The *Draft General Plan 2020* would allow for only a small amount of natural habitats in the Planning Area to be converted to developed land uses. As explained below, the conversion of vacant parcels to developed uses occurs primarily along the margins of existing development and therefore results in minimal affects on the natural biotic communities in the City. The subsequent loss of natural communities to development of vacant parcels along the margins is expected to result in relatively small loss of important plant and wildlife habitat in the Planning Area.



The majority of the sensitive habitats that occur in the Planning Area would remain in their current condition as undeveloped and would have Parks, Open Space, or Conservation land use designations under the *Draft General Plan 2020*. For instance, portions of the Loch Lomond Marina in the southeastern portion of the Planning Area along San Rafael Bay, the Canalways site, and the San Rafael Airport along Gallinas Creek would be designated Conservation. A major change with the *Draft General Plan 2020* is the removal of the St. Vincent's/Silveira properties from the northeastern portion of Planning Area. The habitats of St. Vincent's/Silveira consist of grasslands, agricultural, riparian, and oak savanna/woodland and this area is no longer within the Planning Area.

Most of the sensitive biotic habitat potentially not remaining in their current condition, as discussed above, would be oak savanna or oak woodland habitat. While there will only be a small loss of this habitat, a few of the vacant parcels of oak savanna/woodlands that are zoned for residential land uses include the parcel at the intersection of Highway 101 and Lucas Valley Road, parcels along the southwestern boundary of the Planning Area, and the parcels located adjacent to China Camp State Park and the other parks and preserves in that region.

The *Draft General Plan 2020* contains policies in the Conservation Element, in particular under *Protected Habitat: Native Plants, Animals and Wildlife Habitat*, which if adopted and implemented, could be used as guidelines to reduce potential impacts to sensitive natural communities such as wetlands and riparian habitat.

Policy **CON-1 Protection of Environmental Resources** would require the protection or enhancement of resources such as ridgelines, wetlands, diked baylands, creeks and drainageways, shorelines and habitat for threatened and endangered species through zoning and project review (Program **CON-1a**) and environmental protection (Program **CON-1b**).

Policies **CON-9 Native and/or Sensitive Habitats** and **CON-10 Impacts to Sensitive Habitats** would address impacts to sensitive habitats. These two policies require the protection of and minimization of impacts to these habitats through careful planning in compliance with applicable laws and regulations. This includes efforts to restore, preserve or enhance Central California Coast Steelhead habitat in Miller Creek and other creeks (Program **CON-9a**), and the protection of habitats, especially for birds and small animals, by reducing the population of feral cats (Program **CON-9b**).

Impacts to wetland and riparian habitats are discussed further in Impact IV.8-3. Any impact to oak savanna/woodlands, such as the potential development described above, would be considered to be significant.

**Mitigation Measure IV.8-2** In order to reduce impacts to oak savanna/woodland habitat proposed development should either avoid, minimize, or compensate for loss of oak savanna/woodland habitat. A new implementing program – **CON-10a Oak Savanna/Woodland Habitat Protection** to require that proposed developments with potential impacts to oak savanna/woodland habitat shall either avoid, minimize, or compensate for the loss of oak savanna/woodland habitat. Avoidance would be the preferred measure where feasible. If it is deemed that an impact is unavoidable, minimization of direct and indirect impacts or compensation through habitat restoration, creation, or enhancement would be required.

**Significance After Mitigation** The above measures outline the actions that would be required in order to mitigate for potential impacts to sensitive natural communities that are known to occur within the Planning Area. If the above measures are implemented, impacts to sensitive natural communities would be reduced to a less-than-significant level.

**Responsibility and Monitoring** The City Council would be responsible for adopting the above amended policies as part of the updated *General Plan 2020* to ensure sensitive natural communities are not harmed as a result of this project. The Community Development Department would be responsible for monitoring the implementation of the amended policies.

**Impact IV.8-3 Federally Protected Wetlands**

*Implementation of the Draft General Plan 2020 could affect a number of federally protected wetlands including marshes, streams, and various other wetlands which support a number of important plant and animal species. With implementation of the policies and programs in the Draft General Plan 2020 this would be a less-than-significant impact.*

Waters of the United States that will likely be considered jurisdictional have been identified within the Planning Area, although wetland delineations verified by the U.S. Army Corps of Engineers (USACE) have not been conducted (these would occur as part of site-specific development proposals). These jurisdictional waters include habitats such as northern coastal salt marsh, creeks, portions of the riparian woodland, diked salt marsh, seasonal freshwater marsh, intermittent stream channels, seasonal wetlands, irrigation and drainage ditches, and stock ponds. Very little new development is proposed to occur within the boundaries of these areas according to the *Draft General Plan 2020*. The *Draft General Plan 2020* provides several land use designations, including the Parks, Open Space, and Conservation categories that would protect the vast majority of this sensitive habitat in its existing state.

It is not possible to predict the precise amount of wetland habitats that might be impacted by future development allowed under the *Draft General Plan 2020*. An extensive wetland delineation of all Planning Area lands was not conducted for the development of the *Draft General Plan 2020* or this EIR. However, the level of effort used to develop the habitat map that formed the basis of the *Draft General Plan 2020* and additional field visits to the Planning Area were sufficient to identify the majority of wetland habitats that occur in the Planning Area (see figure CON-1 in the *Background Report*). Therefore, individual parcels within the Planning Area that were not surveyed may support small areas of presently unidentified wetland habitat. While development of these parcels under the *Draft General Plan 2020* could result in impacts to these presently unidentified wetland resources, the *Draft General Plan 2020* would preserve the distribution of the known existing wetland habitats through land use designations that limit development in these sensitive areas.

The *Draft General Plan 2020* would allow for minimal redevelopment and/or infill of parcels along wetland habitats in the Planning Areas. The areas of greatest concern are those vacant parcels that are located along wetland habitat and could be developed under the *Draft General Plan 2020*. In the northern portion of the Planning Area these include vacant parcels along Gallinas Creek where it empties into San Pablo Bay, a small stretch of Gallinas Creek upstream, the parcel located at the intersection of Highway 101 and Lucas Valley Road which is adjacent to Miller Creek, and a few vacant parcels upstream from that property along Miller Creek. There are also various small drainages located on the vacant parcels that abut China Camp State Park and adjacent parks and preserves. In the southern portion of the Planning Area, there are two vacant parcels along the Bays, one directly south of the China Camp State Park property and the other near Loch Lomond Marina that would have a Low Density Residential land use under the *Draft General Plan 2020*. Other areas of concern are the few parcels along San Rafael Creek, parcels adjacent to the Canalways property, and a wetland between Woodland Avenue and Auburn Street.

As with all wetland habitat adjacent to development, should redevelopment or infill be proposed along this habitat, certain measures would be required to reduce potential impacts to wetland habitats. If construction were to be proposed adjacent to any wetland habitat, a delineation (verified by the

USACE) may be required to ensure that wetland habitats are avoided to the maximum extent practicable. Section 10 jurisdiction<sup>3</sup> can only be determined from updated maps showing the location and extent of historic tidal sloughs once present in areas that are now cultivated fields. USACE permit requirements can be determined only after the full extent of wetland habitats, historic tidal sloughs and other jurisdictional waters have been identified within the Planning Area. San Rafael's wetlands overlay zoning district requires, when development is proposed, a wetlands delineation of site wetlands.

The *Draft General Plan 2020* contains many policies in the Conservation Element, in particular under *Protected Habitat: Wetlands*, which if adopted and implemented could be used as guidelines to reduce potential impacts to federally protected wetlands.

Policy **CON-1 Protection of Environmental Resources** would require the protection or enhancement of resources such as ridgelines, wetlands, diked baylands, creeks and drainageways, shorelines and habitat for threatened and endangered species through zoning and project review (Program **CON-1a**) and environmental protection (Program **CON-1b**).

To the extent possible wetland habitats especially those that provide habitat for state and federally listed threatened and endangered species should be avoided by development or modifications. Policy **CON-2 Wetlands Preservation** requires appropriate public and private wetlands preservation, restoration and/or rehabilitation through compensatory mitigation in the development process for unavoidable impact.

Any request to fill delineated wetlands must demonstrate that the proposed fill cannot be avoided. If an impact is unavoidable, policy **CON-3 Unavoidable Filling of Wetlands** would reduce the impact of such fill by providing guidelines on what would be required in the form of mitigation. The compensatory minimum would be a 2:1 ratio of wetlands created or restored, on-site or off-site. The City may waive this policy for fill of a small (0.1 acre or less), hydrologically isolated wetland (surface water) or drainageway provided that the wetland or drainageway is not within or connected to historic drainages and provided that the applicant is in compliance with requirements of other agencies that regulate wetlands.

Policy **CON-4 Wetland Setbacks** would reduce impacts to wetlands by requiring maintenance of a minimum 50-foot development-free setback from wetlands, including, but not limited to, paving or structures. Setbacks of greater than 50 feet may be required on lots of two or more acres as determined through project review, while lesser setbacks may be permitted for minor encroachments.

Baylands are protected under Program **CON-5 Diked Baylands** which would reduce impacts to baylands by protecting or restoring to tidal action seasonal wetlands and associated upland habitat contained within the undeveloped diked baylands.

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<sup>3</sup> Section 10 of the Rivers and Harbors Act of 1899 states that the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is hereby prohibited; and it shall not be lawful to build or commence the building of any... structures in any... water of the United States, outside established harbor lines, or where no harbor lines have been established... ; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor of refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War prior to beginning the same.

Policy **CON-6 Creek and Drainageway Setbacks** would reduce potential impacts to creeks by requiring development-free setbacks from existing creeks (**CON-6a**) and drainageways (**CON-6b**) that would maintain the functions and resulting values of these habitats.

Policies **CON-7 Public Access to Creeks** and **CON-8 Enhancement of Creeks and Drainageways** would reduce impacts to creeks and drainageways by encouraging appreciation, retention and enhancement of existing creeks. Policy **CON-7** would also require that there be pedestrian access to points along creeks throughout the City where such access will not adversely affect habitat values. Policy **CON-8** would encourage and support enhancement of drainageways to serve as wildlife habitat corridors for wildlife movement and to accommodate storm drainage. Creek enhancement (**CON-8b**) and associated riparian habitat restoration/creation (**CON-8a**) would be required for projects adjacent to creeks to maintain storm flows, reduce erosion and improve habitat values. Trees along creeks would need to be retained, where possible, for preservation of riparian habitat and to inhibit growth of algae (**CON-8c**).

In addition to the policies outlined in the *Draft General Plan 2020* regarding federally protected wetlands, development of vacant parcels that impact wetland habitats would need to comply with the appropriate provisions of Section 404 Clean Water Act permits (USACE), Section 401 Water Quality Certification (RWQCB), and/or Section 1603 California Fish and Game Streambed Alteration Agreements (CDFG). Mitigation in the form of habitat creation/restoration may be required before the commencement of development.

Compliance with the above programs and policies, along with state and federal laws, would provide protection for the few wetlands that would potentially be impacted as a result of development consistent with the *Draft General Plan 2020*. Therefore, this would be a less-than-significant impact.

**Mitigation Measure IV.8-3** None required.

**Impact IV.8-4 Movement of Native Wildlife**

*Development in vacant parcels would occur adjacent to current development and would be limited to small areas. The majority of current undeveloped lands in the Planning Area would not be fragmented or developed with a higher intensity land use. Therefore, the movement of native wildlife would not likely be affected by the implementation of the Draft General Plan 2020. This would be a less-than-significant impact.*

The Planning Area consists of seven biotic habitats interspersed with development. A diverse assemblage of wildlife species uses these habitats within the Planning Area and the type of movement patterns they exhibit will depend not only on the species in question, but also on the relative size of the habitat patches, the adjacency of other habitats, the presence of movement barriers (e.g., roads, developments, etc.) and the regional context of the site (is the study site isolated or does it represent a contiguous band of habitat). Assessing the importance of an area as a “movement corridor” depends on differentiating between animals’ consistent use patterns, which generally can be divided into three major behavioral categories:

- Movements within a home range or territory.
- Movements during migration.
- Movements during dispersal.

While no detailed study of animal movements has been conducted for the Planning Area, knowledge of the site, its habitats, and the ecology of the species on and in the vicinity of the site permits sufficient predictions about the types of movements occurring in the region. While the Planning Area

supports some significant areas of natural habitats (such as the parks and preserves located in and around China Camp State Park, the vacant parcel located at the intersection of Highway 101 and Lucas Valley Road, and the Open Space along the western boundary that stretches to the northwestern corner of the Planning Area) these areas are generally surrounded by dense development along Highway 101 bisecting the City on a north/south axis.

The existing development and US 101 act as a substantial barrier to regional movement of wildlife. Most avian species are less affected by the existing barriers as they are volant (e.g., fly) and are more likely to traverse inhospitable terrain. Roadways can be effective barriers to many of the smaller terrestrial species such as amphibian, reptiles and small mammals. While many medium to large mammals can and do move over roads, some roadways can substantially alter regional use patterns due to the increased road mortality. Some roadways can also decrease the quality of habitat adjacent to roads as some species (e.g., bobcats and gray foxes) exhibit clear avoidance of roaded areas. Presently, the most effective wildlife corridors existing in the Planning Area are the creek corridors defined by Gallinas and Miller Creeks and to a lesser extent San Rafael Creek. These creek corridors provide habitat for riparian species or species attracted to woodland habitats. The linear features of these creeks also facilitate regional movements of wildlife and these are areas where species may be able to cross US 101 in relative safety.

Development, largely in the form of infill, will not substantially degrade the functionality of the creek corridors, as described above, for the movements of local wildlife. At buildout, those areas that function as corridors would continue to do so.

Further, wildlife corridors are also addressed by policy **CON-11 Wildlife Corridors**. This policy would require the preservation and protection of those areas that provide landscape linkages between and among habitat patches, which facilitates regional movements of wildlife.

The redevelopment, infill, and new development consistent with the *Draft General Plan 2020* would not allow for projects to close off or greatly impact any of the creek corridors. Therefore potential impacts created by the *Draft General Plan 2020* would not be expected to have a significant impact on native wildlife movements within the region.

**Mitigation Measure IV.8-4** None required.

**Impact IV.8-5 Habitat for Native Wildlife**

*Implementation of the Draft General Plan 2020 may result in a loss of habitat for native wildlife if development occurs on currently available wildlife habitat. In the Planning Area, those areas that are proposed for development that provide habitat for wildlife occur primarily around the perimeter of or are contiguous with the areas that are currently developed. However, due to the limited amount of proposed development and with implementation of the programs and policies of the Draft General Plan 2020, this would be a less-than-significant impact.*

Development within the Planning Area would only slightly reduce the amount of regional habitat available for native wildlife, including the special-status species known to occur regionally. The *Draft General Plan 2020* provides for limited development of vacant parcels that support habitat for native wildlife. The habitats that would be impacted are primarily in the currently urbanized/developed areas and would typically be impacted through redevelopment and infill. The *Draft General Plan 2020* provides land use designations, including the Parks, Open Space, and Conservation designations that would not only protect the majority of native habitats for wildlife in the Planning Area, but would also provide interconnections or landscape linkages among the undeveloped preserved habitat patches in the Planning Area. Therefore, the *Draft General Plan 2020* would provide an opportunity for

maintaining the current species richness and diversity by limiting future development in the native habitats remaining in the Planning Area.

While the majority of habitat available to wildlife would be designated as Open Space, Parks, or Conservation in the *Draft General Plan 2020*, there are a few areas that currently provide habitat for native wildlife that would be impacted by development consistent with the *Draft General Plan 2020*. These vacant parcels are found within urbanized/developed areas or are contiguous with areas that are currently developed.

The *Draft General Plan 2020* contains many policies in the Conservation Element, in particular under *Protected Habitat: Native Plants, Animals and Wildlife Habitat*, which if adopted and implemented could be used as guidelines to reduce potential impacts to the available habitat for native wildlife. These policies and programs have been developed to ensure that buildout under the *Draft General Plan 2020* would remain limited and they would provide a guideline as to what areas should be avoided, restored, or enhanced in order to prevent any future substantial impacts to wildlife habitat.

Policy **CON-1 Protection of Environmental Resources** would require the protection or enhancement of resources such as ridgelines, wetlands, diked baylands, creeks and drainageways, shorelines and habitat for threatened and endangered species through zoning and project review (Program **CON-1a**) and environmental protection (Program **CON-1b**).

Policies **CON-12 Preservation of Hillside**s and **CON-15 Fishery Habitat** would provide guidelines regarding the protection of these two habitats. **CON-12** would encourage the preservation of hillside, ridgelines and other open areas that serve as habitat through continued implementation of the Hillside Design Guidelines, and **CON-15** would require that public and private efforts to restore San Rafael creeks through restoration and enhancement be monitored and supported.

Due to the fact that development of habitats for native wildlife is limited under the *Draft General Plan 2020* and areas that could be developed would be required to follow the programs and policies of the *Draft General Plan 2020*, future development would result in a less-than-significant impact to habitat for native wildlife.

**Mitigation Measure IV.8-5** None required.

**Impact IV.8-6 Invasive Exotics**

*Implementation of the Draft General Plan 2020 may result in additional locations being planted with ornamental landscaping. Planting with common landscaping species often results in an increase in the number of exotic species "escaping" onto neighboring undeveloped lands. With implementation of the Draft General Plan 2020 programs and policies future landscaping would result in a less-than-significant impact.*

Areas that are proposed to be developed as part of the *Draft General Plan 2020* could potentially be landscaped with exotic plant species. Some of these areas are located adjacent to natural habitats that would remain undeveloped and thus are more vulnerable to the establishment of invasive exotics. Because of the proximity to natural habitats, landscaping with exotic plant species could introduce exotic plants to the Planning Area which are capable of naturalizing in native habitats and reducing the diversity of native plants. Seeds from exotic species can also be transferred by birds and water (e.g. if the seeds fall in a creek and flow downstream) from landscaped areas that are not in direct proximity to natural areas.

The *Draft General Plan 2020* contains policies and programs in the Conservation Element, in particular under *Protected Habitat: Native Plants, Animals and Wildlife Habitat*, which if adopted and implemented, could be used as guidelines to reduce potential impacts to natural habitat from the introduction of invasive exotics.

Policy **CON-16 Invasive Non-Native Plant Species** would provide guidelines regarding the control of invasive exotics. The policy would require that selected undesirable invasive non-native plant species be removed and controlled on City-owned open space and road right-of-ways (Program **CON-16c**) and non-City owned ecologically-sensitive areas (Program **CON-16b**). The policy would also require that the City consider an Invasive Plant Ordinance (Program **CON-16a**). As part of the ordinance, benefits and impacts of using herbicide on invasive species where there are no other feasible controls would be evaluated (Program **CON-16a**). These conservation element programs are also supported by Open Space program **OS-2b Removal of Invasive Species** to use work crews to remove invasive vegetation from open space areas.

Policy **CON-17 Landscape with Native Plant Species** would reduce impacts related to the invasion of exotic species by encouraging landscaping with native and compatible non-native plant species, especially drought-resistant species. Marin Municipal Water District and other organizations educational materials about native plant landscaping would be distributed as a part of Program **CON-17a**.

If the above programs and policies are implemented, there would be a less-than-significant impact in regards to invasive exotics.

**Mitigation Measure IV.8-6** None required.





## IV.9 GEOLOGY, SOILS, AND SEISMICITY

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### **Geology, Soils, and Seismicity – The Setting**

This section contains a description of potential impacts resulting from the geology, soils and seismicity of the San Rafael Planning Area. The proposed General Plan includes policies that are intended to minimize potential effects of these impacts. However, the intent of the General Plan is not to remove all risk associated with each specific geologic/seismic hazard, but to reduce risk to life and property and to allow informed decisions about land use development near these hazards.

Existing geologic conditions are described on pages B-51 to B-65, *Environmental Context; Geology and Seismicity*, of the *San Rafael General Plan 2020 Background Report (Background Report)*. This section of the *Background Report* was reviewed and the information was found to be current as of the issuance of the Notice of Preparation in May 2003. This section is hereby incorporated by reference, and summarized below.

#### **Regional Geology**

The San Rafael Planning Area is located within the Coast Range Geomorphic Province of California. The regional bedrock geology consists of complexly folded, faulted, sheared, and altered sedimentary, igneous, and metamorphic rock of the Jurassic-Cretaceous age (65-190 million years ago) Franciscan Complex.

The regional topography is characterized by northwest-southeast trending mountain ridges and intervening valleys that were formed from tectonic activity between the North American Plate and the Pacific Plate. Extensive faulting during the Pliocene Age (1.8-7 million years ago) formed the uneven depression that is now the San Francisco Bay. More recent tectonic activity is concentrated along the San Andreas Fault zone, a complex group of generally parallel faults.

For the last 15,000 years the sea level has continually risen and flooded the lower topography. For the last 8,000 years silt and clay particles carried in suspension in floodwater have been deposited in the San Francisco Bay to form the highly compressible “bay mud.” This process continues today.

Regional geologic mapping by the California Division of Mines and Geology (CDMG) indicates that there are four distinct geologic units in the San Rafael area: bedrock, colluvium, alluvium, and bay mud.

#### **Seismicity**

The San Rafael Planning Area is located within a seismically active area and will therefore experience the effects of future earthquakes. Within the San Francisco Bay Area, faults are concentrated along the San Andreas Fault zone. There are no known active faults within the Planning Area and compared to other cities in the Bay Area, the estimated historic earthquake accelerations experienced in the Planning Area are relatively low. This is due to the fact that San Rafael is situated an equal distance between the major faults and the epicenters of the historic earthquakes have been a fair distance from the Planning Area.

### **Geologic and Seismic Hazards**

The San Rafael Planning Area is subject to several seismic and geologic hazards of varying significance. These hazards are listed below, with the probability and potential of each hazards are estimated.

- *Liquefaction-related damage.* Liquefaction may occur in saturated, loose, clean, granular soils when they are subjected to severe ground shaking. It is a process by which water-saturated sediment temporarily loses strength and act as a fluid.
  - The probability of liquefaction-related damage is moderate in the alluvial areas, low in the bay mud areas, and remote in the bedrock areas.
- *Flow failures.* A downslope mass movement of unconsolidated, surficial slope material in a plastic or semifluid state, e.g. a mudflow or debris flow.
  - The potential for small flow failures is moderate and the potential for large flow failures is small.
- *Lateral spreading.* Lateral spreading is a situation in which a subsurface layer of soil liquifies and allows the upper soil mass to deform laterally toward a free face, such as a stream.
  - Limited lateral spreading could occur in alluvial areas adjacent to open stream channels.<sup>1</sup>
- *Bearing strength.* Bearing strength of soil is the pressure the soil can support without overstressing or failing the soil.
  - There is a low potential for localized damage from loss of bearing strength within the alluvial areas.
- *Lurching.* Ground lurching is a short term ground failure (landslide) caused by the seismic forces exerted on the soil from an earthquake. Ground Lurching More commonly occurs in areas underlain with soft, weak soils and often results in ground cracking and permanent displacements.
  - The potential for lurching related damage is moderate along the Bay margins and low in other portions of San Rafael.
- *Differential settlement.* Differential settlement is the non-uniform densification of loose soils that occurs during strong ground shaking and causes uneven settlement of the ground surface.
  - The potential for significant damage from dynamic differential settlement is low for most of the Planning Area and moderate in the undocumented fill areas.
- *Tsunami or seiche.* A tsunami is a high large seawave generated by sudden displacements in the ocean floor during earthquakes. A seiche is an earthquake generated wave within an enclosed body of water.
  - The potential for significant damage from tsunami or seiche is very low, considering the variable tides, distance of structures from the bay front levee, and the short duration of a tsunami or seiche.

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<sup>1</sup> Alluvium is loose gravel, sand, silt, or clay deposited by streams. Alluvial soils typically occur at the mouth of and in the flood plains of streams or rivers.

- *Landslides.* A landslide is the downslope movement of soil and/or rock.
  - Landslides, a hazard which exists independently of earthquakes, constitute a significant geologic hazard to structures, roads, and utilities in the hillsides of the Planning Area.
- *Expansive soil.* Expansive soils expand (increase in volume) as they absorb water and shrink (lessen in volume) as water is drawn away.
  - Expansive soils are not common in the Planning Area, but can exist in localized areas.
- *Erosion.* Erosion is the weathering away of the land, typically by the action of water, but it can also be from other forces such as ice or wind.
  - The potential for significant erosion damage is limited to localized hillside areas.

#### *Subsidence*

In addition to these hazards, ground subsidence is another geologic concern in the San Rafael Planning Area. Ground subsidence can occur from the consolidation of the compressible bay mud that underlies the eastern portion of the Planning Area. Consolidation of the bay mud can result in significant settlement of the ground surface. Previous fill placed to develop the marsh areas is currently causing ongoing consolidation and settlement of the ground surface. Any new fill or structure loads will induce new settlement in addition to any on-going settlement.

As ground levels are lowered by subsidence, the threat of flooding in East San Rafael becomes serious. Because the consolidation of the bay mud continues over a very long period of time when fill is placed on top of it, much of the early development constructed above the Federal Emergency Management Agency (FEMA) 100-year flood zone has since subsided to elevations below the 100-year flood elevation. Subsidence can also cause damage to structures, utilities, and roadways from differential settlement.

#### ***Mineral Resources***

The only mineral resource located within the Planning Area is the San Rafael Rock Quarry, located at the end of Pt. San Pedro Road and adjacent to the Peacock Gap neighborhood. The property consists of almost 750 acres of land and underwater areas, and it mines, processes, and exports over one million tons of rock and aggregate a year.<sup>2</sup> This site is not planned for redevelopment during the planning time frame of the *San Rafael General Plan 2020*.

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### ***Geology, Soils, and Seismicity – Significance Criteria***

The geology, soils, and seismicity analysis uses criteria from the *State CEQA Guidelines*. The Initial Study determined that the proposed project would have potentially significant geology, soils, and seismicity impacts. Based on the findings of the Initial Study, the proposed project would have a significant geology, soils, and seismicity impact if it would:

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<sup>2</sup> *Who's Minding the San Rafael Rock Quarry?* Marin County Civil Grand Jury, June 2001.

### *Geologic Hazards*

- 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.
- 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.

### *Soil Erosion*

- Result in substantial soil erosion or the loss of topsoil.

### *Expansive Soil*

- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994)<sup>3</sup>, creating substantial risks to life or property.

### *Wastewater Disposal Issues*

- 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.

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## **Geology, Soils, and Seismicity – Impacts and Mitigation Measures**

### **Impact IV.9-1 Seismic Ground Shaking**

*The project would expose people or structures to potential, substantial adverse seismic effects, including the risk of loss, injury, or death involving strong seismic groundshaking. This would be a significant impact.*

The Planning Area has a 70 percent probability of experiencing groundshaking from at least one major earthquake (Moment Magnitude 6.7 or greater) by 2030.<sup>4</sup> Groundshaking can result in structural failure and collapse or cause nonstructural building elements to fall, presenting a hazard to occupants

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<sup>3</sup> Table 18-1-B of the Uniform Building Code (“Classification of Expansive Soil”) simply states the potential expansion as a function of the expansion index of the soil (an Expansion Index of 1-20 has a Very Low potential expansion, 21-50 has Low, 51-90 has Medium, 91-130 has High, and above 130 has Very High potential expansion). The expansion index of the various sites has not been determined, and normally is not determined until site-specific geological investigations are conducted. This would not occur for this project until a project site is selected.

<sup>4</sup> Working Group on California Earthquake Probability, 1999.

and damage to contents. Older, unreinforced masonry buildings and other City buildings constructed before 1930 that have not been seismically retrofitted are most subject to structural failure/collapse. In 1992, the City adopted an Unreinforced Masonry ordinance requiring the upgrade of seismic structural upgrades to all unreinforced masonry buildings. All such buildings have been reinforced, with the exception of one unused City building.

Because of the regional effects of large earthquakes, future developments that occur anywhere within the Planning Area would be subject to groundshaking during such events. Locations where shaking is expected to be more intense are valley and Bay margin areas. These areas are underlain by deeper, unconsolidated deposits, (alluvium and bay mud), and thus are subject to higher amplitude, longer duration shaking motions. As shown in Exhibit B-13 in the *Background Report*, these areas are primarily in the northeast portion of the Planning Area, and in the southeastern part of the Planning Area, with some areas of unconsolidated deposits in the Loch Lomond Marina area and in the lower parts of the Peacock Gap neighborhood. However, this greater shaking potential is recognized in the Uniform Building Code (UBC), which provides for more stringent earthquake resistant design parameters for such areas. Thus, while these shaking impacts are potentially more damaging, they also will tend to be reduced in their structural effects due to UBC criteria.

The *Draft General Plan 2020* contains many policies and standards in the Safety Element, which, if adopted and implemented, would reduce the potential impacts associated with strong seismic groundshaking.

**Policy S-4 Geotechnical Review** would require continued use of the City's Geotechnical Review Matrix as a basis for requiring geotechnical investigations for development proposals. Such geotechnical investigations would reduce impacts due to seismic ground shaking by identifying, characterizing and developing recommendations to mitigate seismic groundshaking impacts.

**Policy S-5 Soils and Geologic Review** would require geotechnical and geologic peer review of development proposals. Peer review would provide an independent, professional opinion on the accuracy and completeness of an applicant's geotechnical report. This could result in additional geotechnical investigation and analysis on the applicant's part if the review identifies new issues or existing issues requiring further evaluation, thereby reducing impacts due to seismic ground shaking.

**Policy S-6 Minimize Potential Effects of Geological Hazards** would require that development proposed within areas with potential geologic hazards shall not be endangered by, nor contribute to the hazardous conditions on the site or on adjoining properties. Sites subject to such hazards shall incorporate adequate mitigation. The city would only approve development in such hazardous areas if the hazards can be appropriately mitigated. Implementation of this policy would require that site specific geotechnical investigation include evaluation of seismic ground shaking hazards for a proposed project and adjoining properties. This would be accomplished through implementation of recommendations developed to minimize ground shaking potential. Such recommendations would include not being endangered by, or contributing to, the ground failure hazards on the project site or adjoining properties.

**Policy S-7 Seismic Safety of New Buildings** would require the design and construction of all new buildings to resist stresses produced by earthquakes. The minimum level of design would be in accordance with the seismic provisions and criteria contained in the most recent version of the Uniform Building Code. This policy would greatly reduce the potential for structural failure and collapse of new structures as a result of earthquake shaking.

Policy **S-8 Seismic Safety of Existing Buildings** would encourage the rehabilitation or elimination of structures susceptible to collapse or failure in an earthquake. This mitigation would minimize the structural failure and collapse of existing, older unreinforced masonry buildings and other buildings constructed before 1930 which have not previously been seismically retrofitted.

Although these policies would reduce some of the impacts associated with strong seismic groundshaking, the potential for damage or loss during an earthquake and prior to mitigation would be a significant impact.

**Mitigation Measure IV.9-1** The City shall adopt a General Plan policy that would require post-earthquake building inspections of critical facilities, and restrict entry into compromised structures. Inspections shall be conducted when the earthquake intensity is VII or higher per the Modified Mercalli Intensity Scale (see **Exhibit IV.9-1**). The Modified Mercalli Intensity scale is a subjective scale and would require City staff to judge the intensity of any earthquake felt within the Planning Area. An intensity VII earthquake would be major earthquake and would represent a notable event felt by most people in the Planning Area. **Exhibit IV.9-2**, below, shows at what distance, in kilometers, from the Planning Area a Magnitude 5, 6, 7, or 8 earthquake should result in a Modified Mercalli Scale intensity of about VII. As shown in this exhibit, intensity VII would be experienced at lower Magnitude earthquakes at greater distances on soft soils than on firm soils or rock. For example, a Magnitude 6 earthquake occurring about 65 kilometers from San Rafael would be experienced as an intensity VII on the Mercalli Scale in the parts of San Rafael that are on soft soils, but not in the parts that are on firm soils or rock. A Magnitude 8 earthquake occurring about 65 kilometers from San Rafael would be needed for an intensity VII on the Mercalli Scale in parts of the Planning Area, on firm soils, and rock.

Additionally, as part of this General Plan policy the city shall require inspections as necessary in conjunction with other non-city public agencies and private parties for structural integrity of water storage facilities, storm drainage structures, electrical transmission lines, major roadways, bridges, elevated freeways, levees, canal banks, and other important utilities and essential facilities.

As part of this policy, the City shall adopt an implementing program to identify a list of facilities that would be inspected. The Community Development Department shall prepare a list that identifies City owned essential or hazardous facilities as defined by Category 1 and 2 of Table 16-K of the Uniform Building Code, and shall prioritize the list for inspection scheduling purposes in case of an earthquake.

**Significance After Mitigation** The policies proposed in Mitigation Measure IV.9-1 would reduce potential seismic groundshaking hazards by confirming the structural integrity of critical facilities after an earthquake. Implementation of the mitigation listed above would reduce potential seismic groundshaking hazards to a less-than-significant level.

**Responsibility and Monitoring** The City Council would be responsible for adopting the new policy, as described in Mitigation Measure IV.9-1, as part of the updated *General Plan 2020*. The Community Development Department would be responsible for implementing and monitoring the policy to minimize hazards associated with strong ground shaking.

To implement this mitigation, the City shall immediately perform a post-earthquake inspection by an emergency response team whose composition shall include building inspectors (Community Development). They shall, as needed, be assisted by structural and geotechnical engineers selected beforehand by San Rafael to provide the adjunct services necessary to evaluate damage levels, and restrict use or entry as found necessary. On state or federal facilities within the City, i.e. State

Highway 101, the City team shall coordinate with the other response teams (i.e. Caltrans) whose responsibilities include those non-City facilities.

Short term monitoring to enforce Mitigation Measure IV.9-1 shall be by the Police and Fire Departments. Longer term monitoring (until rehabilitation or elimination takes place) shall be performed by City building inspectors.

**Exhibit IV.9-1**  
**Modified Mercalli Scale**

<b>Average Peak Velocity (cm/s)</b>	<b>Intensity Value and Description</b>	<b>Average Peak Acceleration (g =9.80 m/s)</b>
	<b>I.</b> Not felt except by a very few under especially favorable circumstances.	
	<b>II.</b> Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.	
	<b>III.</b> Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing automobiles may rock slightly. Vibrations like passing of truck. Duration estimated.	
1-2	<b>IV.</b> During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing automobiles rocked noticeably.	0.015g-0.02g
2-5	<b>V.</b> Felt by nearly everyone, many awakened. Some dishes, windows, and so on broken; cracked plaster in a few places; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.	0.03g-0.04g
5-8	<b>VI.</b> Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster and damaged chimneys. Damage slight.	0.06g-0.07g
8-12	<b>VII.</b> Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.	0.10g-0.15g
20-30	<b>VIII.</b> Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stack, columns, monuments, and walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving cars disturbed.	0.25g-0.30g
45-55	<b>IX.</b> Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.50g-0.55g
More than 60	<b>X.</b> Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed, slopped over banks.	More than 0.60g
	<b>XI.</b> Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	
	<b>XII.</b> Damage total. Waves seen on ground surface. Lines of sight and level distorted. Objects thrown into the air.	

Source: *Earthquakes - Newly Revised and Expanded*, Bruce A. Bolt, Appendix C - Abridged Modified Mercalli Intensity Scale, W.H. Freeman and Co., 1993.

**Exhibit IV.9-2**

**Approximate Earthquake Magnitude and Distances (km) for a Mercalli Scale Intensity Value VII within San Rafael Planning Area (Average Peak Acceleration = 0.10 - 0.15g)**

Soil Type	Moment Magnitude			
	5	6	7	8
Soft Soil	< 30 km	< 65 km	< 180 km	< 500 km
Firm Soil / Rock	< 10 km	< 20 km	< 40 km	< 70 km

Source: Miller Pacific Engineering Group.

**Impact IV.9-2 Seismic Related Ground Failure**

*The project would expose people or structures to potential substantial adverse seismic effects, including the risk of loss, injury, or death from seismic-related ground failures of liquefaction, lateral spreading, lurching, differential settlement, and flow failures. This would be a significant impact.*

In the event of a large earthquake, the Planning Area could locally experience some or all of the above-listed ground failures. Such failures can cause damage to structures, breaking of underground utilities, embankment failures, differential settlement of structures, the cracking of paved areas and the rising toward the ground surface of buoyant buried facilities, such as empty or partially empty storage tanks. The potential for these failures within the Planning Area ranges from moderate to low in the unconsolidated deposits colluvium, alluvium, and bay mud (hill-front, valley, and bay-front areas, respectively) to remote in areas underlain by bedrock (primarily hill-slopes). Failure potential is moderate in undocumented fill areas that might be subject to development at some future time. Such fills are believed to be primarily present over bay mud and in existing landfill areas (the same areas as those identified in Impact IV.9-1, above).

The Safety Element of the *Draft General Plan 2020* contains many policies, which, if adopted and implemented, may reduce the potential impacts associated with seismic-related ground failure.

**Policy S-1 Location of Future Development** would permit development only in those areas where the potential danger to health, safety, and welfare of the residents of the community can be adequately mitigated. Implementation of this mitigation would reduce ground failure impacts on future development by not allowing further development in areas where such hazards cannot be sufficiently mitigated.

**Policy S-2 Location of Public Improvements** would require avoiding the siting of public improvements and utilities in areas with identified hazards, or requires the effective mitigation of such hazards prior to siting. Implementation of this mitigation would reduce ground failure impacts on future public improvements by avoiding identified hazards that cannot be mitigated.

**Policy S-3 Use of Hazards Maps in Development Review** would require review of hazards maps at the time a development is proposed, and the undertaking of appropriate studies to identify and mitigate hazards. This mitigation would reduce potential ground failure impacts by providing one of the first indications of a hazardous condition at a site and alerts the Planning Department and the project applicant that detailed investigation will be necessary for hazard abatement.

**Policy S-4 Geotechnical Review** would require continued use of the City’s Geotechnical Review Matrix as a basis for requiring geotechnical investigations for development proposals. Geotechnical



investigations would reduce ground failure impacts by identifying, characterizing and developing recommendations to mitigate seismic groundshaking impacts.

Policy **S-5 Soils and Geologic Review** would require geotechnical and geologic peer review of development. Peer review would reduce potential ground failure impacts by providing an independent, professional opinion on the accuracy and completeness of an applicant's geotechnical report. This can result in additional geotechnical investigation and analysis on the applicant's part if the review identifies new issues or existing issues requiring further evaluation.

Policy **S-6 Minimize Potential Effects of Geologic Hazards** would require that development proposed within areas with potential geologic hazards shall not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties. Sites subject to such hazards shall incorporate adequate mitigation. The City would only approve development in such hazardous areas if the hazards can be appropriately mitigated. Implementation of this policy would require that site specific geotechnical investigation include evaluation of seismic ground failure hazards for a proposed project and adjoining properties. Mitigation would be accomplished through implementation of recommendations developed to minimize ground failure potential. This would include not being endangered by, or contributing to the ground failure hazards on the project site or adjoining properties

While these policies may reduce some potential impacts associated with seismic-related ground failure, to the extent that public and private development continues to take place, the *Draft General Plan 2020* would still expose people and property to additional risk from seismic ground failure. The potential for damage or loss from such failures, prior to mitigation, would be a significant impact.

**Mitigation Measure IV.9-2** Same as Mitigation Measure IV.9-1

**Significance After Mitigation** The policies proposed in Mitigation Measure IV.9-1 would reduce potential seismic-related ground failure hazards by confirming the structural integrity of critical facilities after an earthquake. Implementation of the mitigation measure listed above should reduce seismic-related ground failures to a less-than-significant level.

**Responsibility and Monitoring** As described above, the City Council would be responsible for adopting the new policy, as described in Mitigation Measure IV.9-1, as part of the updated *General Plan 2020*. The Community Development Department would be responsible for implementing and monitoring the policy to minimize hazards associated with seismically induced ground failures.

**Impact IV.9-3 Landsliding**

*Development consistent with the Draft General Plan 2020 would potentially expose people or structures to the damaging effects of landsliding. This would be a significant impact.*

Much of the Planning Area is occupied by hilly terrain. There is an obvious, but non-uniform correlation between the hilly terrain and the potential for damaging landslides. That is, not all hillsides present the same potential for landsliding. As the amount of hillside development increases, it follows that the potential for landslide damage can also increase. While most of the undeveloped properties in the Planning Area are designated Low Density Residential under the *Draft General Plan 2020*, a significant portion of these properties are designated Hillside Residential, and a smaller portion of those undeveloped properties are Hillside Residential Resource, under the *Draft General Plan 2020*. The Hillside Residential designation is applied to lands characterized by moderate to steep slopes, while the Hillside Residential Resource designation is applied to lands characterized by very steep slopes. Land in both designations may have been identified as having geologic constraints. Thus, to the extent that the *Draft General Plan 2020* allows hillside development, this can lead to some

increased potential for damage. However, this potential can be offset by diligent site selection, careful design, good construction, and long-term maintenance.

In the Planning Area, landslides (including mudslides) constitute a significant geologic hazard to people, structures, roads, and utilities on, and along the base of hillsides. Landslides can occur independently of earthquakes or they can be triggered by earthquake shaking. While most landslides are the result of naturally occurring geologic processes and climate, some human-made factors may trigger landslides, such as improper drainage facilities, indiscriminate grading activities (cuts and/or fills), and loss of vegetation.

The Safety Element of the *Draft General Plan 2020* contains many policies and standards, which, if adopted and implemented, would reduce the potential impacts associated with landsliding.

Policy **S-2 Location of Public Improvements** would reduce landslide impacts on future public improvements by requiring such improvements are not sited in areas with identified hazards, or requiring the effective mitigation of such hazards prior to siting.

Policy **S-3 Use of Hazards Maps in Development Review** would require review of hazards maps at the time a development is proposed, and the undertaking of appropriate studies to identify and mitigate hazards. This policy would provide one of the first indications of a hazardous condition of a site and alerts the Community Development Department and the project applicant that detailed investigation will be necessary for hazard abatement.

Policy **S-4 Geotechnical Review** would require continued use of the City's Geotechnical Review Matrix as a basis for requiring geotechnical investigations for development proposals. Geotechnical investigations would reduce landslide impacts by identifying, characterizing and developing recommendations to mitigate landsliding impacts.

Policy **S-5 Soils and Geologic Review** would require geotechnical and geologic peer review of development. Peer review would reduce landslide impacts by providing an independent, professional opinion on the accuracy and completeness of an applicant's geotechnical report. This can result in additional geotechnical investigation and analysis on the applicant's part if the review identifies new issues or existing issues requiring further evaluation.

Policy **S-6 Minimize Potential Effects of Geologic Hazards** would require that development proposed within areas with potential geologic hazards shall not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties. Sites subject to such hazards shall incorporate adequate mitigation. The City would only approve development in such hazardous areas if the hazards can be appropriately mitigated. Implementing this policy would require that site specific geotechnical investigation include evaluation of landslide hazards for a proposed project and adjoining properties. Mitigation would be accomplished through implementation of recommendations developed to minimize landslide potential. This would include not being endangered by, or contributing to, the landslide hazards on the project site or adjoining properties.

While implementation of the General Plan policies listed above should reduce most landsliding hazards to a less-than-significant level, there would be exceptions that cannot be mitigated entirely. Such possible exceptions are mudslides triggered by very intense periods of rainfall on saturated ground and landslides triggered by intense earthquake shaking. Although policies S-2 through S-6 greatly reduce these landslide impacts, they cannot mitigate them entirely due to the complex subsurface relationships between slope stability and the area-wide effects of intense earthquake shaking and/or intense rainfall. The potential for these impacts is probably somewhat greater in older

hillside residential areas. It is expected to be less in recent and future developments. This is due to a higher level of concern gained from past landslide problems and evolving design standards.

Therefore, to the extent that development continues to take place, the *Draft General Plan 2020* would expose people and property to additional risk from landsliding or loss from such failures. The potential for damage or loss from unrepaired landslides would be a significant impact.

**Mitigation Measure IV.9-3** The City shall develop and adopt a City landslide policy that would define the minimum level of landslide repair and City goals regarding secondary impacts associated with the repair work. The landslide policy would provide a guideline for development of parcels that contain landslides or could be impacted by landslides.

**Significance After Mitigation** Implementation of the mitigation measures listed above would reduce the hazard from repaired landslides to a less-than-significant level. Existing landslides that are not repaired or mitigated would remain a significant and unavoidable impact.

**Responsibility and Monitoring** The City Council would be responsible for adopting the policy, as described in Mitigation Measure IV.9-3, as part of the updated *General Plan 2020*. The Community Development Department would be responsible for implementing and monitoring the above policy as part of *General Plan 2020* to minimize hazards associated with landsliding.

**Impact IV.9-4 Subsidence**

*Development consistent with Draft General Plan 2020 could expose property and structures to the damaging effects of ground subsidence hazards. This would be a significant impact.*

The principal location in the Planning Area where subsidence hazards are anticipated is in East San Rafael. Much of the East San Rafael area is underlain by bay mud of variable thickness. These materials are geologically young, weak, saturated, and very prone to subsidence. Fill, previously placed to enable development in the former marsh areas, has resulted in ongoing consolidation of the bay mud and resultant settlement of the ground surface. The time required to complete settlement of bay mud can range from a few months to several decades. This condition is further complicated by the fact that the protective flood control levees were irregularly constructed and maintained over a long period of time. As a result, they do not have consistent elevations or configurations. The protective freeboard of the levee system is being further reduced by a rising sea level caused by global warming. Settlements not only can cause damage to structures overlying the mud but also damage utilities both above ground and buried. Settlements can also result in flooding as ground levels and overlying protective levees gradually lower.

The complexities of bay mud settlement and the described irregularities of the levee system indicate the East San Rafael area has relatively more impact potential than other general plan areas. This is due to the number of potential impacts (settlement, earthquake shaking intensity, flooding) present in this area. Therefore, relatively more discretion and technical investigation is necessary when evaluating applications for new development and in the diligence of long term maintenance of the existing levee systems.

Much of the areas underlain by bay mud or artificial fill would not be proposed for increased development under the *Draft General Plan 2020*, although these areas could be sites for future infill or redevelopment. There are a handful of vacant parcels in the southeastern portion of San Rafael on artificial fill. Most of these properties are designated Light Industry/Office or General Commercial, while one large property in this area that was previously designated Medium Density Residential

would be redesignated Conservation under the *Draft General Plan 2020*.<sup>5</sup> In addition, there are a few areas in the southeastern part of the Planning Area that would have increased allowable densities and development opportunities under the proposed plan. One such area is in the Loch Lomond Marina, where a Neighborhood Commercial designation would be expanded to allow for increased neighborhood-serving commercial uses and housing.

The Neighborhoods and the Safety Elements of the *Draft General Plan 2020* contain many policies, which if adopted and implemented would reduce the potential impacts associated with land subsidence.

Policy **NH-55 Flood Control Improvements** would reduce the potential for flood damage to existing and future development by encouraging the City to work with the Army Corps of Engineers to prepare a cost-effective flood control program for the Canal front area.

Policy **NH-97 Fill Heights** would provide an interim reduction in the potential for flood damage to existing and near term development by continuing the practice of requiring +7 foot NGVD finished floor elevation after 30 years settlement for major new projects in East San Rafael, until such time as the Public Works Department completes its evaluation of the need and merits of more stringent finished floor elevations due to the rising sea level phenomenon (as part of the Storm Drainage Master Plan).

Policy **S-1 Location of Future Development** would reduce subsidence impacts on future development by permitting development only in those areas where the potential danger to health, safety, and welfare of the residents of the community can be adequately mitigated.

Policy **S-3 Use of Hazards Maps in Development Review** would require review of hazards maps at the time a development is proposed, and the undertaking of appropriate studies to identify and mitigate hazards. This mitigation would provide one of the first indications of a hazardous condition of a site and alerts the Community Development Department and the project applicant that detailed investigation will be necessary for hazard abatement.

Policy **S-5 Soils and Geologic Review** would require geotechnical and geologic peer review of development. Peer review would provide an independent, professional opinion on the accuracy and completeness of an applicant's geotechnical report. This can result in additional geotechnical investigation and analysis on the applicant's part if the review identifies new issues or existing issues requiring further evaluation.

Policy **S-15 Flood Protection of New Development** would minimize flooding impacts for new development by providing for design standards to protect new development within by mud area from flooding, including settlements from consolidation.

Policy **S-17 Levee Upgrading** would minimize flooding impacts to new development and redevelopment properties by requiring levee upgrading when water front properties are developed, redeveloped, or as needed.

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<sup>5</sup> This land use change is shown on **Exhibit III.3-3** and described in **Exhibit III.3-2**. In both of these exhibits it is listed as change number seven (7).

Policy **S-18 Rise in Sea Level** would require coordination and review regarding potential rise in sea level and its long term monitoring. Implementation of this policy would, as found necessary, add additional freeboard to the levee system to offset sea level rise during the general plan period.

These policies would help reduce potential impacts related to subsidence. However, because infill or new development could still occur in areas susceptible to subsidence, the potential for flooding and damage to improvements prior to mitigation would remain. Therefore, this would be a significant impact.

**Mitigation Measure IV.9-4(a)** The City shall amend policy **S-18 Rise in Sea Level** to assure that, prior to levee heightening for flood control purposes, the City shall coordinate with the Intergovernmental Panel on Climate change regarding the most current estimates of sea level rise.

**Mitigation Measure IV.9-4(b)** The City shall adopt a program for **S-17 Levee Upgrading** to perform period ground elevation surveys within the Canal Neighborhood to determine ground elevations throughout the area, including the levee system. The result of the survey shall be used to determine the need for levee heightening for flood protection purposes. When a need for levee heightening is determined, the City shall heighten the levees as necessary on public property and require that levees on private property be heightened.

**Significance After Mitigation** Implementation of the mitigation measures listed above would reduce subsidence and related flooding hazards to a less-than-significant level.

**Responsibility and Monitoring** The City Council would be responsible for adopting the amended policy and the new program, as listed in Mitigation Measures IV.9-4(a) and IV.9-4(b), as part of the updated *General Plan 2020*. The Community Development Department would be responsible for implementing and monitoring the above policies as part of the updated General Plan to minimize hazards associated with subsidence.

**Impact IV.9-5 Erosion**

*There is the potential for the loss of soil resources due to erosion as well as the potential for the exposure of improvements to erosion-related damage. This would be a significant impact.*

The principal locations in the Planning Area where erosion is most likely are hillsides and along stream banks. There is some potential for wave erosion of levees. Natural erosion of hillsides can be accelerated due to disturbance by construction activities (i.e., cuts and/or fills). Such activities typically remove protective vegetative cover, create overly steep slopes, and/or concentrate natural surface runoff thus increasing its erosive force. Stream bank erosion most commonly occurs during wet season peak flows. Often such erosion is highest along, but not limited to, the outside edges of bends in the channel. Stream banks areas undercut by erosion can locally fail by slumping. Wave erosion would occur if levee faces were not adequately protected.

As described below, the Safety, the Conservation, the Air and Water Quality, and the Neighborhoods Elements of the *Draft General Plan 2020* contain many policies and programs, which if adopted and implemented would reduce the potential impacts associated with soil erosion.

Policy **NH-96 Shoreline Embankments** would minimize wave-generated erosion along the levee embankments by requiring riprap on the outside face of levees facing the bay. The riprap would be the type and size approved by the Public Works Department.

Policy **S-2 Location of Public Improvements** would reduce erosion impacts on future public improvements by requiring the siting of public improvements and utilities to avoid areas with identified hazards, or the effective mitigation of such hazards prior to siting.

Policy **S-4 Geotechnical Review** would require continued use of the City's Geotechnical Review Matrix as a basis for requiring geotechnical investigations for development proposals. Geotechnical investigations would reduce erosion impacts by identifying, characterizing and developing recommendations to mitigate erosion hazards.

Policy **S-5 Soils and Geologic Review** would require geotechnical and geologic peer review of development. Peer review would provide an independent, professional opinion on the accuracy and completeness of an applicant's geotechnical report. This could result in additional geotechnical investigation and analysis on the applicant's part if the review identifies new issues or existing issues requiring further evaluation.

Policy **S-6 Minimize Potential Effects of Geologic Hazards** would require that development proposed within areas with potential geologic hazards shall not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties. Sites subject to such hazards would be required to incorporate adequate mitigation. The city would only approve development in such hazardous areas if the hazards can be appropriately mitigated. Implementing this mitigation would require that site specific geotechnical investigation include evaluation of erosion hazards for a proposed project and adjoining properties. Mitigation would be accomplished through implementation of recommendations developed to minimize erosion potential.

Policy **S-19 Erosion** would reduce erosion impacts on future development by requiring appropriate control measures in areas susceptible to erosion in conjunction with development. This policy would require erosion control measures and management practices to conform to most recent editions cited erosion control manuals.

Policy **S-20 Creeks and Drainageways** would reduce potential impacts from stream bank erosion by seeking to retain creek channels in their natural state.

Policy **CON-6 Creek and Drainageway Setbacks** would reduce erosion and siltation impacts of new development in the vicinity of riparian corridors by requiring development-free setbacks from existing creeks and drainageways. These setbacks would be intended to maintain the functions and resulting values of these habitats. Appropriate erosion control and roadway crossings may encroach into the development setback. In the absence of vegetation, this policy would promote new growth of natural habitat.

Policy **CON-12 Preservation of Hillsides** would reduce siltation of adjacent drainages by encouraging the preservation of hillsides, ridgelines and other open areas that serve as habitat and erosion protection, as well as visual backdrops.

Policy **AW-9 Erosion and Sediment Control** would establish development guidelines to protect areas that are particularly susceptible to erosion and sediment loss. This policy would discourage grading during the wet season and require that development projects implement adequate erosion and/or sediment control and runoff discharge measures. Implementation of this mitigation would reduce erosion and siltation in susceptible areas.

While these policies would help reduce potential erosion impacts in most areas, potential impacts to shoreline embankments after large storms would remain significant. Therefore this would be a significant impact.

**Mitigation Measure IV.9-5** The City shall amend **Policy NH-96 Shoreline Embankments** to include the following: After large storms, inspect existing rip-rap on levee faces. Repair and replace as necessary to provide adequate wave erosion protection.

**Significance After Mitigation** Amendment of the General Plan policy listed above would reduce erosion hazards to a less-than-significant level.

**Responsibility and Monitoring** The City Council would be responsible for adopting the amended policy, as listed in Mitigation Measure IV.9-5, as part of the updated *General Plan 2020*. The Community Development Department would be responsible for monitoring the implementation of the amended policy.

**Impact IV.9-6 Expansive Soils**

*Geotechnical review required by the Draft General Plan 2020 would prevent exposure of property improvements to potential adverse effects from expansive soils. This would be a less-than-significant impact.*

While expansive soils are not widely present in the Planning Area, they can exist locally. In general, expansive soils would most likely be encountered in the eastern portions of the City underlain by fill (Qaf) and bay mud (Qm) as shown the geology and stability map in the *Background Report*. The forces exerted during expansion and contraction of such soils is sufficient to heave and distort buildings, and crack shallow foundations and pavements. Table 18-1-B, *Classification of Expansive Soil*, of the Uniform Building Code states the potential expansion as a function of the expansion index of the soil. An Expansion Index of 1-20 has a Very Low potential expansion, 21-50 has Low, 51-90 has Medium, 91-130 has High, and above 130 has Very High potential expansion. Such soils should be recognized prior to construction. In hilly areas, the shrink-swell characteristics of expansive soils can also result in their slow, downslope creep. This can add to the potential for disruption of structures and facilities. Due to the limited amount of such soils in the area the *Draft General Plan 2020* would only minimally expose property to the hazard of expansive soils. Any development on expansive soils, however, would be a significant impact.

The Safety Element of the *Draft General Plan 2020* contains many policies and standards, which, if adopted and implemented, would reduce the potential impacts associated with expansive soils.

**Policy S-1 Location of Future Development** would reduce expansive soils impacts on future developments by permitting development only in those areas where the potential danger to health, safety, and welfare of the residents of the community can be adequately mitigated.

**Policy S-4 Geotechnical Review** would require continued use of the City's Geotechnical Review Matrix as a basis for requiring geotechnical investigations for development proposals. Geotechnical investigations would reduce expansive soils impacts by identifying, characterizing and developing recommendations to mitigate expansive soils hazards.

**Policy S-5 Soils and Geologic Review** would require geotechnical and geologic peer review of development. Peer review would provide an independent, professional opinion on the accuracy and completeness of an applicant's geotechnical report. This could result in additional geotechnical

investigation and analysis on the applicant's part if the review identifies new issues or existing issues requiring further evaluation.

**Policy S-6 Minimize Potential Effects of Geologic Hazards** would require that development proposed within areas with potential geologic hazards shall not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties. Sites subject to such hazards shall incorporate adequate mitigation. The city would only approve development in such hazardous areas if the hazards can be appropriately mitigated. Implementation of this mitigation would require that site specific geotechnical investigation include evaluation of expansive soil hazards for a proposed project and adjoining properties. This would include not being endangered by, or contributing to the expansive soil hazards on the project site or adjacent properties.

Implementation of these *Draft General Plan* policies would reduce expansive soil hazards to a less-than-significant level.

**Mitigation Measure IV.9-6** None required.

**Impact IV.9-7 Septic Suitability of Soils**

*There are limited situations in which development consistent with the Draft General Plan 2020 could result in the construction of septic tanks or alternative wastewater disposal systems on soils incapable of adequately supporting such systems. This would be a potentially significant impact.*

There would be limited situations in the Planning Area where septic systems could occur. According to the Marin County Environmental Health Code, all parcels within 400 feet of an existing sewer line must connect to that District's facilities when a new house or addition is constructed on the parcel. Additionally, Section 15.06.020 of the San Rafael Municipal Code would require that any subdivision of land into two or more lots or parcels would be required to receive wastewater and sewage disposal services from either the San Rafael Sanitation District or the Las Gallinas Valley Sanitary District, depending upon the property location, and would prohibit individual on-site septic systems. Therefore, the only development that would potentially use a septic tank or alternative system would be a single lot that is more than 400 feet from an existing sewer line. Because determination of the septic suitability of soils is site specific, it would be speculative to determine the possibility of such a development occurring on soils incapable of adequately supporting a septic tank or alternative system. Therefore, this would be a potentially significant impact.

**Mitigation Measure IV.9-7** The City shall adopt a General Plan policy that would discourage the use of septic systems within the Planning Area. If no other alternatives exist, then soil tests (i.e. percolation, grain size analysis, soil type) shall be required to determine if the on-site soil are suitable for development of a septic system for disposal of wastewater. In hillside areas, an evaluation of the additional water from a septic system on hillside stability shall also be required. The policy shall require that new or improved septic systems be designed by a registered civil engineer that specializes in septic design.

**Significance after Mitigation** Adoption and implementation of the above policy would reduce septic suitability impacts to a less-than-significant level.

**Responsibility and Monitoring** The City Council would be responsible for adopting the new policy, as listed in Mitigation Measure IV.9-7, as part of the *General Plan 2020*. The Community Development and Public Works Departments would be responsible for monitoring the implementation



of the policy as part of the updated General Plan to minimize the use of septic tanks or alternative systems on soils incapable of adequately supporting such systems.



## IV.10 HYDROLOGY, WATER QUALITY, AND FLOOD HAZARDS

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### **Hydrology, Water Quality, and Flood Hazards – The Setting**

Existing hydrologic and water quality conditions are described in pages B-3 to B-16, Environmental Context, of the *San Rafael General Plan 2020 Background Report (Background Report)*. Flood hazards are discussed on pages G-12 to G-21, Public Services and Facilities – Flooding, of the *Background Report*. These sections of the *Background Report* were reviewed and the information was found to be current as of the issuance of the Notice of Preparation in May 2003. This section is hereby incorporated by reference, and summarized below.

#### **HYDROLOGIC SETTING**

The San Rafael Planning Area encompasses portions of San Rafael and San Pablo Bays plus roughly 31 square miles of baylands, alluvial valleys, and uplands that drain to the western margins of San Pablo Bay. The lowest elevation zones of the bay and alluvial valley depositional province are characterized by tidal marshes, diked and filled baylands, and broad areas of alluvial fan, floodplain, and deltaic deposits. At slightly higher elevations the valley slopes increase and the thickness of the underlying alluvium increases. Urban development is on much of this zone. The Marin uplands erosional province encompasses the highest elevation zone in the Planning Area.

There are ten watersheds identified in the planning area. The principal watersheds are San Rafael Creek, Las Gallinas Creek, and Miller Creek (see Exhibit 36 in the *Draft General Plan 2020*).

San Rafael Creek drains a watershed of approximately 6.5 square miles and elevations in the watershed range from sea level to nearly 1,100 feet. The process of urbanization and the implementation of flood control projects in the watershed have partitioned the San Rafael Creek into two primary reaches referred to as San Rafael Canal and Mahon Creek. The San Rafael Creek Watershed also encompasses the tributary watersheds of Irwin Creek, Black Canyon / Lincoln Creek, and portions of the East San Rafael Drainage Assessment Districts 1 and 2.

The Las Gallinas Creek Watershed encompasses an area of roughly 7.7 square miles in the central portion of the Planning Area and contains a significant zone of tidal marsh. Elevations in the watershed range from sea level to nearly 1,100 feet. Because of the tidal influence on the North Fork of Las Gallinas Creek the low-lying communities of Santa Venetia and Marin Lagoon, as well as the Contempo Marin, are protected by flood control levees. These communities rely on stormwater pumping facilities to evacuate accumulated stormwater during rainstorms.

The 9.8 square-mile Miller Creek Watershed extends from its eastern outlet in San Pablo Bay to Big Rock on the western end of Lucas Valley. Watershed elevations range from sea level to 1,880 feet. Miller Creek was severely re-aligned and leveed east of the Sonoma Marin Area Rail Transit right-of-way in conjunction with the construction of the Las Gallinas Valley Sanitary District facilities.

Mean annual rainfall in the Planning Area ranges from 18 inches to 40 inches or more. Orthographic influences associated with Mt. Tamalpais are responsible for the elevated rainfall totals in the southwestern portion of the Planning Area. Most of the area rainfall occurs during the wet winter

season. Significant runoff events occur in response to prolonged rainfall of two to three days duration, punctuated by short periods of intense nested rainfall.

## **WATER QUALITY**

The quality of stormwater runoff in the Planning Area affects the biotic health of both inland waterways and the downstream receiving waters of San Rafael and San Pablo Bays. It also influences the extent and quality of water-oriented recreational uses. Contaminated runoff is generated and concentrated over impervious surfaces in the urbanized portions of the watersheds and enters storm drains, eventually reaching creeks and San Rafael and San Pablo Bays. Constituents in urban stormwater in the Bay Area typically include fine sediments, heavy metals, trace organics (e.g. pesticides, PCBs), nutrients, and oil and grease.

### **Regulations**

San Rafael falls under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB, or “Regional Board”). The current *Water Quality Control Plan for the San Francisco Bay Basin* was adopted in 1995. This plan describes beneficial uses that the RWQCB will protect and water quality objectives required to achieve those uses.

The RWQCB issues National Pollutant Discharge Elimination System (NPDES) permits as established by the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act) 1987 amendments. In 2003 Phase II NPDES stormwater permitting regulations were implemented. Under this phase of the regulations, all principal Marin municipalities, including San Rafael, will be required to obtain NPDES permit coverage.

In addition to the Phase II stormwater regulations, Marin County municipalities will be required to comply with new federal water quality criteria for total maximum daily loads (TMDLs) designated for several high priority stormwater contaminants, including mercury, PCBs and diazinon. The City currently monitors some outfalls for contaminants that are likely to be regulated by the TMDL water quality criteria.

The Marin County Department of Public Works/Flood Control District administers the Marin County Stormwater Pollution Prevention Program (MCSTOPPP), an organization that provides for the coordination and consistency of approaches between each of the eleven cities and towns and the County as they carry out their own stormwater pollution prevention programs.

The City does not have its own sampling and monitoring program for stormwater and the only actual water quality data for the Planning Area streams is limited to mercury and PCB data that were collected in 1999. Potentially significant contaminant sources (auto repair and body shops) are present in east San Rafael, and all of these operators are required by City Ordinance to convey any non-stormwater discharges (e.g. lubricants and wash waters) to the sanitary sewer system. Gas stations, another potential source of stormwater contaminants are also regulated by the City. New development and redevelopment projects are regulated by City Ordinance guidelines for stormwater “Best Management Practices”.

## **DRAINAGE AND FLOODING**

Prior to European settlement of the present San Rafael area in the 1800s, San Rafael Bay consisted of a significant zone of bayland habitats, including tidal flats and an expansive tidal marsh which

extended inland along the floodplain of San Rafael Creek. These low-lying, bayland habitats have been gradually diked and filled for agriculture and urban development. This development has altered the hydrologic character of the watersheds through an increase in impervious surfaces and the development of underground storm drain systems. Concurrently, the former floodplains of San Rafael and Las Gallinas Creeks and many of their tributaries were encroached upon and the channels were realigned and modified to accommodate development. Beginning in the 1950s urban encroachment has occurred in the Miller Creek Watershed as well.

In the low-gradient downstream reaches of San Rafael, Las Gallinas, and Miller Creeks, the hydrologic impacts that typically accompany floodplain development are compounded by the extent of tidal influence, which on San Rafael and Las Gallinas Creeks extends west of Highway 101. The tidal influence reduces much of the floodwater conveyance potential of the channels and the lower flow velocities increase the rate of channel sedimentation, which further decreases channel capacity. Thus, levees have been constructed to contain floodwaters during significant rainstorms and / or coincident high tides, stormwater pumping stations have been installed to dewater floodplain areas that cannot drain naturally when storm drain outlets are inundated, and periodic dredging of these tidal channels and influent tributary ditches is required.

### ***San Rafael Creek Watershed***

The first documented evidence of flood control protection activities in the San Rafael Creek Watershed was in 1923, which resulted in, among other things, the dredging of a channel in the lower reach of the Creek now referred to as the San Rafael Canal. Flood control projects on San Rafael Creek continued throughout the century, with storm drainage master plans prepared in 1953, 1980, and 1995. Portions of the levee system that protects east San Rafael from tidal flooding have been raised and reinforced by the City over the past 25 years. Current City standards match those of the Army Corps of Engineers, which require new levees to be constructed to an elevation of +10 feet NGVD (National Geodetic Vertical Datum, or 1929 mean sea level) after settlement. However, some of the privately owned and maintained levee segments do not meet this improved standard. The City has also recently completed improvements to area stormwater pumping station facilities that bring flood protection levels due to stormwater influx to roughly that of the 100-year storm. However, significant tidal flooding associated with levee failures and / or overtopping would overwhelm existing pumping facilities.

### ***Las Gallinas Creek Watershed***

Because significant urbanization of the Las Gallinas Creek watershed did not occur until the 1960s and 1970s, the design for the area's stormwater drainage system was in conformance with more stringent engineering standards, even though there was no storm drain master plan. A portion of the upper reach of the Creek has been converted to an urban storm drain system and concrete lined open channel, while a portion of the downstream reach is maintained as an earthen stormwater ditch. There are no significant flood hazard problems within the City-maintained reaches of Las Gallinas Creek; however there is one area of recurrent nuisance flooding. There are two independently owned drainage systems operated by homeowners east of Highway 101: the Contempo Marin mobilehome park and the Marin Lagoon subdivision to the southeast of Contempo Marin.

### ***Miller Creek Watershed***

Like the Las Gallinas Creek Watershed, the bulk of the current urbanization in the Miller Creek Watershed occurred during the 1960s and 1970s, without the guidance of a storm drain master plan. Storm drain systems serve both the Marinwood Subdivision and the newer Lucas Valley Estates

subdivision, which is contiguous to and immediately west of the Marinwood Subdivision. The Marinwood subdivision maintains the largest of the storm drain systems through the Marinwood Homeowners Association (MWHOA). The MWHOA also has maintenance responsibility for the natural reaches of Miller Creek within both the Marinwood Subdivision and Lucas Valley Estates. The St. Vincent's/Silveira Ranch properties, located at the lower end of the watershed, in the tidal influence zone, are not currently slated for urban development. In addition, these parcels have been removed from the City's Sphere of Influence and are not considered under the *Draft General Plan 2020*.<sup>1</sup> Further upstream and west of Lucas Valley Estates and the old McNamara Ranch, the former Grady Ranch property is now owned by Lucasfilm Ltd. An EIR was prepared for the Lucasfilm's Master Plan in the 1990s.<sup>2</sup> No plans are currently pending on implementing the Master Plan. While the upper reaches of Miller Creek have been degraded by cattle access, flooding is not currently a concern upstream of the Marinwood Subdivision. Flooding of residential properties does occur periodically in residential areas immediately east of Las Gallinas Road due to locally inadequate storm drain capacities. In the northern floodplain of Miller Creek, downstream of the Las Gallinas Road crossing, some parcels and streets adjacent to the channel are mapped as FEMA 100-yr. Special Flood Hazard Areas. Some overbank flooding can also occur along the leveed, tidal reach of Miller Creek through the St. Vincent's/Silveira parcel, east of Highway 101.

### **Regulations**

The Marin County Flood Control and Water Conservation District (MCFCD) currently operates and maintains five stormwater pumping stations within the affected areas. The City of San Rafael entered into the National Flood Insurance Program (NFIP), which is administered by the Federal Emergency Management Agency (FEMA), in 1984. This program published the Flood Insurance Rate Maps (FIRMs) for both the 100-year and 500-year flood events. In 1987, the City adopted Ordinance No. 1539 (Title 18) which established guidelines for development permits and construction standards, among other things. City Ordinance No. 1017 *Dumping, Dredging and Construction Within Tidal Waterways* addresses flood protection through the regulation of these activities within its jurisdiction.

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<sup>1</sup> Under the current Countywide Plan for Marin County these properties are have various designations, including Urban and Conservation Reserve (one unit per 100 acres), Public Facilities/Urban and Conservation Reserve, Tidelands (subject to State jurisdiction), and Bay Front Conservation Zone overlay district (applies restrictive policies). The existing zoning is A-2, Agriculture with a two acre minimum lot size. The Countywide Plan Update is expected to be released in February 2004, and would change these designations to reflect low-density residential and agricultural development potential on these properties. Nichols • Berman communication with Ben Berto, County of Marin, January 2004.

<sup>2</sup> *Final Environmental Impact Report; Lucas Film Ltd. Grady Ranch / Big Rock Ranch Master Plan*, Marin County Community Development Agency, June 1996.

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## **Hydrology, Water Quality, and Flood Hazards – Significance Criteria**

The hydrology, water quality, and flood hazards analysis uses criteria from the *State CEQA Guidelines*. The Initial Study determined that the proposed project would have potentially significant hydrology, water quality, or flood hazards impacts. Based on the findings of the Initial Study the project would have a significant hydrology, water quality, or flood hazard impact if it would:

### *Water Quality*

- Violate any water quality standards or waste discharge requirements.
- Otherwise substantially degrade water quality.

### *Groundwater*

- 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).

### *Drainage*

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- 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.
- 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.
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

### *Flooding*

- 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.
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

### *Seiche, Tsunami, and Mudflow*

- Be at risk of inundation by seiche, tsunami, or mudflow.

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## **Hydrology, Water Quality, and Flood Hazards – Impacts and Mitigation Measures**

### **Impact IV.10-1 Water Quality Standards**

*Future development prescribed by the Draft General Plan 2020 would not result a significant increase in the loading of petrochemical contaminants, heavy metals and pesticide and herbicide residues to natural and artificial drainageways within the Planning Area, and ultimately to San Rafael and San Pablo Bays. With implementation of Draft General Plan 2020 policies and programs this would be a less-than-significant impact.*

Regional water quality standards are set by the United States Environmental Protection Agency (USEPA) and the California State Water Resources Board in accordance with the 1971 Clean Water Act and its amendments. The San Francisco Bay Regional Water Quality Control Board (RWQCB) administers the regional and local implementation of the National Pollutant Discharge Elimination System (NPDES) program, which regulates the discharge of contaminants into waterways, including San Francisco Bay and its tributary streams. The NPDES Phase II permit recently issued to Marin County extends permitting for point and non-point source discharges to its constituent municipalities, including the City of San Rafael. Regarding stormwater runoff, the permit stipulates that Marin County and the cities within the county enact specific pollutant control measures. It also applies such measures to construction sites of an acre or more in area. Finally, the Basin Plan for San Francisco Bay allows for the implementation of Total Maximum Daily Load (TMDL) standards to minimize the discharge of particular contaminants to influent Bay waterways. While none of the TMDLs have to date been issued for contaminants identified as impairing these waterways, TMDLs for mercury and the pesticide Diazanone are currently being developed.

Industrial and commercial land uses yield the highest quantities of stormwater contaminants. These uses would occur primarily as infill development and/or redevelopment along the Highway 101 corridor and in the North San Rafael Commercial Center area. The bulk of new residential development would be concentrated in the already developed areas of Terra Linda, Woodland Avenue/Downtown, and potentially in the Peacock Gap area. Peacock Gap development is contingent on the timing of closure and reclamation of the McNear Quarry, which is not expected to occur during the current planning horizon. The removal of the St. Vincent's/Silveira properties from the Planning Area would eliminate any potential impact development might have had on water quality along the tidal reach of Miller Creek. No new subdivision development is projected for the upper reaches of the Miller Creek Watershed. Thus, the impact of any hillside residential development in the watershed should be less-than-significant. In addition, because most of the industrial, commercial, and residential development would be infill or redevelopment, development consistent with the *Draft General Plan 2020* would have no discernable effect on stormwater quality in these already urbanized areas.

Furthermore, the *Draft General Plan 2020* contains several policies and programs in the Neighborhoods, Infrastructure, Conservation, and Air and Water Elements that, if adopted and implemented, would help reduce potential water quality impacts due to the discharge of polluted stormwater runoff to area waterways.

Policy **NH-47 Community-wide Asset** would reduce contaminant influx to streams and Bay waters through the protection of sensitive wildlife habitat areas in the Canal Waterfront neighborhood, which act as natural filters for contaminated runoff.

Policies **NH-52 Canal Maintenance** and **NH-53 Canal Water Quality**, and Programs **NH-52a Dredging Program**, **NH-52b Boating Sanitation and Dock Safety**, and **NH-53a Pump Out Facilities** would reduce contaminant concentrations in stormwater discharge by providing for the



periodic removal and safe disposal of potentially toxic fine sediments dredged from San Rafael Canal; and by requiring adequate refuse, recycling and waste pump-out facilities at harbors and marinas.

Policies **CON-1 Protection of Environmental Resources**, **CON-2 Wetlands Preservation**, **CON-3 Unavoidable Filling of Wetlands**, **CON-4 Wetland Setbacks**, **CON-5 Diked Baylands**, **CON-6 Creek and Drainageway Setbacks**, and **CON-8 Enhancement of Creeks and Drainageways**; and Programs **CON-1b Plans for Environmental Protection (Mahon Creek and Shoreline Park)**, **CON-2a Wetlands Overlay District**, **CON-3a Project Mitigation**, **CON-6a Municipal Code Compliance**, **CON-8a Creek Restoration**, and **CON-8b Creek Enhancement** would reduce the transfer of upland non-point stormwater contaminants to Bay waters and local streams by capturing and settling entrained sediments in stormwater; by providing natural buffer zones along streamcourses to cleanse contaminated stormwater; by mandating mitigation for projects that would affect existing wetlands; and by encouraging creek restoration and enhancement projects along active stream corridors.

**Policy CON-9 Native and/or Sensitive Habitats** and **Policy CON-9a Steelhead Habitat** would improve local water quality through the support of efforts to restore, preserve or enhance Central California Coast Steelhead habitat in Miller Creek and other area creeks. Such activities would typically involve riparian revegetation or restoration, and stream stabilization or restoration where existing channel conditions were either artificial (e.g. concrete or gabion-lined) or degraded (e.g. by cattle access). Each of these restoration or enhancement actions would serve to reduce channel erosion, filter sediments from overland runoff entering the channel and reduce water temperatures via the creation of shade by the developing tree canopy.

Policies **AW-7 Local, State and Federal Standards**, **AW-10 Canal and Bay Boating** and **AW-11 Education and Outreach**, as well as Programs **AW-7a Countywide Stormwater Program**, **AW-7c Water Quality Improvements in Canal and Other Waterways**, **AW-8a Proper Disposal of Pollutants**, **AW-8c System Improvements**, **AW-8d Pesticide and Fertilizer Management**, **AW-8e Public Water Management**, **AW-10a Sanitation Facilities in Boats**, **AW-10b Sewage Pump Out Facilities**, **AW-10c Education of Boaters**, **AW-11a Stenciling of Storm Drains**, **AW-11b Outreach** and **AW-11c Water Pollution Education** would minimize the discharge of both stormwater (i.e. non-point source) contaminants and point-source contaminants to San Rafael Canal and Planning Area creeks by implementing the Countywide Stormwater Pollution Prevention Program and complying with its performance standards; by implementing future TMDL standards per the RWQCB; and by educating the public on the importance of environmental stewardship and the safe storage, handling and application of pesticides, herbicides and fertilizer.

Policies **AW-8 Reduce Pollution from Urban Runoff**, **AW-9 Erosion and Sediment Control**, and Programs **AW-7b Stormwater Runoff Measures**, **AW-8b Compliance by Contractors**, and **AW-9a Grading During Wet Season**, would reduce contaminants conveyed to San Rafael Canal and to Planning Area creeks by requiring and enforcing on-site stormwater treatment and runoff and sediment control measures at construction sites.

Since the majority of the future development in the Planning Area would be infill or redevelopment, with the adoption and implementation of these *Draft General Plan 2020* policies and programs, and compliance with the NPDES Phase II permit, this would be a less-than-significant impact.

**Mitigation Measure IV.10-1** None required.

**Impact IV.10-2 Groundwater**

*Implementation of the Draft General Plan 2020 could result in overall incremental increases in impervious surface cover in some Planning Area watersheds. These increases would be minimal and would not affect groundwater resources. This would be a less-than-significant impact.*

Existing groundwater resources in the Planning Area are very limited; it is either found in fractures in the Franciscan Formation or in shallow alluvial deposits in valleys. A 1978 study on the groundwater potential of the Ross Valley, the largest contained alluvial deposit in the vicinity of the Planning Area, found that the capacity of that source was very limited.<sup>3</sup> Because of this limited supply, groundwater is not used as a water supply for the Marin Municipal Water District (MMWD), which serves the Planning Area. Also, groundwater use by other organizations or by individuals within the Planning Area is very limited due to the restricted availability. Within the City, San Rafael Municipal code would not permit the use of well water for any new development of one lot or more and within the existing service area of a public utility.

Where groundwater is present, it is primarily affected by change in impervious surface coverage. An increase in impervious surface coverage increases surface runoff and decreases rainfall infiltration and groundwater recharge. In the limited cases where wells are used, groundwater is also affected by pumping from those wells. The result of increased surface runoff, decreased groundwater recharge, and/or increased pumping from wells is a lowered groundwater table which can cause a slight reduction in the groundwater discharge to the upper reaches of local creeks. A lowered groundwater table would also decrease both the duration and magnitude of base (i.e. non-storm) flow in less urbanized stream systems, particularly during drought years. This reduction in base flow would also be relatively more pronounced during the dry season, resulting in a possible reduction in the depths of instream pools which are important habitat features for fish and other forms of aquatic life.

All of these things also have the most potential for impacting groundwater when they occur in hillside areas because in hillside areas undiverted stormwater runoff can discharge into alluvial deposits at the valley margin. These valley margin alluvial deposits are an important factor in groundwater recharge. However, very little development would be allowed in the hillside areas under the *Draft General Plan 2020*. Of the planned residential development in hillside areas, the bulk of it would occur as hillside residential and hillside residential resource land use, allowing only two units per acre or less.

Of the three creeks in the Planning Area, only Miller Creek has significant amounts of undeveloped areas within its watershed. Therefore, development within the Miller Creek watershed, particularly in the upper reaches, would have the most potential for impacting groundwater resources. In the Miller Creek watershed, the majority of the new development would be on the large vacant parcel at the northwest corner of the US 101/Lucas Valley Road intersection, which is not in the upper reaches or hillside areas. This parcel would be designated Residential/Office, which permits 15 to 32 units per acre. A development proposal is currently under environmental review through Marin County. The Final Environmental Impact Report for the proposed project determined that the proposed development would not result in significant groundwater impacts.<sup>4</sup> In addition, the nearby St. Vincent's/Silveira properties have been removed from the Planning Area and therefore would not result in changes to groundwater resources.

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<sup>3</sup> *Urban Water Management Plan 2000*, Marin Municipal Water District, February 18, 2003.

<sup>4</sup> *Oakview Final Environmental Impact Report*, Marin County Community Development Agency, June 2002.

Because the majority of the development within the Planning Area would be infill or redevelopment, it would not be expected to increase impervious surfaces and therefore it would not impact groundwater resources. Because of the limited amount of development that would be allowed within the upper reaches of the Miller Creek watershed this too would not impact groundwater resources.

Furthermore, the *Draft General Plan 2020* contains several policies and programs in the Conservation Element that, if adopted and implemented, would reduce groundwater impacts.

Policies **CON-9 Native and/or Sensitive Habitats**, and **CON-10 Impacts to Sensitive Habitats**, and Program **CON-9a Steelhead Habitat** would address potential impacts of groundwater withdrawal on the duration and magnitude of late spring/early summer flows in Miller Creek. These policies and programs direct the City, through the use of the Development Review process, to assure that impacts to groundwater resources would be minimized.

This would be a less-than-significant impact.

**Mitigation Measure IV.10-2** None required.

**Impact IV.10-3 Erosion and Siltation**

*The majority of development consistent with the Draft General Plan 2020 would be infill or redevelopment in already developed areas. Thus, actual incremental increases in project-induced erosion and sedimentation would be limited. At a small number of locales (including school grounds where the construction of staff housing would be permitted), the construction of commercial/industrial and residential projects could disrupt soil surfaces, alter local drainage patterns and create hillslope or floodplain erosion, and potentially cause downstream siltation. However, with implementation of Draft General Plan 2020 policies and programs, this would be a less-than-significant impact.*

Project construction typically increases local impervious surface area, reduces runoff time of concentration and increases peak flow rates in small drainageways where runoff concentrates. Such peak flow increases can increase the erosion potential, both overland and in drainage swales and creeks. Minor increases in tributary flows can also exacerbate creekbank erosion and/or cause destabilizing channel incision. The significance of project impacts varies depending on such factors as project size and density, the extent of storm drain construction, and the extent to which the drainage design incorporates peak flow reduction methodologies (e.g. porous paving, on-site stormwater detention, and other “start-at-the-source” stormwater technologies).

The *Draft General Plan 2020* would result in additional residential, commercial, and industrial development. The bulk of this development would occur in already urbanized areas, particularly in the Downtown and Canal neighborhoods. Because these areas are already urbanized, the impact of development on drainage patterns, and therefore on erosion and siltation, would be limited.

In addition, the *Draft General Plan 2020* contains several policies and programs in the Safety, Conservation, and Air and Water Elements that, if adopted and implemented, would minimize potential erosion and siltation impacts.

Policies **S-19 Erosion**, **S-20 Creeks and Drainageways**, **S-21 RWQCB Requirements**, **CON-1 Protection of Environmental Resources**, **CON-6 Creek and Drainageway Setbacks**, **CON-12 Preservation of Hillsides**, and **AW-9 Erosion and Sediment Control**, and Programs **S-19a Erosion Control Programs**, **S-20a Agency Permits**, **S-21a Compliance with RWQCB**, **CON-6a Municipal Code Compliance**, and **AW-9a Grading During Wet Season** would minimize the impact of

development by requiring the installation of appropriate erosion control measures in accordance with applicable regulatory and resource agency permit conditions; by maintaining creeks in their natural state wherever possible; by implementation of project mitigation measures prescribed during the environmental review process; and by updating the San Rafael Municipal Code in conjunction with changing federal and state regulatory requirements.

The above policies and programs would ensure that development projects are designed and conducted in accordance with accepted engineering practice to minimize local hillslope and channel instability, soil loss, impacts to riparian vegetation and deleterious affects on downstream storm drainage facilities. These measures would also ensure that applicable regulatory statutes are followed during the environmental review and development process. Thus, *General Plan 2020* impacts on erosion and siltation would be less-than-significant.

**Mitigation Measure IV.10-3** None required.

**Impact IV.10-4 Flooding and/or Stormwater Drainage System Capacities**

*Incremental increases in development consistent with the Draft General Plan 2020 would be concentrated in existing urbanized portions of the San Rafael watersheds, which would not be expected to result in quantifiable increases in peak flow rates. This would be a less-than-significant impact.*

Development anticipated by the *Draft General Plan 2020* would be concentrated in existing urbanized portions of Planning Area watersheds, which occur at the lower elevations. This pattern of development would not result in quantifiable increases in peak flow rates for the subject watersheds. Moreover, in only a few places, such as at school sites and sites along Brookdale Avenue, would the development as proposed in the *Draft General Plan 2020* lead to even minor increases in development densities. At these lower positions in the watersheds, the changes in development density (e.g. medium to high density at Brookdale Avenue) would not cause discernible increases in local peak flow rates. Because of these contributing factors, the *Draft General Plan 2020* impact on flooding associated with exceedance of stormwater drainage capacities would be less-than-significant.<sup>5</sup>

**Mitigation Measure IV-11.4** None required.

**Impact IV.10-5 Tidal Flooding**

*Development allowed under the provisions of Draft General Plan 2020 could increase the number and/or extent of residential and commercial construction within low-lying areas currently partially protected by Bay levees, which in some places are inadequate. If global warming accelerates the previously predicted rate of sea level rise, existing 100 year flood levels upon which minimum levee design elevations are based could increase and existing bay levees could be overtopped, resulting in more frequent and more damaging tidal flooding. With implementation of Draft General Plan 2020 policies and programs this would be a less-than-significant impact.*

Because some of the Bay levees are currently inadequate, project development in the low-lying areas of East San Rafael, both within and immediately upstream of the zone of tidal influence, would be

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<sup>5</sup> A discussion of development within federally-designated flood hazard areas and potential exposure of persons and property to flooding is provided in Impact IV.10-5 (Tidal Flooding) and Impact IV.10-7 (Exposure of People or Structures to Flooding).

subject to flooding risk. This risk would be increased if global warming increases the rate of predicted sea level rise. Areas where such project development could occur include the Loch Lomond Marina, the Canalways site, and the Medway/Vivian area. The Bay tide elevation at any given point in time constitutes the downstream control on floodwater surface profiles. High Bay tides coincident with significant watershed storm flow can dramatically increase the flood elevations at the lower end of these tributary channels to San Francisco Bay. Base flood elevations can also be exacerbated by wave runup. The City maintains significant portions of Bay levees and enforces a minimum levee crest elevation (after 30 year settlement) to minimize the extent and duration of tidal flooding due to levee overtopping. If the City were to maintain the existing levee requirements and sea level rise increased much more rapidly than was predicted in the 1988 Bay Conservation and Development Commission study<sup>6</sup> on sea level rise, the frequency and extent of levee overtopping and resulting flooding could increase. Even if the sea level does not rise more rapidly than was predicted in the 1988 study, there would still be the potential for levee overtopping and resulting flooding due to existing inadequate levees.

The *Draft General Plan 2020* contains the several policies and programs that would, if adopted and implemented, minimize the risk of tidal flooding within low-lying areas of east San Rafael:

Policies **NH-52 Canal Maintenance, NH-55 Flood Control Improvements, S-15 Flood Protection of New Development, S-17 Levee Upgrading, and S-18 Rise in Sea Level**, and Programs **NH-52a Dredging Program, NH-55a Flood Control, S-15a Title 18 Flood Protection Standards, S-17a Levee Improvement, S-17b Levee Maintenance Funding, and S-18a Rise in Sea Level** would minimize the likelihood of flooding in the tidal zones adjacent to San Rafael and San Pablo Bays, including the Canal Neighborhood east of downtown, by adhering to federal and regional flood control criteria for siting of new development and upgrading tidal levees as practicable (i.e. as private or federal/state funding allows) needed to control flooding; by seeking funding for the periodic dredging of the San Rafael Canal; and by monitoring the rise in sea level and amending City policies and development criteria accordingly if the rate of sea level rise predicted by the majority of the scientific community (and regional authorities) supports such action.

Implementation of the above policies and programs would minimize project impacts on levee overtopping and tidal flooding due to increases in the rates of global warming and sea level rise. Strict adherence to the implementation of these policies and programs would reduce development impacts to a less-than-significant level.

**Mitigation Measure IV.10-5** None required.

**Impact IV10-6 Stormwater Drainage System Expansions**

*Development consistent with the Draft General Plan 2020 would not require the expansion of existing stormwater drainage systems. This would be a less-than-significant impact.*

When new development alters existing drainage patterns, the extension and/or expansion of downstream storm drainage systems is typically required. The construction of these system expansions would be accompanied by hillslope excavations and possibly by elimination of existing small drainageways. With the conversion of natural drainageways to constructed pipe or concrete storm drain systems would come significant increases of peak flow rates. Drainageway conversions to

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<sup>6</sup> *Sea Level Rise: Predictions and Implications for San Francisco Bay*, San Francisco Bay Conservation and Development Commission, Dec. 1987, Revised October 1988.

storm drain systems can also result in direct increases in hillslope and channel erosion and siltation where new storm drain system expansions transition to existing, natural (i.e. earthen) channels. Such erosion and sedimentation could significantly affect downstream water quality.

Development consistent with the *Draft General Plan 2020*, however, would be concentrated in existing urbanized portions of Planning Area watersheds, which occur at the lower elevations. This pattern of development would not result in quantifiable increases in peak flow rates for the subject watersheds and therefore would not require significant expansions of the stormwater drainage system. Additional development allowed in less urbanized, upstream watershed areas would occur at the lowest residential densities, Hillside Residential (0.5-2 units/acre) and Hillside Residential Resource (0.1-0.5 units/acre). In these cases, storm drain system expansions are typically not financially viable and local drainage patterns and drainageways are maintained. Such development does not discernibly increase watershed peak flow rates, since the time of concentration for storm runoff is not significantly altered. In addition, published runoff coefficients for the comparable hillside residential land use category evaluated by USGS researchers are the same as those utilized for natural watershed uses.<sup>7</sup>

Furthermore, implementation of the *Draft General Plan 2020* policies and programs listed in Impacts IV.10-1 and IV.10-3 would address development impacts stemming from the construction of any new or expanded storm drain facilities. The policies and programs cited in these impacts would apply directly to the water quality, erosion/siltation, and flooding impacts that would accompany any new construction of drainage facilities. Adoption and implementation of these policies and programs would act collectively to further reduce any potential impacts related to construction of stormwater drainage facilities.

Because expansions of the stormwater drainage system are not expected this would be a less-than-significant impact.

**Mitigation Measure IV.10- 6** None required.

**Impact IV.10-7 Exposure of People or Structures to Flooding Hazards**

*Development consistent with the Draft General Plan 2020 would potentially result in the siting of residential or commercial structures in floodplains, subjecting the structures people and/or structures to hazardous floodflows. However, development consistent with the Draft General Plan 2020 would not be expected to increase peak flow rates. Also, with implementation of Draft General Plan 2020 policies and programs related to flooding and hydrology this would be a less-than-significant impact.*

The 100-year floodplains for streams conveying higher discharge floodflows are usually mapped either by the Federal Emergency Management Agency (FEMA) or by consultants retained by the City or the Marin County Flood Control and Water Conservation District. However, smaller streams may not be covered by such technical analyses and their associated floodplain delineations. Adherence to the normal environmental and engineering review procedures utilized by the City should minimize the risk of any flood damage to new development. The parts of the Planning Area that could be subjected to such flood hazards are located in low-lying or immediately adjacent terrain where flooding is influenced by tide heights in San Rafael Bay and the San Rafael Canal. These sites include the Loch Lomond Marina, the Canalways site, the Medway/Vivian area, and the Lindaro area (industrial lots in the vicinity of Davidson Middle School).. The removal of the St. Vincent's/Silveira parcel from the

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<sup>7</sup> US Geological Survey, S.E. Rantz, 1971

Planning Area would eliminate any potential impact development might have had on flooding along the tidal reach of Miller Creek. As discussed in Impacts IV.10-4 and IV.10-6, new development is not expected to cause local increases in peak flow rates, which could affect the performance of existing stormwater drainage facilities (e.g. exceed storm drain capacities) and increase the local exposure to flooding.

Furthermore, the *Draft General Plan 2020* contains policies and programs that, if adopted and implemented, would address development impacts stemming from the construction of new residential or commercial structures in active channel floodplains.

All *Draft General Plan 2020* policies and programs cited above under Impacts IV.10-3, and IV.10-5 would apply directly to this impact since such erosion/siltation and flooding impacts could potentially accompany the new construction of residential and commercial development. Each of these policies and programs would serve to minimize any building exposure to unacceptable flood risks, as determined by the FEMA-mandated 100 year flood level. The centerpiece policy/program affecting the exposure of new development to flood hazards is Policy **S-15 Flood Protection of New Development** and its companion program **S-15a Title 18 Flood Protection Standards**. With implementation of program **S-15a** the City would revise the City flood protection standards based on Federal and regional criteria, including assuring that final floor elevation accounts for 30-year settlements due to consolidation of bay muds. Such a revision would assure that new development would not be exposed to flood hazards.

Because development consistent with the *Draft General Plan 2020* is not expected to cause increases in peak flow rates, and with implementation of the *Draft General Plan 2020* policies and programs discussed above, this would be a less-than-significant impact.

**Mitigation Measure IV.10- 7** None required.

**Impact IV.10-8 Inundation by Seiche, Tsunami or Mudflow**

*Development consistent with Draft General Plan 2020 could result in the construction of low-lying residential or commercial projects that may be subject to inundation by an earthquake-induced tsunami. With implementation of Draft General Plan 2020 policies and programs related to flooding and levee improvements this would be a less-than-significant impact.*

The partially protected San Rafael and western San Pablo Bay areas within the Planning Area would not be subject to potential flooding due to the generation of wind-induced seiches on San Francisco Bay. In addition, hillside development under the *Draft General Plan 2020* would be limited in San Rafael. Furthermore, some parcels with current residential and/or commercial designation would be have Conservation and Open Space designation under the *Draft General Plan 2020*. Thus, the *Draft General Plan 2020* would have a no impact on the potential for inundation due to mudflows triggered by intense rainstorms and associated geological instabilities.

A 7.0-8.0 Richter magnitude earthquake with an epicenter nearby along the northern San Andreas fault, could cause strong tsunamis in the San Rafael and Western San Pablo Bays. The Corps of Engineers' Waterway Experiment Station investigated tsunami generation by earthquakes and the

resulting affect on wave runup in San Francisco Bay.<sup>8</sup> The study predicted 100-year wave runup heights of 4.9 feet for the bayside areas of San Rafael. Given the existing mean high water (MHW) and mean higher high water (MHHW) elevations of 2.54 feet NGVD (National Geodetic Vertical Datum, or 1929 mean sea level) and 3.13 feet NGVD, respectively, the upper range of flood elevations for the 100 year tsunami event is projected to be 7.5 feet to 8.0 feet NGVD. According to City engineering staff, some sections of existing bayside levees have subsided to elevations less than this extrapolated flooding range. Thus, in the absence of a completed program of raising and renovation of these substandard levees, a strong tsunami could overtop or breach portions of the levees and flood adjacent low-lying areas, particularly in East San Rafael. While the removal of the St. Vincent's/Silveira properties from the Planning Area would eliminate any potential impact development might have had on tsunami-generated flooding along the tidal reach of Miller Creek, the potential for such overtopping or breaching remains in other parts of the City.

The *Draft General Plan 2020* contains several policies and programs in the Neighborhoods and Safety Elements that, if adopted and implemented, would require potential developers of properties served by inadequate bayside levees to upgrade levees and provide flood protection levels commensurate with those currently cited in City standards. The City currently requires finished floor elevations of +10 ft. NGVD after 30 years of settlement, which is sufficient to deter overtopping during the 100-year tsunami. .

Implementation of Plan Policies **NH-55 Flood Control Improvements, S-15 Flood Protection of New Development, S-17 Levee Upgrading, and S-18 Rise in Sea Level**, and Programs **NH-55a Flood Control, S-15a Title 18 Flood Protection Standards, S-17a Levee Improvement, S-17b Levee Maintenance Funding, and S-18a Rise in Sea Level** would minimize the likelihood of severe flooding in the tidal zones adjacent to San Rafael and San Pablo Bays, including the Canal Neighborhood, by adhering to federal and regional flood control criteria for siting of new development and upgrading tidal levees to current City standards as a pre-condition for development,; and by monitoring the rise in sea level. These policies and programs would also ensure that the City amend its development criteria if the rate of sea level rise predicted by the majority of the scientific community (and regional authorities) supports such action. Implementation of the policies and programs would act collectively to reduce this impact to a less-than-significant level.

**Mitigation Measure IV.10-8** None required.

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<sup>8</sup> *Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound*, A. Garcia and J.R. Houston, Technical Report H-75-17, Hydraulics Laboratory, U.S. Army Waterways Experiment Station, Vicksburg, MS. Prepared for the Federal Insurance Administration, November 1975.



## IV.11 AGRICULTURE

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### **Agriculture – The Setting**

Within the San Rafael Planning Area there are roughly 3,000 acres of lands identified as *Grazing Land* and an estimated 1,000 acres of land identified as *Farmland of Local Importance* as defined by the California Department of Conservation.<sup>1</sup> All of these farmlands are located in the northern part of the Planning Area and none of these lands are located within the San Rafael City Limits.

The majority of the *Farmland of Local Importance* is on the St. Vincent's / Silveira properties, located between San Rafael and Novato, east of Highway 101. These properties, however, are no longer in the San Rafael Planning Area. Twenty acres of land on property formerly known as the Grady Ranch have also been identified as *Farmland of Local Importance*.

All of the land identified as *Grazing Land* is located along Lucas Valley Road, north of San Rafael and west of Highway 101. The majority of this land is protected through the Lucas Valley Open Space Preserve and the Lucas Valley Homeowners Association, both on the northern side of Lucas Valley Road.

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### **Agriculture – Significance Criteria**

The agriculture analysis uses criteria from the *State CEQA Guidelines*. The Initial Study determined that the proposed project would have a potentially significant agriculture impact. Based on the findings of the Initial Study the project would have a significant agriculture impact if it would:

- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use.

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<sup>1</sup> *Grazing Land* is defined as "Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres."

*Farmland of Local Importance* is defined as "Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee." For Marin County this includes "Land which is not irrigated, but is cultivated; or has the potential for cultivation."

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## **Agriculture – Impacts and Mitigation Measures**

### **Impact IV.11-1 Farmland Conversion**

*Development consistent with the Draft General Plan 2020 will have no adverse effect on conversion of farmland to non-agricultural use. This would be a less-than-significant impact.*

The St. Vincent's/Silveira properties that are considered the majority of the *Farmland of Local Importance* are no longer in San Rafael's Planning Area. Therefore development consistent with the *Draft General Plan 2020* would not convert farmland in that area to non-agricultural use.

The Marin County Open Space District Preserves, including the Lucas Valley Open Space Preserve, protects the land along Lucas Valley Road that are currently identified as *Grazing Land* by the California Department of Conservation.<sup>2</sup> The *Grazing Lands* within the Lucas Valley Homeowner's Association are also protected open space. Due to these protections, these agricultural lands would not be developed.

The remaining private properties that are considered *Grazing Lands*, are on the southern side of Lucas Valley Road. This area includes properties owned by James A. Hetfield (APN 164-320-007, 510 acres; and APN 164-320-14, 611 acres, also known as Luiz Ranch). Approximately 400 acres of APN 164-320-07 has an agricultural conservation easement with the Marin County Open Space District, however a recent survey found that there is no crop production and no cattle grazing was observed on the site.<sup>3</sup> Currently there is no cattle grazing on APN 164-320-14 either. Under the *Draft General Plan 2020* these properties would have a land use designation of Hillside Resource Residential which would allow for a gross density of 0.1 – 0.5 units per acre due to the characteristics of very steep slopes typical of sensitive hillside areas in the Planning Area.

There is no current agriculture use on lands that are not currently protected by open space or agricultural conservation easements. Therefore, development consistent with the *Draft General Plan 2020* would not result in the conversion of any type of farmland to non-agricultural uses. This would be a less-than-significant impact.

**Mitigation Measure IV.11-1** None Required.

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<sup>2</sup> *Open Spaces, Lands of the Marin County Open Space District*, Barry Spitz, Potrero Meadow Publishing Company, 2000.

<sup>3</sup> City of San Rafael communication with Ronald Miska, Marin County Open Space District, December, 2003.

## ***V. IMPACT OVERVIEW***



## **V. IMPACT OVERVIEW**

### **V.1 IMPACTS OF NO SIGNIFICANCE**

As discussed in *Chapter I, Introduction*, the scope of this EIR was determined through a process that included the preparation of an Initial Study in May, 2003. The Initial Study concluded that an EIR would be required for the proposed project and identified a number of topics for analysis in the EIR. Responses to the Notice of Preparation (NOP) further refined the scope of the EIR, as did comments made during the scoping process. Based on this scoping process and the analysis prepared as part of this EIR it has been determined that a number of potential impacts of the *Draft General Plan 2020* would not be significant.

The following topics were dismissed from further analysis by the Initial Study which determined that the project's effects would be less-than-significant with respect to: <sup>1</sup>

#### **II. Agricultural Resources**

- a. Converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- b. Conflicting with existing zoning for agricultural use, or a Williamson Act contract.

#### **IV. Biological Resources**

- e. Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f. Conflicting with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

#### **V. Cultural Resources <sup>2</sup>**

- b. Causing a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.
- c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- d. Disturbing any human remains, including those interred outside of formal cemeteries.

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<sup>1</sup> Numbers refer to items on the City's Initial Study prepared for this project (see *Appendix VIII.1 Initial Study*). The Initial Study describes the reasons for determining that the project would result in a less-than-significant impact and the mitigation measures required to be incorporated into the project. *Initial Study San Rafael General Plan 2020*, County of Sonoma, May 6, 2003.

<sup>2</sup> Subsequent to the preparation of the Initial Study it was decided to conduct further analyses of cultural resources issues in the EIR (see *Section IV.6*).

**VI. Geology and Soils**

- a. Exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.

**VII. Hazards and Hazardous Materials**

- e. For a project within the vicinity of a private airstrip, resulting in a safety hazard for people residing or working in the project area.
- f. Impairing implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- g. Exposing 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.

**IX. Land Use and Planning**

- a. Physically divide an established community.
- c. Conflicting with any applicable habitat conservation plan or natural community conservation plan.

**X. Mineral Resources**

- a. Resulting in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the state.
- b. Resulting in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

**XI. Noise**

- e. For a project within the vicinity of a private airstrip, exposing people residing or working in the project area to excessive noise levels.
- f. For a project within the vicinity of a private airstrip, exposing people residing or working in the project area to excessive noise levels.

**12. Population and Housing**

- b. Displacing substantial numbers of existing housing stock, necessitating the construction of replacement housing elsewhere.
- c. Displacing substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Upon further review it was determined that there would be no direct environmental impacts related to employment or housing. Employment and housing projections are included in **Chapter III Project Description**. Housing projections and policies relating to affordable housing are also included in the Housing Element of the *Draft General Plan 2020*.

**XV. Transportation/Traffic**

- c. Resulting 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.
- d. Substantially increasing hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- e. Resulting in inadequate emergency access.
- f. Resulting in inadequate parking capacity.<sup>3</sup>
- g. Conflicting with adopted policies, plans, or programs supporting alternative transportation (such as bus turnouts, bicycle racks).

**XVI. Utilities and Service Systems**

- g. Complying with federal, state, and local statutes and regulations related to solid waste.

## **V.2 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS**

This section identifies impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the proposed project or other mitigation measures which could be implemented. These impacts are described in detail in **Chapter IV. Environmental Setting, Impacts, and Mitigation Measures**.

**IV.2-3 Level of Service at Third Street and Union Street with Draft General Plan 2020**

Implementation of the proposed *Draft General Plan 2020* would result in increased delay, and degradation in intersection LOS. Intersection LOS would change from acceptable LOS under Baseline conditions to unacceptable LOS under the proposed project. Congestion is due to traffic entering and exiting the Montecito shopping center, queuing for the left turn onto Union Street for the Whole Foods Market, and north/south pedestrian traffic. This change is due to a safety improvement at this intersection. Mitigation measures that would improve traffic operations (e.g., decreasing the signal cycle length) would potentially impair pedestrian safety at this intersection. Therefore, this would remain a significant unavoidable impact.

**IV.2-4 Level of Service at Lincoln Avenue and US 101 Southbound Ramps with Draft General Plan 2020**

Implementation of the proposed *Draft General Plan 2020* would result in increased traffic volumes, delay, and degrade intersection LOS. *Draft General Plan 2020* would result in a change in intersection LOS from E under Baseline conditions to LOS F under the proposed project. The City has examined possible mitigation measures to reduce this impact and has

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<sup>3</sup> Subsequent to the preparation of the Initial Study it was decided to conduct further analyses of parking issues in the EIR (see **Section IV.2**).

determined that, in order to improve operations and the LOS at the ramps, roadway widening would be needed. However, these improvements are considered to be infeasible because they would require substantial right-of-way acquisition, demolition of structures, and roadway widening, particularly to meet geometric requirements for adequate merge/diverge area on 101. Therefore, this would remain a significant unavoidable impact.

**IV.2-5 Level of Service at Mission Avenue and Irwin Street with Draft General Plan 2020**

Implementation of the proposed *Draft General Plan 2020* would result in increased traffic volumes and delay at this intersection; the intersection would continue to operate at LOS F with additional delay. The City has examined possible mitigation measures to reduce this impact and has determined that, in order to improve operations and LOS, roadway widening would be needed. However, these improvements are considered to be infeasible because they would require modifying the US 101 viaduct's support structure on Mission Avenue, acquisition of right-of-way along Belle and Mission and Irwin, demolition of existing buildings at the intersection, and relocation of the sound wall further east. Therefore, this would remain a significant unavoidable impact.

**IV.2-6 Unacceptable City Roadway Segment Level of Service Resulting from Draft General Plan 2020**

Implementation of the proposed *Draft General Plan 2020* would result in LOS on some City roadway segments degrading from acceptable to unacceptable LOS. This degradation would occur despite implementation of feasible mitigation measures included in *Draft General Plan 2020*. Additional widening of these roadways, in addition to improvements included in *Draft General Plan 2020*, could improve traffic operations. Because of the presence of adjacent urban land uses, widening these roadways would require demolition of these land uses, and is therefore considered infeasible. Alternatively, traffic signal coordination would improve conditions, but would impact the LOS for CMP roadways Second and Third Streets, and therefore is also considered infeasible. Therefore, this would remain a significant unavoidable impact.

**IV.2-9 Level of Service along US 101 and I-580 Mainlines Resulting from General Plan 2020**

Implementation of *Draft General Plan 2020* would cause some freeway segments to deteriorate below LOS E. Because of existing right-of-way constraints and land use development adjacent to US 101, improvements beyond the Gap Closure project would require demolition of existing land uses. These potential mitigations, however, require extensive design and environmental work, as well as funding for land acquisition and construction of significant infrastructure replacement. Completion of these mitigations within the timeframe of the plan is not likely. Therefore this would remain a significant and unavoidable impact.

**IV.2-13 Removal of On-Street Parking Spaces along Lincoln Avenue**

Implementation of the proposed land uses in *Draft General Plan 2020* would result in increased traffic volumes, delay, and a decrease in intersection LOS. Improvements would be needed to intersections and arterials. Some improvements include the removal of on-street parking spaces during the peak period to accommodate an additional travel lane, which would provide more capacity for the increased traffic volumes. These improvements have been included as part of the proposed project. Construction of off-street parking facilities would be needed to replace on-street parking spaces. This would probably involve the replacement of existing land uses with the new parking facilities. Alternatively, removal of land uses along Lincoln Avenue would be needed to widen Lincoln Avenue without removing on-street parking. Either replacing existing land uses with parking facilities or removing residential uses to provide a parking lane along Lincoln would be significant impacts. Therefore, this impact is considered significant and unavoidable.



**IV.4-2 Increased Rail Noise** Existing noise sensitive land uses could be exposed to substantially increased noise levels from rail activity. Because implementation of Mitigation Measure IV.4-2 (which would require SMART to conduct detailed noise assessments and implement noise reduction mitigation) would be beyond the jurisdiction of the City of San Rafael, this would remain a significant and unavoidable impact.

**IV.5-3 Release of Hazardous Materials** Development consistent with the *Draft General Plan 2020* could cause a release of hazardous materials. While adoption and implementation of the new General Plan program described in Mitigation Measure IV.5-3, as well as the *Draft General Plan 2020* policies and programs listed in the impact discussion, would help reduce potential hazardous materials impacts, they would not completely eliminate potential damage or loss from a hazardous materials release. The potential for damage or loss from a hazardous materials release would remain a significant and unavoidable impact.

**IV.5-6 Police Services** Development consistent with the *Draft General Plan 2020* would generate demand for police services beyond the existing capacity of the San Rafael Police Department. Implementation of Mitigation Measure IV.5-6(a) would reduce the impacts related to the existing space deficiency to a less-than-significant level. The policies and programs listed in Mitigation Measure IV.5-6(b) for additional police facilities, as well as other *Draft General Plan 2020* policies and programs, would likely reduce many of the environmental impacts associated with the construction or expansion of police facilities to a less-than-significant level. However, analysis of potential impacts without identified sites and complete designs would be speculative. Therefore, this would remain a significant unavoidable impact.

**IV.5-8 Parks** Population increases consistent with the *Draft General Plan 2020* would not exceed current service standards for recreational facilities; however, the existing deficiency in certain types of park facilities would be further exacerbated, thereby requiring the construction of new facilities. While the *Draft General Plan 2020* policies and programs identified in Mitigation Measure IV.5-8 for additional park facilities would likely reduce many of the environmental impacts associated with the construction or expansion of recreational facilities to a less-than-significant level, analysis of potential impacts without identified sites and complete designs would be speculative. Therefore, this would remain a significant unavoidable impact.

**IV.5-9 Library Services** Development consistent with the *Draft General Plan 2020* could increase the demand for library services. While the *Draft General Plan 2020* policies and programs identified in Mitigation Measure IV.5-9 for new or expanded library facilities would likely reduce many of the environmental impacts associated with the construction or expansion of library facilities to a less-than-significant level, analysis of potential impacts without identified sites and complete designs would be speculative. Therefore, this would remain a significant unavoidable impact.

**IV.5-11 Wastewater Treatment Capacity – South of Puerto Suello Hill** Development consistent with the *Draft General Plan 2020* could generate wastewater flows that exceed treatment capacity of the Central Marin Sanitation Agency. Implementation of Mitigation Measure IV.5-11(a) would likely reduce capacity impacts to a less-than-significant level. Adoption and implementation of the policies and programs identified in Mitigation Measure IV.5-11(b) would likely reduce many of the environmental impacts associated with the construction or expansion of wastewater treatment facilities to a less-than-significant level. However, the completion of a Capacity Management Alternative Study and the construction of additional wastewater treatment facilities would be beyond the jurisdiction of the City of San Rafael and would be the responsibility of CMSA and its member agencies. Furthermore, analysis of potential impacts

without identified sites and complete designs would be speculative. Although CMSA is currently planning on recommending to the CMSA Commission that such a study be undertaken in 2004,<sup>4</sup> the City of San Rafael cannot be certain that the Capacity Management Alternative Study would be completed, additional facilities would be constructed, nor that construction-related mitigation would be implemented. Therefore, this would remain a significant unavoidable impact.

**IV.5-12 Water Supply** Development consistent with the *Draft General Plan 2020* could increase the demand for water in the Planning Area. Implementation of Mitigation Measures IV.5-12(a) and IV.5-12(b) would likely reduce water supply impacts to a less-than-significant level. Implementation of the policies and programs identified in Mitigation Measure IV.5-12(a) would likely reduce many of the environmental impacts associated with the construction of the desalination plant, or other water supply construction-related improvements, to a less-than-significant level. However, research into, and development and construction of additional water supply facilities would be beyond the jurisdiction of the City of San Rafael and would be the responsibility of MMWD. The City cannot be certain that the necessary facilities would be constructed, nor that construction-related or operation-related mitigation would be implemented. Furthermore, the desalination process could result in additional environmental impacts not addressed by the *Draft General Plan 2020*. It is beyond the scope of this EIR to analyze specific impacts related to the construction and operation of the desalination plant. Also, it would be speculative to analyze the impacts of other improvements that MMWD determines would be necessary, as those improvements have not yet been identified. Therefore, water supply impacts and secondary construction- and operations-related impacts would remain significant and unavoidable.

**IV.9-3 Landsliding** Development consistent with the *Draft General Plan 2020* would potentially expose people or structures to the damaging effects of landsliding, which would be a significant impact. While implementation of the policies listed in Mitigation Measure IV.9-3 would reduce most landsliding hazards, they cannot mitigate all landslides entirely. Due to the complex subsurface relationships between slope stability and the area-wide effects of intense earthquake shaking and/or intense rainfall, landslides triggered by such groundshaking and mudslides triggered by such rainfall may not be entirely mitigated. This would remain a significant and unavoidable impact.

### **V.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES**

CEQA requires that significant irreversible environmental changes must be addressed in an EIR for the adoption of a plan. Specifically, the EIR must consider whether “uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely.”<sup>5</sup> *Nonrenewable resources*, in this discussion, refer to the physical features of the natural environment, such as land, air, and waterways.

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<sup>4</sup> City of San Rafael communication with Jason Dow, Central Marin Sanitation Agency, January, 2004.

<sup>5</sup> *CEQA Guidelines*, Section 15126.2(c).

The changes in land use designations proposed by the *Draft General Plan 2020* would result in commitment of these areas to the designated uses for the foreseeable future. Additionally, the addition of mixed use designations to the *Draft General Plan 2020* would allow the development of differing uses that may not have been previously anticipated.

Irreversible changes are also likely to occur due to future excavation, grading, and construction activities associated with the development of uses allowed under the *Draft General Plan 2020*. Although these changes can generally be addressed by mitigation measures, the potential for disturbance would represent an irreversible change. The *Draft General Plan 2020* would also result in irreversible changes by increasing densities and introducing development onto the remaining presently undeveloped sites.

Development consistent with the *Draft General Plan 2020* would result in changes to traffic and circulation, and would thus increase air pollution and noise emissions. Other irreversible changes associated with the *Draft General Plan 2020* are the future use of nonrenewable resources during construction, including concrete, glass, plastic, and petroleum products. Operation of future uses would also consume natural gas and electric energy as well as water.

#### **V.4 GROWTH INDUCING IMPACTS**

CEQA requires that an EIR must discuss the ways in which a proposed project could foster population growth or the construction of additional housing in the vicinity of the project and how that growth would, in turn, affect the surrounding environment. Growth can be induced in a number of ways, including through the elimination of obstacles to growth, or through the stimulation of economic activity within the region. The discussion of removal of obstacles to growth relates directly to the removal of infrastructure limitations or regulatory constraints that could result in growth unforeseen at the time of project approval.<sup>6</sup>

Development consistent with the *Draft General Plan 2020* would result in up to 401,000 additional square feet of non-residential uses, 5,104 additional households, and 12,708 more residents within the Planning Area over existing conditions. While the *Draft General Plan 2020* would accommodate this growth, in some instances it would have the effect of restricting development due to changes in land use designations. Adoption of the *Draft General Plan 2020* would not remove infrastructure limitations that otherwise would limit growth, nor would adoption of the plan remove regulatory constraints that could result in future unforeseen growth. Moreover, the proposed changes would be expected to concentrate urban development in areas that already have urban services. Therefore, while the *Draft General Plan 2020* would induce some growth, it would not be expected to have negative growth inducing impacts. Impacts associated with the growth expected with the *Draft General Plan 2020* are analyzed in the appropriate sections throughout this EIR.

#### **V.5 CUMULATIVE IMPACTS**

CEQA requires the analysis of impacts due to cumulative development that would occur independent of, but during the same timeframe as, the project under consideration, or in the foreseeable future. In this context, cumulative impacts are those that, if added to the impacts of the *Draft General Plan*

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<sup>6</sup> CEQA Guidelines, Section 15126.2(d).

2020, would increase the severity or the significance of impacts of the *Draft General Plan 2020*. By requiring an evaluation of cumulative impacts, CEQA attempts to minimize the potential that large-scale environmental impacts would be ignored due to the project-by-project nature of the project-level analyses contained in EIRs.

Each of the topical impact assessments in this EIR takes into consideration, where applicable, the cumulative impacts of the *Draft General Plan 2020*. The cumulative considerations and impacts for each section are summarized below.

### **LAND USE, POPULATION, EMPLOYMENT, AND HOUSING**

The cumulative development scenario for land use includes the development allowed under the *Draft General Plan 2020*. Development within the Planning Area would occur with the implementation of the *Draft General Plan 2020*. As the Planning Area and the surrounding cities and unincorporated areas develop, a greater intensification could result in cumulative land use compatibility impacts. However, implementation of the *Draft General Plan 2020* would result in less-than-significant cumulative land use impacts.

The population, employment, and housing analyses use data for the City as provided in the project description and analyzes these data in a regional context using data available from Association of Bay Area Governments (ABAG). Thus this analysis considers development implications on a regional level and encompasses cumulative impact considerations for the Planning Area. Development consistent with the *Draft General Plan 2020* would result in 12,708 additional residents over the population in 1998 (8,517 since Census 2000), 5,104 additional households, and 1,812 additional jobs. As described in **Section IV.1 Land Use, Population, Employment, and Housing** these increases are consistent with or below the projections for surrounding areas and therefore represent less-than-significant cumulative impacts.

### **TRANSPORTATION AND CIRCULATION**

In preparing the traffic projections for this EIR two traffic modeling efforts were undertaken. The first effort modeled traffic at intersections and segments of local streets. The second effort modeled traffic on regional systems (i.e. US 101). Both of these modeling efforts included projected growth within the Planning Area, as projected under *Draft General Plan 2020*. These efforts also included the Marin County Community Development Association (CDA) land use assumptions for Marin County and Association of Bay Area Governments (ABAG) land use assumptions for the Bay Area, as processed by the Metropolitan Transportation Commission (MTC). The information used was as follows:<sup>7</sup>

- *Planning Area* – for the Planning Area development projected under *Draft General Plan 2020*, as described in **Chapter III Project Description**, was used. CDA information was used for the unincorporated County areas in San Rafael’s Planning Area; General Plan Steering Committee 2020 projections were used for areas within the City of San Rafael.

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<sup>7</sup> Nichols • Berman communication with Fred Vogler, Principal GIS Analyst, Marin County Community Development Association Agency, January 23, 2004.

- *Marin County Cities/Towns and Unincorporated Areas* – for all of Marin County outside of the Planning Area, but including all other cities and towns within the county, CDA information projecting buildout year 2020 of all of the cities, towns, and unincorporated areas was used. The information most recently made available to the CDA by each city and town was used.
- *Bay Area* – for the eight other Bay Area counties (Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco Counties) ABAG projections for year 2020, as processed by MTC, were used.

The modeling included a total of 293 traffic assignment zones for the entire Bay Area, 36 of which were at least partially within the Planning Area.

Therefore, the traffic analysis provided in *Section IV.2 Transportation and Circulation* included cumulative development considerations.

*Intersections* In some cases, implementation of the *Draft General Plan 2020* would result in improved conditions at intersections in the Planning Area. Where this is the case, this would be a less-than-significant cumulative impact and the project would not make a cumulatively considerable contribution to a cumulative impact at those intersections. As identified in Impacts IV.2-3 through IV.2-5 (see *Section IV.2 Transportation and Circulation*), however, implementation of the *Draft General Plan 2020* would result in degraded Levels of Service (LOS) at three intersections and thus significant and unavoidable cumulative impacts. In those situations, this would be a significant cumulative impact and implementation of the *Draft General Plan 2020* would make a cumulatively considerable contribution to these impacts.

*City and CMA Roadway Segments* In most cases, LOS on City roadway segments after implementation of the *Draft General Plan 2020* would not decrease to a level below City standards. In these cases, this would be a less-than-significant cumulative impact. On some other City roadway segments, as identified in Impact IV.2-6 (see *Section IV.2 Transportation and Circulation*), implementation of the *Draft General Plan 2020* would result in degraded LOS to an unacceptable level. Because feasible mitigation would not be available for those segments, this would be a significant cumulative impact. Implementation of the *Draft General Plan 2020* would make a cumulatively considerable contribution to this impact. CMA roadway segments would all operate at an acceptable LOS with implementation of the *Draft General Plan 2020*. This would be a less-than-significant cumulative impact.

*Freeway Facilities* Implementation of the *Draft General Plan 2020* would cause some off ramp queues to deteriorate to an unacceptable LOS. However, because the queues would remain within the off ramp boundaries this would be a less-than-significant cumulative impact. Implementation of the *Draft General Plan 2020* would also cause some freeway segments to deteriorate below an acceptable LOS. Under *Draft General Plan 2020*, San Rafael's contribution to freeway traffic would be a small percentage of the total traffic expected. However, as shown in **Exhibit IV.2-16** in *Section IV.2 Transportation and Circulation*, when considered with traffic due to development throughout the Bay Area, the traffic due to development in the Planning Area would cause several highway sections to operate at an unacceptable LOS. This would be a significant cumulative impact. Implementation of the *Draft General Plan 2020* would make a cumulatively considerable contribution to this impact.

*Parking Facilities* In most cases, removal of parking spaces due to implementation of the *Draft General Plan 2020* would not result in significant cumulative impacts. Along Lincoln Avenue, however, implementation of the *Draft General Plan 2020* would result in increased traffic volumes which in turn would require the removal of parking spaces on the west (northbound) side of Lincoln

Avenue during the AM peak hour, and both sides of Lincoln Avenue during the PM peak hour. A recent parking survey (see **Exhibit VII.3-7** in *Appendix VIII.3 Transportation Data*) showed that there are currently 72 spaces available on the northbound side of Lincoln Avenue during the PM peak hour (with a 59 percent occupancy rate); 113 spaces available on the southbound side of Lincoln Avenue during the AM peak hour (with a 64 percent occupancy rate); and 73 spaces available on the southbound side of Lincoln Avenue during the PM peak hour (with a 97 percent occupancy rate). Loss of these parking spaces, when considered in the context of the surrounding area, would be a less than cumulatively considerable.

*Bicycle and Pedestrian Facilities and Transit Facilities* Implementation of the *Draft General Plan 2020*, when considered along with development throughout the Bay Area would increase the demand for bicycle and pedestrian facilities as well as transit services. It would also result in improvements to bicycle and pedestrian facilities and transit services in the City. This would be a less-than-significant cumulative impact and the *Draft General Plan 2020* would not make a cumulatively considerable contribution to the demand for bicycle and pedestrian facilities.

## **AIR QUALITY**

The *BAAQMD CEQA Guidelines* provide that an individual project be assessed for cumulative impacts based on an evaluation of consistency of the project with the local general plan and the consistency of the local general plan with the regional air plan. No specific cumulative threshold of significance is given for general plans beyond that of consistency with the regional air plan.

If a general plan was found to have a significant air quality impact related to inconsistency with the regional air quality it would also have a significant cumulative impact. The *Draft General Plan 2020* was found to be consistent with regional air quality planning efforts and therefore would not have a significant cumulative air quality impact.

## **NOISE**

The analysis of noise impacts in this EIR is in large part based upon the traffic analysis, which considers cumulative development, as described above. Future development within the Planning Area consistent with the *Draft General Plan 2020* would result in potential cumulative noise level increases along major roadways and near industrial and commercial developments. Each of these noise impacts would be dealt with separately when new noise sensitive or noise generating developments are proposed. Implementation of the *Draft General Plan 2020* would not result in significant cumulative noise impacts that could not be mitigated with the implementation of noise-related policies and programs within the *Draft General Plan 2020*.

## **PUBLIC SERVICES AND UTILITIES**

The projections for the provision of public services and utilities all consider both citywide growth as well as all projected growth within each service area. Because several service areas extend beyond the boundaries of the Planning Area, cumulative impacts are considered within the larger service areas, when applicable.

Future growth consistent with the *Draft General Plan 2020* would increase population and introduce new structures to the Planning Area. This would contribute to cumulative impacts on fire protection services, police protection services, and library services until these services expand their facilities to

meet service requirements for the additional population. This growth would not result in significant cumulative impacts to schools as much of the development allowed under the *Draft General Plan 2020* would be multifamily developments which would not generate a student population that would exceed the schools current capacity. This development would, however, contribute to existing park facilities and water supply deficits, which would result in significant cumulative impacts. This development would also contribute to cumulative wastewater treatment impacts at the Central Marin Sanitation Agency treatment plant. Implementation of the *Draft General Plan 2020* would make cumulatively considerable contributions to these cumulative impacts.

Development in accordance with the *Draft General Plan 2020*, when considered alongside other development projected within Marin County, would increase the intensity of development in Marin County. Compliance with Federal, State, and local regulations concerning the storage and handling of hazardous materials and/or waste would reduce the potential for significant public health and safety impacts from hazardous materials to occur. Additionally, implementation of Mitigation Measures IV.5-3 and IV.5-4 would further reduce potential hazardous materials impacts. Therefore, the impact of the *Draft General Plan 2020* in addition to future development in surrounding areas would not be expected to affect significantly the number of people exposed to public health and safety risks from exposure to hazardous materials; this would be a less-than-significant cumulative impact.

### **CULTURAL RESOURCES**

The cultural resources analysis considers all growth within the Planning Area and the cumulative impacts of such growth on cultural resources. Due to the limited number of undeveloped sites within the Planning Area that could be developed under the *Draft General Plan 2020*, this would be a less-than-significant cumulative impact.

### **VISUAL QUALITY**

The visual quality analysis considers all development within the Planning Area and therefore considers also the cumulative impacts for such development. Future development within the Planning Area consistent with the *Draft General Plan 2020* would result in the intensification of existing urban uses, but very little conversion of vacant lands or open spaces. Such development would be subject to the City's development review process and would not contribute to cumulative visual quality impacts, particularly as, in many cases, new development would be expected to improve the visual quality of some neighborhoods. Additional development could, however, contribute to cumulative nighttime lighting and glare impacts, although implementation of Mitigation Measure IV.7-4 would reduce this potential impact. This would be a less-than-significant cumulative impact.

### **BIOLOGICAL RESOURCES**

The biological resources analysis considers all development within the Planning Area and therefore considers also the cumulative impacts for such development. The project would not result in the loss of extensive areas of natural habitats and associated biological resources. Due to the concentration of future development within already developed areas, development consistent with the *Draft General Plan 2020* would not be expected to have cumulatively considerable impacts on wildlife movement, habitat fragmentation, or federally protected wetlands. While such development could have project-specific impacts to sensitive natural communities and special-status species, with implementation of the associated mitigation measures this would be a less-than-significant cumulative impact.

### **GEOLOGY, SOILS, AND SEISMICITY**

The geologic analysis considers all development and growth within the Planning Area and therefore considers also the cumulative impacts for such development. As the population within the Planning Area grows, the opportunity for geologic, soils, and seismic related hazards grows. Some hazards, such as expansive soils, would be reduced through the City's geotechnical review requirements. However, the landsliding impact would remain a significant impact and would contribute to cumulative landsliding impacts. Implementation of the *Draft General Plan 2020* would result in significant cumulative landsliding impacts and would make a cumulatively considerable contribution to such an impact.

### **HYDROLOGY, WATER QUALITY, AND FLOOD HAZARDS**

The hydrologic analysis considers all development and growth within the Planning Area and therefore considers also the cumulative impacts for such development, including impacts to regional water bodies such as San Rafael Bay and San Francisco Bay. For the Miller Creek watershed, which is not fully contained within the Planning Area, the analysis considers those areas that are outside of the Planning Area, including the St. Vincent's/Silveira properties. Cumulative hydrology and water quality impacts would occur through additional loading of water contaminants in the San Rafael and San Francisco bays, decreases in impervious surfaces for groundwater recharge, and construction. Development consistent with the *Draft General Plan 2020* would not have negative groundwater impacts and therefore would not have cumulative groundwater impacts. Due to the low levels of actual new construction projected with the proposed project, as well as the NPDES Phase II requirements, it would not have cumulative erosion, siltation, or water quality impacts. Because incremental increases in development would be concentrated in the existing urbanized portions of the San Rafael watersheds, cumulative flooding and stormwater drainage impacts would be less-than-significant. Additionally, because the *Draft General Plan 2020* does not propose significant new development within the low lying areas, it would not result in cumulative tidal flooding, seiche, tsunami, or mudflow impacts.

### **AGRICULTURE**

The agriculture analysis considers all development and growth within the Planning Area and therefore considers the cumulative impacts of such development. Development consistent with the *Draft General Plan 2020* would not convert agricultural land and therefore would result in a less-than-significant cumulative impact.



## ***VI. PROJECT ALTERNATIVES***



## **VI. PROJECT ALTERNATIVES**

This EIR examines three alternatives to the project as presently proposed:

**Alternative 1. No Project / No Development** – existing conditions, no further development

**Alternative 2. No project / No Action / General Plan 2000** – continued development under *General Plan 2000*

**Alternative 3. Reduced Development** – a lower intensity development alternative

The alternatives were formulated to provide a realistic and representative range of potential use and development concepts for the City. The principal criterion for selecting the alternatives studied in the EIR was to ensure that the range of concepts evaluated would be sufficient to provide information to the public and public officials to make decisions about the proposed plan.

An EIR conceivably can analyze an infinite number of alternatives or variations on alternatives. However, CEQA directs EIRs to analyze a reasonable range of alternatives to the project or project location which could feasibly attain basic project objectives and would avoid or substantially lessen any of the significant effects of the proposed project. The analysis of a range of alternatives is governed by a “rule of reason”. In order for the analyses to be meaningful for readers, the alternatives also must be distinctly different and readily discernible in order to distinguish between their effects and determine the environmentally preferred alternative.

### **VI.1 ALTERNATIVE 1 NO PROJECT / NO DEVELOPMENT**

This alternative would reflect the existing conditions with no additional development within the City of San Rafael Planning Area. The current conditions in the City of San Rafael Planning Area would remain. The environmental impacts are described by the existing conditions as reflected by the *San Rafael General Plan 2020 Background Report*, dated April, 2001. This alternative reflects the least amount of development of the alternatives analyzed.

**Exhibit VI.1-1**, below, shows the nonresidential development for Alternative 1 (*No Project / No Development*) plus for each of the other alternatives considered and the proposed project. As shown in this exhibit, Alternative 2 (*General Plan 2000*) would have the most commercial and industrial/office development, as well as the most residential units; and Alternative 3 (*Reduced Development*) would have the highest number of lodging rooms. Both the proposed project (*Draft General Plan 2020*) and Alternative 3 (*Reduced Development*) would have the highest amount of recreation development.

**Exhibit VI.1-1**  
**Nonresidential Development, San Rafael General Plan 2020 EIR Alternatives**

<b>Land Use</b>	<b>Draft General Plan 2020 (Proposed Project)</b>	<b>Alternative 1<sup>a</sup> (No Project / No Development)</b>	<b>Alternative 2 (General Plan 2000)</b>	<b>Alternative 3 (Reduced Development)</b>
Commercial (sq. ft.)	9,183,000	9,030,000	9,710,000	9,018,000
Industrial/Office (sq. ft.)	9,279,000	9,031,000	11,812,000	9,279,000
Lodging (rooms) <sup>b</sup>	821	464	464	1,121
Recreation (seat) <sup>c</sup>	5,010	3,010	3,010	5,010
Residential (units) <sup>d</sup>	32,423	28,929	33,984	31,540

<sup>a</sup> Includes existing development and approved projects.

<sup>b</sup> Includes hotels and bed-and-breakfast inns.

<sup>c</sup> Includes entertainment venues such as theaters.

<sup>d</sup> Marin County projections for *households* differs from the City's projections for *residential units* due to a difference in land use coding systems used by the two agencies.

Source: San Rafael Department of Public Works, 2003.

**Exhibit VI.1-2** compares population, households, total employment, and employed residents for each alternative, including the proposed project. As shown in the exhibit Alternative 2 (*General Plan 2000*) would have the highest population and, correspondingly, the highest number of households; Alternative 2 (*General Plan 2000*) would also have the highest total employment and the highest number of employed residents.

**Exhibit VI.1-2**  
**Population and Households, San Rafael General Plan 2020 EIR Alternatives, San Rafael Planning Area**

<b>Category</b>	<b>Draft General Plan 2020 (Proposed Project)</b>	<b>Alternative 1<sup>a</sup> (No Project / No Development)</b>	<b>Alternative 2 (General Plan 2000)</b>	<b>Alternative 3 (Reduced Development)</b>
Population	79,104	66,396	81,935	76,899
Households <sup>b</sup>	31,234	26,130	32,494	30,328
Total Employment	47,394	45,582	50,078	47,582
Employed Residents	46,618	36,187	48,001	45,243

<sup>a</sup> These figures are the most current information available from the County's traffic modeling, and are based on 1998 conditions.

<sup>b</sup> Marin County projections for *households* differs from the City's projections for *residential units* due to a difference in land use coding systems used by the two agencies.

Source: Marin County Department of Public Works, 2003.

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## **Analysis of No Project / No Development Alternative**

### **LAND USE, POPULATION, EMPLOYMENT AND HOUSING**

**Exhibit VI.1-1** compares land use development in the City under this alternative with development under the proposed plan. **Exhibit VI.1-2** compares population and households in the City under this alternative with development under the proposed plan.

This scenario would result in no new development, and all of the existing land uses would remain. Therefore potential new conflicts would not be created, however any existing land use conflicts would also remain. These would be less-than-significant impacts.

Because there would be no change in the population, jobs, or housing, there would be no impacts related to the growth and concentration of population, the employment growth rate, or the jobs-to-housing ratio.

### **TRANSPORTATION AND CIRCULATION**

The discussion in this section corresponds directly to the impacts as numbered in **Section IV.2 Transportation and Circulation**. The impact numbers listed correspond to the impacts in that section.

For the Transportation and Circulation Alternative 1 (*No Project/No Development*) the Baseline conditions developed for the project analysis were used, except for freeway analysis. Baseline conditions includes development which has been approved but not yet built. No additional development is included beyond what has been already approved. The freeway analysis for this alternative uses the latest available information (1998), referred to as Existing conditions.

#### **Intersections**

**Impact IV.2-1** Under Baseline conditions, the following intersections, not including those addressed in Impacts IV.2-2 through 5, below, would operate at unacceptable levels:

- 2<sup>nd</sup> and Grand (LOS E during the PM peak hour)
- 5<sup>th</sup> and A (LOS E during the AM peak hour)
- 5<sup>th</sup> and H (LOS E during the AM peak hour)
- Mission and Grand (LOS E during the AM peak hour)
- Mission and Grand (LOS E during the PM peak hour)
- Smith Ranch and US 101 NB Ramps (LOS E during the AM peak hour)

Because these intersections would not benefit from traffic improvement projects associated with either the *Draft General Plan 2020* or the *General Plan 2000*, impacts at these intersections would therefore remain significant and unavoidable.

**Impact IV.2-2** Under Baseline conditions, the Second Street and A Street intersection would operate at an LOS that is unacceptable for Downtown area intersections (LOS F AM & PM peak). This would be a significant unavoidable impact.

**Impact IV.2-3** Under Baseline conditions, the Third Street and Union Street intersection would operate at an LOS that is acceptable for City intersections (LOS C AM peak / LOS D PM peak). This would be a less-than-significant impact.

**Impact IV.2-4** Under Baseline conditions, during the AM peak hour the Lincoln Avenue intersection with US 101 Southbound ramps would operate at an LOS that is acceptable for City intersections (LOS D). However, in the PM peak hour, this intersection would operate at an LOS that is unacceptable for City intersections (LOS E). This would be a significant unavoidable impact.

**Impact IV.2-5** Under Baseline conditions, during the AM peak hour the Mission Avenue and Irwin Street intersection would operate at an LOS that is acceptable for that intersection (LOS C). However, in the PM peak hour, this intersection would operate at an LOS that is unacceptable for this intersection (LOS F). The increase in delay (for Baseline conditions over Existing conditions) for the PM peak hour would not be greater than five seconds, which would be a less-than-significant impact.

### **City and CMA Roadway Segments**

**Impact IV.2-6** Under Baseline conditions, the following City roadway segments would operate at unacceptable (LOS E or F) levels: <sup>1</sup>

- 2<sup>nd</sup> Street – eastbound from G to Grand (LOS E in the AM peak hour)
- 2<sup>nd</sup> Street – eastbound from G to Grand (LOS E in the PM peak hour)
- 5<sup>th</sup> Street – westbound from Irwin to E (LOS E in the AM peak hour)
- A Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (LOS F in the PM peak hour)
- A Street – southbound from 4<sup>th</sup> to 2<sup>nd</sup> (LOS E in the AM peak hour)
- A Street – southbound from 4<sup>th</sup> to 2<sup>nd</sup> (LOS F in the PM peak hour)
- B Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (LOS E in the AM peak hour)
- B Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (LOS E in the PM peak hour)
- Bellam Boulevard – eastbound from Andersen to Kerner (LOS E in the PM peak hour)
- Bellam Boulevard – westbound from Kerner to Andersen (LOS E in the AM peak hour)
- Bellam Boulevard – westbound from Kerner to Andersen (LOS E in the PM peak hour)
- C Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (LOS E in the AM peak hour)
- C Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (LOS F in the PM peak hour)
- Del Presidio Boulevard – northbound from Las Gallinas to Frietas (LOS F in the AM peak hour)
- Del Presidio Boulevard – northbound from Las Gallinas to Frietas (LOS E in the PM peak hour)
- Del Presidio Boulevard – southbound from Freitas to Las Gallinas (LOS E in the AM peak hour)
- Del Presidio Boulevard – southbound from Freitas to Las Gallinas (LOS F in the PM peak hour)
- E Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (LOS E in the AM peak hour)
- E Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (LOS F in the PM peak hour)
- E Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (LOS F in the AM peak hour)
- E Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (LOS F in the PM peak hour)
- Grand Avenue – southbound from 4<sup>th</sup> to 2<sup>nd</sup> (LOS F in the AM peak hour)
- Grand Avenue – southbound from 4<sup>th</sup> to 2<sup>nd</sup> (LOS F in the PM peak hour)
- Hetherton Street – southbound from Mission to 2<sup>nd</sup> (LOS E in the AM peak hour)

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<sup>1</sup> As described in the *Significance Criteria* section of **Section IV.2 Transportation and Circulation**, a segment would exceed significance thresholds if it is operating at an acceptable LOS under Baseline conditions and would operate at an unacceptable LOS under project conditions. However, for segments that are operating at unacceptable LOS under Baseline conditions, it would exceed significance thresholds if the calculated average travel speed would decrease by five miles per hour or more.

- Hetherton Street – southbound from Mission to 2<sup>nd</sup> (LOS F in the PM peak hour)
- Irwin Street – northbound from 2<sup>nd</sup> to Mission (LOS F in the AM peak hour)
- Irwin Street – northbound from 2<sup>nd</sup> to Mission (LOS F in the PM peak hour)
- Lincoln Avenue – northbound from 2<sup>nd</sup> to US 101 SB/Hammondale (LOS E in the PM peak hour)
- Lincoln Avenue – southbound from US 101 SB/Hammondale to 2<sup>nd</sup> (LOS E in the AM peak hour)
- Lindaro Street – northbound from Andersen to 3<sup>rd</sup> (LOS E in the AM peak hour)
- Lindaro Street – northbound from Andersen to 3<sup>rd</sup> (LOS F in the PM peak hour)
- Lindaro Street – southbound from 3<sup>rd</sup> to Andersen (LOS F in the AM peak hour)
- Lindaro Street – southbound from 3<sup>rd</sup> to Andersen (LOS E in the PM peak hour)
- Mission Avenue – westbound from Irwin to Lincoln (LOS F in the AM peak hour)
- Mission Avenue – westbound from Irwin to Lincoln (LOS F in the PM peak hour)

Because these City roadway segments would not benefit from traffic improvement projects associated with either the *Draft General Plan 2020* or the *General Plan 2000*, this would be a significant unavoidable impact.

*Impact IV.2-7* Because this alternative reflects the Baseline conditions, the roadway segments included in Impact IV.2-6 above represent the roadway segments that would continue to operate at LOS E or F. Therefore, this impact is not applicable to Alternative 1 (*No Project/No Development*).

*Impact IV.2-8* Under Baseline conditions, all of the Congestion Management Agency (CMA) roadway segments would operate at acceptable LOS (LOS D or better). This would be a less-than-significant impact.

### **Freeway Facilities**

*Impact IV.2-9* Under Existing (1998) conditions the following freeway sections would operate at an unacceptable (LOS F) level:<sup>2</sup>

- US 101 – southbound from Cal Park Hill to Sir Francis Drake (LOS F in the AM peak hour)
- US 101 & I-580 interchange – southbound US 101 to eastbound I-580 (LOS F in the AM peak hour)
- US 101 & I-580 interchange – southbound US 101 to eastbound I-580 (LOS F in the PM peak hour)
- US 101 & I-580 interchange – westbound I-580 to northbound US 101 (LOS F in the AM peak hour)
- US 101 & I-580 interchange – westbound I-580 to northbound US 101 (LOS F in the PM peak hour)

Because these freeway sections would not benefit from traffic improvement projects associated with either the *Draft General Plan 2020* or the *General Plan 2000*, this would be a significant unavoidable impact. However, these would have the benefit of the GAP closure project, as described in **Section**

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<sup>2</sup> As described in the *Significance Criteria* section of **Section IV.2 Transportation and Circulation**, a freeway section would exceed significance thresholds if it is operating at an acceptable LOS under Baseline conditions and would operate at an unacceptable LOS under project conditions. However, for segments that are operating at unacceptable LOS under Baseline conditions, it would exceed significance thresholds if there is an increase in the V/C of 0.01 or more.

**IV.2 Transportation and Circulation**, and it is likely that operations would improve somewhat for US 101 southbound from Cal Park Hill to Sir Francis Drake Boulevard.

*Impact IV.2-10* Under Existing (1998) conditions, the same freeway off-ramps would exceed lane storage as under *Draft General Plan 2020*. The vehicle queue would exceed lane storage at two off-ramps:

- US 101 northbound at Second and Irwin
- I-580 eastbound/US 101 northbound at Bellam

The off-ramp approach analysis indicates that the approach vehicle queue would remain within the off-ramp boundaries and would not encroach into the deceleration lane on the freeway. Thus, both of these queues operate at acceptable levels. This would be a less-than-significant impact.

### **Parking Facilities**

*Impacts IV.2-11 through 14* Under the current conditions no parking spaces would be removed and there would be no impacts related to the provision of parking facilities.

### **Bicycle and Pedestrian Facilities and Transit Services**

*Impacts IV.2-15 through 16* Under this alternative there would be no increase in demand for bicycle and pedestrian facilities or transit services and therefore no impacts related to the provision of bicycle and pedestrian facilities or transit services.

## **AIR QUALITY**

The Clean Air Plan is based on existing and projected population and employment numbers. Because this alternative would maintain the existing conditions, and because there is not currently any conflict with the Clean Air Plan, this alternative would not result in a conflict with the Clean Air Plan with respect to population. It would also be expected to result in a rate of increase in Vehicle Miles Traveled (VMT) no greater than the rate of increase in population.

However, while the *General Plan 2000* includes some policies and programs that would support the Clean Air Plan Transportation Control Measures (TCMs), this alternative would not support all of the regional TCMs that are to be implemented by cities. This alternative would therefore result in a significant unavoidable impact due to inconsistency with the TCMs. This alternative would not result in new sources of odors or toxic air contaminants, but would be lacking policies and programs protecting existing and establishing new buffer zones around sources of toxic air contaminants and odors, and would therefore have a significant impact with respect to these pollutants. This impact could be reduced to a less-than-significant level with adoption and implementation of the mitigation measures identified in this EIR.

## **NOISE**

Because there would not be an increase in traffic, there would be no increase in traffic noise. Without any new commercial or industrial projects there would be no impacts related to stationary noise sources. Because there would be no new development, there would be no impacts related to future noise sensitive development near existing noisy environments. While the San Rafael Airport would still be in use, similar to the proposed project, there would be no increase in air traffic at the airport



and there would be no increase in noise-sensitive development surrounding the airport. Because development of SMART is independent of the *Draft General Plan 2020*, there could be potential noise impacts related to SMART activity, which would be a significant unavoidable impact. The San Rafael Quarry and McNear Brickworks would continue operation through 2020, however, no new development would occur within the vicinity of these operations. Thus, similar to the proposed project, this alternative would result in no new impacts related to noise generated by the San Rafael Quarry. In addition, while the areas surrounding San Rafael would continue to develop and would generate additional traffic, the noise generated by this traffic would not result in a significant impact.

### **PUBLIC SERVICES AND UTILITIES**

In this alternative, as there would be no new development, existing development would continue to be served at the existing levels by the existing service providers. Therefore, impacts related to fire protection, wildland fires, police services, schools, library, wastewater treatment north of Puerto Suello Hill, electricity and gas, and landfill capacity would be less-than-significant. Due to existing deficiencies, impacts related to police services, parks, library services, wastewater treatment south of Puerto Suello Hill, and water supply would be significant and unavoidable. Impacts related to the release of hazardous materials and the exposure of underground hazardous wastes would be less-than-significant because no new development would disturb the existing hazardous materials sites or create new hazardous materials sites. Finally, because there are existing schools within one quarter mile of facilities that transport, store, use, and dispose of hazardous materials, this would remain a significant and unavoidable impact.

### **CULTURAL RESOURCES**

Because there would be no new development there would be no potential impacts to cultural resources. However, the *Draft General Plan 2020* does include policies and programs that could potentially *benefit* historic structures by encouraging the re-use and/or restoration of the projects. Presumably, with no new development these structures would not benefit from re-use or restoration. This alternative would not result in significant cultural resources impacts.

### **VISUAL QUALITY**

Because there would be no new development (besides what has already been approved) there would be no new impacts to the visual quality of the City. Scenic resources would be maintained in their current setting, there would be no new conflicts between adjoining development, and the potential for aesthetically displeasing new development would be eliminated. There could, however, be impacts to nighttime lighting, as existing developments could upgrade or otherwise alter their outdoor lighting. This could represent a significant impact as lighting plan review is currently required only for new construction. However, this impact could be reduced to a less-than-significant level with adoption and implementation of the mitigation measures identified in this EIR.

### **BIOLOGICAL RESOURCES**

As no new development would occur, impacts to special status plant and animal species, and sensitive natural communities, including wetlands, would not occur with this alternative. Existing wetlands, woodlands, and riparian habitats in particular would benefit under this alternative. There would still be potential significant unavoidable impacts due to the introduction of exotic species as existing

landscapes mature and/or are replaced, because the policies and programs associated with the *Draft General Plan 2020* would not be implemented.

### **GEOLOGY, SOILS, AND SEISMICITY**

Because there would be no new development, this alternative would represent no new impacts due to development on unstable soils. Groundshaking, landsliding, subsidence, expansive soils, and earthquake related ground failure hazards would all represent a less-than-significant impact because there would be no new development on unstable soils. In addition, because this alternative would not increase population or employment within the City, there would not be an increased number of people potentially affected by such hazards. Because there would be no new development, the potential loss of soil resources and damage due to erosion would be a less-than-significant impact. Again, because there would be no new development, no new septic systems would be expected and therefore there would be no potential impact related to the septic suitability of soils.

### **HYDROLOGY, WATER QUALITY, AND FLOOD HAZARDS**

Because there would be no new development there would be no increased potential for impacts to water quality, groundwater, or the stormwater drainage system. Erosion and creek siltation, which is typically due to increased development, would not occur, however creek improvements that may also be associated with developments would not occur either. This alternative would not result in any additional development, and therefore no additional people, within areas that could be inundated by tidal flooding, storm event flooding, seiche, tsunami, or mudflow, therefore representing a less-than-significant impact for those hazards. In addition, because there would be no additional development, there would be no impacts associated with flooding or stormwater drainage system capacity.

### **AGRICULTURE**

Because there would be no development with this alternative there would be no impacts to agricultural lands.

## **VI.2 ALTERNATIVE 2 NO PROJECT / NO ACTION / GENERAL PLAN 2000**

Alternative 2 (*No Project/No Action/General Plan 2000*) assumes that no General Plan is adopted for the City, and future development would continue to be guided by the existing General Plan, *General Plan 2000*, and zoning. This alternative reflects growth under existing *General Plan 2000* policies, assuming feasible infrastructure improvements and community services. One significant policy from *General Plan 2000* that would not be included in this alternative is the extension of McInnis Parkway from its current terminus at Marin Lagoon to Highway 37, described as the ‘east side arterial’ in Policy C-8e. The McInnis extension is currently not funded, *Vision North San Rafael* recommends

against the extension, and the Novato General Plan does not include the roadway in its circulation network.<sup>3</sup>

As shown in **Exhibit VI.1-1** and **VI.1-2**, this alternative would result in a higher level of growth than the *Draft General Plan 2020*. Buildout under the existing General Plan would include the potential for about 5,055 new residential units and 3,461,000 square feet of new nonresidential development within the City limits. This maximum buildout includes 1,561 more residential units than projected under the *Draft General Plan 2020*, and an increase of 3,060,000 square feet of nonresidential development beyond the projections of the *Draft General Plan 2020*. With this buildout, there would also be an increase in population and employment within the Planning Area: development consistent with the existing General Plan would result in 15,539 additional residents over the population in 1998 (11,348 since Census 2000) and 4,496 additional jobs. This is in comparison to the 12,708 additional residents (8,517 since Census 2000) and 1,812 additional jobs that would be expected with the *Draft General Plan 2020* within the Planning Area.

In this alternative, the existing regulations would continue existing patterns of land use, including single-use General Commercial, Office, and Marine districts. In addition, very limited development would occur Downtown as this area is essentially considered built-out under the EIR for *General Plan 2000*. At the Canalways, San Rafael Airport, and St. Vincent's/Silveira properties more development would occur in this alternative than with the proposed project.

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## ***Analysis of Alternative 2 (No Project / No Action / General Plan 2000)***

### ***LAND USE, POPULATION, EMPLOYMENT AND HOUSING***

**Exhibit VI.1-1** compares land use development in the City under this alternative with development under the proposed plan. **Exhibit VI.1-2** compares population and households in the City under this alternative with development under the proposed plan.

As shown in these exhibits, and described above, development under this alternative would be higher than that under the *Draft General Plan 2020*, and higher than development under the other alternatives. This increased development would also result in a slightly larger population in the Planning Area as well as considerably more jobs. The existing General Plan's traffic allocation program (the Priority Projects Procedure) only applies to projects at two highway 101 interchange areas (Bellam and Freitas) while the *Draft General Plan 2020* contains a policy and program to expand the program to a 'project selection process' to allow for a broader evaluation of development benefits, and to require that all appropriate projects citywide participate in the program (rather than just those in the two interchange areas listed above).

Another major difference with this alternative is the inclusion of the St. Vincent's/Silveira properties. The inclusion of these properties in the Planning Area for this alternative significantly increases the potential development opportunities. The existing General Plan would also allow considerably more

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<sup>3</sup> Note that the McInnis extension is also mentioned in Policies C-3a, NG-4, NG-19, SVS-2, SVS-5, and SVS-19 of the *General Plan 2000*. The McInnis extension is listed in the Circulation Background section of the *General Plan 2000* as a street system improvement "needed to serve the St Vincents/Silveira/Northgate area". It is described on page CircB-18.

development in areas outside of Downtown, such as in the San Rafael Airport area and on the Canalways properties. In contrast, the *Draft General Plan 2020* focuses future growth in the city's commercial areas, and does not include residential or commercial development on the sites listed above.

Because of the increased level of development, there are increased opportunities for land use conflicts, particularly in the areas outside of Downtown. This would result in significant land use impacts. With the increased development there would also be an increase in population, employment, and housing. These increases would not result in significant growth, but similar to the project, they would result in significant secondary impacts related to public services and utilities (see below).

## **TRANSPORTATION AND CIRCULATION**

The discussion in this section corresponds directly to the impacts as numbered in *Section IV.2 Transportation and Circulation*. The impact numbers listed correspond to the impacts in that section.

### **Intersections**

*Impact IV.2-1* Development under Alternative 2 (*General Plan 2000*) conditions would result in unacceptable LOS at 34 combinations of intersections and peak hours, not including those intersections addressed in Impacts IV.2-2 through 5, below. With *General Plan 2000* improvements the following 9 of those intersections would be changed to an acceptable LOS:

- 2<sup>nd</sup> and A (LOS F in the AM peak hour – changed to LOS B)
- 2<sup>nd</sup> and A (LOS F in the AM peak hour – changed to LOS D)
- 3<sup>rd</sup> and A (LOS E in the PM peak hour – improved to less delay in LOS E)
- 5<sup>th</sup> and A (LOS E in the AM peak hour – changed to LOS C)
- 5<sup>th</sup> and H (LOS E in the AM peak hour – changed to LOS B)
- Mission and Grand (LOS E in the AM peak hour – changed to LOS D)
- Mission and Grand (LOS E in the PM peak hour – changed to LOS D)
- Smith Ranch and 101 northbound ramps (LOS E in the AM peak hour - changed to LOS C)

The remaining 25 intersections, not including those addressed in Impacts IV.2-2 through 5, would operate at an unacceptable LOS, even with *General Plan 2000* improvements:

### *Unsignalized Intersections*

- 101 SB On & Francisco West (LOS F during the AM peak hour)
- 101 SB On & Francisco West (LOS F during the PM peak hour)
- Castro and Francisco East (LOS F during AM peak hour)
- Castro and Francisco East (LOS F during PM peak hour)
- Redwood and Paul (LOS F during the AM peak hour)
- Redwood Highway and US 101 NB on-ramp (LOS F during PM peak hour)
- Woodland and DuBois (LOS F during the AM peak hour)
- Woodland and Irwin (LOS E during the AM peak hour)
- Woodland and Irwin (LOS F during the PM peak hour)

### *Signalized Intersections*

- 2<sup>nd</sup> and Grand (LOS E during the AM peak hour)
- 2<sup>nd</sup> and Grand (LOS F during the PM peak hour)
- 3<sup>rd</sup> and Hetherton (LOS E during the AM peak hour)
- 3<sup>rd</sup> and Hetherton (LOS E during the PM peak hour)
- 4<sup>th</sup> and Ross Valley (LOS E during the AM peak hour)
- Andersen and Lindaro (LOS E during the PM peak hour)
- Freitas and Redwood (LOS E during the AM peak hour)
- Irwin and Andersen (LOS E during the PM peak hour)
- Merrydale Over-Crossing and Civic Center (LOS F during the AM peak hour)
- Merrydale Over-Crossing and Civic Center (LOS F during the PM peak hour)
- Merrydale Over-Crossing and Las Gallinas (LOS E during the AM peak hour)
- Merrydale Over-Crossing and Las Gallinas (LOS F during the AM peak hour)
- Mission and Lincoln (LOS E during the AM peak hour)
- Mission and Lincoln (LOS E during the PM peak hour)
- Smith Ranch and Redwood Highway (LOS F during the AM peak hour)
- Smith Ranch and Redwood Highway (LOS E during the PM peak hour)

Development consistent with the *General Plan 2000* would result in unacceptable LOS at a number of intersections throughout the City, as listed above. Even with improvements proposed in the *General Plan 2000*, this would be a significant unavoidable impact.

*Impact IV.2-2* The Second Street and A Street intersection would operate at an LOS that is acceptable for Downtown intersections (LOS B AM peak / LOS D PM peak). This would be a less-than-significant impact.

*Impact IV.2-3* The Third Street and Union Street intersection would operate at an LOS that is unacceptable for City intersections (LOS D AM peak / LOS E PM peak). This would be a significant unavoidable impact.

*Impact IV.2-4* The Lincoln Avenue and US 101 intersection would operate at an LOS (LOS F AM & PM peak) that is unacceptable for City intersections. This would be a significant unavoidable impact.

*Impact IV.2-5* The Mission Avenue and Irwin Street intersection would operate at an LOS (LOS E AM / LOS F PM) that is acceptable for that intersection. The increase in delay for the PM peak hour would not be greater than five seconds (from 98.9 seconds under Baseline conditions to 102.3 seconds under *General Plan 2000* conditions). This would be a less-than-significant impact.

### **City and CMA Roadway Segments**

*Impact IV.2-6* Under Alternative 2 (*General Plan 2000*) conditions the following City roadway segments would exceed significance criteria thresholds:<sup>4</sup>

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<sup>4</sup> As described in the *Significance Criteria* section of **Section IV.2 Transportation and Circulation**, a segment would exceed significance thresholds if it is operating at an acceptable LOS under Baseline conditions and would operate at an unacceptable LOS (LOS E or F) under project conditions. However, for segments that are operating at unacceptable LOS under Baseline conditions, it would exceed significance thresholds if the calculated average travel speed would decrease by five miles per hour or more.

- A Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (LOS E in the AM peak hour)
- A Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (LOS F in the PM peak hour)
- Bellam Boulevard – eastbound from Andersen to Kerner (LOS E in the AM peak hour)
- Civic Center Drive – southbound from Merrydale Over Crossing to North San Pedro (LOS E in the AM peak hour)
- D Street – southbound from 4<sup>th</sup> to Bayview (LOS E in the AM peak hour)
- Freitas Parkway – eastbound from Las Gallinas to 101 NB on/Civic Center (LOS F in the AM peak hour)
- Freitas Parkway – eastbound from Las Gallinas to 101 NB on/Civic Center (LOS F in the PM peak hour)
- Grand Avenue – northbound from 2<sup>nd</sup> to Mission (LOS F in the PM peak hour)

Unacceptable LOS at these City roadway segments would represent a significant and unavoidable impact.

*Impact IV.2-7* Under Alternative 2 (*General Plan 2000*) conditions, several City roadway segments that operate at LOS E or F under Baseline conditions would continue to operate at LOS E or F. In some cases, the peak hour operations would slightly improve (i.e., vehicle speed would increase).

In the following cases, segments that operate at LOS E or F under Baseline conditions would improve to LOS D or better under Alternative 2 conditions:

- 2<sup>nd</sup> Street – eastbound from G to Grand (AM peak hour)
- 2<sup>nd</sup> Street – eastbound from G to Grand (PM peak hour)
- 5<sup>th</sup> Street – westbound from Irwin to E (AM peak hour)
- Bellam – westbound from Kerner to Andersen (AM peak hour)
- Del Presidio – northbound from Las Gallinas to Freitas (PM peak hour)
- Del Presidio – southbound from Freitas to Las Gallinas (AM peak hour)
- Lincoln – southbound from US 101 SB/Hammondale to 2<sup>nd</sup> (AM peak hour)

In addition, the following segments would remain at LOS E or F, but vehicle speeds would improve or stay the same:

- Bellam – eastbound from Andersen to Kerner (PM peak hour)
- C Street – northbound from 1<sup>st</sup> to 5<sup>th</sup> (PM peak hour)
- Del Presidio – southbound from Freitas to Las Gallinas (PM peak hour)
- E Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (AM peak hour)
- E Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (AM peak hour)
- E Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (PM peak hour)
- Hetherton – southbound from Mission to 2<sup>nd</sup> (PM peak hour)
- Irwin – northbound from 2<sup>nd</sup> to Mission (AM peak hour)
- Irwin – northbound from 2<sup>nd</sup> to Mission (PM peak hour)
- Lindaro – southbound from 3<sup>rd</sup> to Andersen (AM peak hour)
- Mission – westbound from Grand to Lincoln (AM peak hour)
- Mission – westbound from Grand to Lincoln (PM peak hour)

In other cases, however, the peak hour operations would not improve (i.e., vehicle speed would decrease). The segments listed below operate at LOS E or F under Baseline conditions and would continue to operate at LOS E or F, and calculated traffic speeds would decrease. However, because the calculated traffic speeds would decrease less than five miles per hour, this decrease would be below the threshold of significance. These segments are:

- A Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (PM peak hour)
- A Street – southbound from 4<sup>th</sup> to 2<sup>nd</sup> (AM peak hour)
- A Street – southbound from 4<sup>th</sup> to 2<sup>nd</sup> (PM peak hour)
- B Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (AM peak hour)
- B Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (PM peak hour)
- Bellam – westbound from Kerner to Andersen (PM peak hour)
- C Street – northbound from 1<sup>st</sup> to 5<sup>th</sup> (AM peak hour)
- Del Presidio – northbound from Las Gallinas to Freitas (AM peak hour)
- E Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (PM peak hour)
- Grand – southbound from Mission to 2<sup>nd</sup> (AM peak hour)
- Grand – southbound from Mission to 2<sup>nd</sup> (PM peak hour)
- Hetherton – southbound from Mission to 2<sup>nd</sup> (AM peak hour)
- Lincoln – northbound from 2<sup>nd</sup> to 101 SB/Hammondale (PM peak hour)
- Lindaro – northbound from Andersen to 3<sup>rd</sup> (AM peak hour)
- Lindaro – northbound from Andersen to 3<sup>rd</sup> (PM peak hour)
- Lindaro – southbound from 3<sup>rd</sup> to Andersen (PM peak hour)

Although the vehicle speed would decrease slightly in these roadway segments, the decrease does not exceed the significance threshold of five miles per hour. Therefore, this would be a less-than-significant impact.

*Impact IV.2-8* Under Alternative 2 (*General Plan 2000*) conditions, all of the CMA roadway segments operate at acceptable LOS (LOS D or better). This would be a less-than-significant impact.

#### **Freeway Facilities**

*Impact IV.2-9* Under Alternative 2 (*General Plan 2000*) conditions the following freeway sections would operate at an unacceptable (LOS F) level: <sup>5</sup>

- US 101 – southbound from Pacheco Hill to Miller Creek (AM peak hour)
- US 101 – northbound from Miller Creek to Pacheco Hill (PM peak hour)
- US 101 – northbound from Sir Francis Drake to Cal Park Hill (PM peak hour)
- US 101 & I-580 interchange – westbound I-580 to northbound US 101 (AM peak hour)
- US 101 & I-580 interchange – westbound I-580 to northbound US 101 (PM peak hour)
- I-580 – eastbound at Richmond Bridge (PM peak hour)
- I-580 – westbound at Richmond Bridge (AM peak hour)

Unacceptable LOS at these freeway sections would be a significant unavoidable impact.

*Impact IV.2-10* Under Alternative 2 (*General Plan 2000*) conditions, the same freeway off-ramps would exceed lane storage as under *Draft General Plan 2020*. The vehicle queue would exceed lane storage at two off-ramps:

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<sup>5</sup> As described in the *Significance Criteria* section of *Section IV.2 Transportation and Circulation*, a freeway section would exceed significance thresholds if it is operating at an acceptable LOS under Baseline conditions and would operate at an unacceptable LOS under project conditions. However, for segments that are operating at unacceptable LOS under Baseline conditions, it would exceed significance thresholds if there is an increase in the V/C of 0.01 or more.

- US 101 northbound at Second and Irwin
- I-580 eastbound/US 101 northbound at Bellam

The off-ramp approach analysis indicates that the approach vehicle queue would remain within the off-ramp boundaries and would not encroach into the deceleration lane on the freeway. Thus, both of these queues operate at acceptable levels. This would be a less-than-significant impact.

### **Parking Facilities**

*Impacts IV.2-11 through 14* Similar to *Draft General Plan 2020*, the removal of parking spaces along Las Gallinas Avenue and Grand Avenue would be a less-than-significant impact and the removal of parking spaces along Lincoln Avenue would be a significant unavoidable impact. Also similar to the proposed project, the additional parking demand generated by development consistent with *General Plan 2000* would be a less-than-significant impact because new development would be required to supply adequate parking for its new use.

### **Bicycle and Pedestrian Facilities and Transit Services**

*Impacts IV.2-15 through 16* This alternative would increase demand for bicycle and pedestrian facilities and transit services. The *Bicycle and Pedestrian Master Plan*<sup>6</sup> would continue to be implemented, although this alternative would not benefit from the policies and programs related to bicycle and pedestrian facilities and transit services in the *Draft General Plan 2020*. In addition, while *General Plan 2000* includes a policy for elevated rail through Downtown, which would reduce pedestrian at-grade conflicts with traffic on Third Street, this policy would be in conflict with SMART's conceptual designs for at-grade service in Downtown. Furthermore, this would not reduce impacts related to bicycle and pedestrian demands in other parts of the City or increased demand for transit services. Therefore this would be a significant unavoidable impact.

## **AIR QUALITY**

The Clean Air Plan is based on existing and projected population and employment numbers. Because development under this alternative would be consistent with the projections currently in use, this alternative would not result in a conflict with the Clean Air Plan with respect to population growth. It would also be expected to result in a rate of increase in Vehicle Miles Traveled (VMT) no greater than the rate of increase in population. However, while the *General Plan 2000* includes some policies and programs that would support the Clean Air Plan Transportation Control Measures (TCMs), this alternative would not benefit from the new policies and programs proposed in the *Draft General Plan 2020*. This alternative would therefore result in a significant unavoidable impact due to inconsistency with the TCMs.

This alternative would be lacking policies and programs protecting existing and establishing new buffer zones around sources of toxic air contaminants and odors, and would therefore have a significant unavoidable impact with respect to these pollutants.

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<sup>6</sup> *Bicycle and Pedestrian Master Plan*, City of San Rafael, 2002.



## **NOISE**

This alternative would result in an increase in traffic, which would increase traffic noise and impacts to noise sensitive uses near roadways. This alternative would also result in new commercial and/or industrial projects that could result in new stationary noise sources which could impact noise sensitive uses. Additionally, this alternative would result in new development that could be impacted by existing noisy environments. Because development of SMART would be independent of any policies set forth in San Rafael's planning documents, there could be potential noise impacts related to SMART activity. Similar to the proposed project, there would be no impacts related to the San Rafael Airport as there would be no increase in air traffic. The San Rafael Quarry and McNear Brickworks would continue operation through 2020, however, new development in the vicinity of these operations would be limited. Thus, similar to the proposed project, this alternative would result in no new impacts related to noise generated by the San Rafael Quarry.

## **PUBLIC SERVICES AND UTILITIES**

In this alternative, significant amounts of new development would be expected and would require significant amounts of new or additional services. Similar to the proposed project, this alternative would result in significant unavoidable impacts related to police services, parks, library services, wastewater treatment south of Puerto Suello Hill, and water supply. Also similar to the proposed project, this alternative would result in less-than-significant impacts related to fire services, wildland fires, schools, wastewater treatment north of Puerto Suello Hill, landfill capacity, electricity and gas, and the exposure of underground hazardous wastes. Again, similar to the proposed project, potential releases of hazardous materials would be a significant unavoidable impact; the location of hazardous materials near schools would be significant impacts, which could be reduced to a less-than-significant level with adoption and implementation of the mitigation measures identified in this EIR.

## **CULTURAL RESOURCES**

Development consistent with the *General Plan 2000* could result in the disturbance of archaeological or prehistoric resources. However, similar to the proposed project, the existing general plan does not alter the requirements of the City's existing Archaeological Resource Protection Ordinance. This would be a less-than-significant impact to archaeological resources.

Development consistent with the *General Plan 2000* could also result in impacts on historic or cultural resources. Similar to the proposed project, however, this would be a less-than-significant impact. In addition, the *Draft General Plan 2020* does include policies and programs that could potentially *benefit* historic structures by encouraging the re-use and/or restoration of the projects. Presumably, without the proposed general plan, these structures would not benefit from re-use or restoration and could instead be demolished or otherwise damaged. This alternative would not result in significant cultural resources impacts.

## **VISUAL QUALITY**

Although this alternative would leave in place the existing height limits, because this alternative would allow new development there would be potential unavoidable impacts to the scenic resources of the City. In addition to the increased development within the existing developed areas, this alternative would include development on the St. Vincent's/Silveira properties as well as in the San Rafael Airport area which would result in significant and unavoidable impacts to views in those areas. There

would also be potential conflicts with adjacent development; although the design review policies in place would minimize these potential impacts. Nighttime lighting impacts would also be significant and unavoidable as lighting plan review is not currently required for new construction.

### ***BIOLOGICAL RESOURCES***

As this alternative would develop more land it would also reduce more habitat areas. The introduction of development into the hillside, riparian, grassland, and oak savanna/woodland areas would increase pressure on wildlife species by reducing habitat and movement opportunities and introducing non-native predators, such as dogs and cats. This alternative would result in impacts to sensitive natural communities, including wetlands. In addition, this alternative would include development on the St. Vincent's/Silveira properties (includes grasslands, agricultural, riparian, and oak savanna/woodland habitats), at the Canalways site (includes wetlands habitat), and at the San Rafael Airport (bounded by wetlands habitats). Any impact to natural communities would also result in potential impacts to special-status species that rely on such habitats. This alternative would also result in significant impacts due to the release of invasive exotics used in residential and commercial landscaping. These impacts could be reduced to a less-than-significant level with adoption and implementation of the mitigation measures identified in this EIR.

### ***GEOLOGY, SOILS, AND SEISMICITY***

This alternative would result in new development that could be developed on unstable soils which would result in potential groundshaking, landsliding, subsidence, erosion, expansive soil, and earthquake related ground failure hazards impacts. Similar to the proposed project, these impacts would be considered significant impacts, and the landsliding impact would be considered significant and unavoidable. These impacts would be greater than the impacts identified with the proposed project due to the increased amount of development and the increased population. Again, similar to the proposed project, because there is a slight possibility that septic systems could be used within the planning area, there would be a potentially significant impact related to the septic suitability of soils.

### ***HYDROLOGY, WATER QUALITY, AND FLOOD HAZARDS***

This alternative would result in new development that would potentially increase impacts to water quality and groundwater. Erosion and creek siltation, which is typically due to construction activities, would occur, however creek improvements may also be associated with new development. Development on the St. Vincent's/Silveira properties could result in increased impacts on erosion and water quality along the tidal reach of Miller Creek. This alternative would also result in additional development which could place a larger number of people within areas that could be inundated by tidal flooding, storm event flooding, seiche, tsunami, or mudflow, representing a significant impact for those hazards. These would all be significant unavoidable impacts. This alternative would not, however, result in flooding or stormwater drainage system capacity impacts.

### ***AGRICULTURE***

This alternative would include development on the St. Vincent's/Silveira properties, which would represent a significant unavoidable impact to agricultural lands.

### **VI.3 ALTERNATIVE 3 REDUCED DEVELOPMENT**

Alternative 3 (*Reduced Development*) assumes that housing and nonresidential development would be less than the *Draft General Plan 2020* projections. The goal of this alternative is to reduce traffic impacts while still meeting the City's housing objectives. As shown in **Exhibits VI.1-1** and **VI.1-2**, this alternative has a lower level of growth than *Draft General Plan 2020*. In addition, uses that generate less traffic than retail and housing, such as hotels and senior units, replace *Draft General Plan 2020* assumptions for housing and commercial development.

Buildout under Alternative 3 (*Reduced Development*) would include the potential for about 2,611 new residential units and 236,000 square feet of new nonresidential development within the City limits. This maximum buildout includes 883 less residential units than projected under the *Draft General Plan 2020*, and a decrease of 165,000 square feet of nonresidential development below the projections of the *Draft General Plan 2020*. With this buildout, there would also be less of an increase in population and employment within the Planning Area: development consistent with this alternative would result in 10,503 additional residents over the population in 1998 (6,312 since Census 2000) and 2,000 additional jobs. This is in comparison to the 12,708 additional residents (8,517 since Census 2000) and 1,812 additional jobs that would be expected with the *Draft General Plan 2020* within the Planning Area.

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#### **Analysis of Alternative 3 (Reduced Development)**

##### **LAND USE, POPULATION, EMPLOYMENT AND HOUSING**

**Exhibit VI.1-1** compares land use development in the City under this alternative with development under the proposed plan. **Exhibit VI.1-2** compares population and households in the City under this alternative with development under the *Draft General Plan 2020*.

As shown in these exhibits, and described above, development under this alternative would be the lower than that under the *Draft General Plan 2020*. This decreased development would also result in a slightly smaller population in the Planning Area as well as less jobs.

Land use impacts for this alternative would be slightly less than those identified for the *Draft General Plan 2020*, due to the decreased level of development. Similar to *Draft General Plan 2020* land use impacts would be less-than-significant. Population, employment, and the jobs-to-housing ratio impacts would also be less-than-significant.

##### **TRANSPORTATION AND CIRCULATION**

The discussion in this section corresponds directly to the impacts as numbered in **Section IV.2 Transportation and Circulation**. The impact numbers listed correspond to the impacts in that section.

## **Intersections**

*Impact IV.2-1* Development under Alternative 3 (*Reduced Development*) without improvements would result in unacceptable LOS at 21 combinations of intersections and peak hours, not including those intersections addressed in Impacts IV.2-2 through 5, below.

All 21 of these intersections would be changed to an acceptable LOS with *Draft General Plan 2020* improvements:

- US 101 southbound and Merrydale (LOS E during the AM peak hour – changed to LOS B)
- US 101 southbound and Merrydale (LOS E during the PM peak hour – changed to LOS B)
- US 101 southbound on-ramp and Francisco Blvd West (LOS E during the AM peak hour – changed to LOS C)
- US 101 southbound on-ramp and Francisco Blvd West (LOS E during the PM peak hour – changed to LOS B)
- 1<sup>st</sup> and D (LOS E during the PM peak hour – changed to LOS B)
- 2<sup>nd</sup> and B (LOS E during the AM peak hour – changed to LOS A)
- 2<sup>nd</sup> and Grand (LOS E during the PM peak hour – changed to LOS B)
- 3<sup>rd</sup> and A (LOS during the PM peak hour – changed to LOS E)
- 4<sup>th</sup> and E (LOS E during the PM peak hour – changed to LOS D)
- 5<sup>th</sup> and A (LOS E during the AM peak hour – changed to LOS B)
- 5<sup>th</sup> and H (LOS F during the AM peak hour – changed to LOS B)
- 5<sup>th</sup> and H (LOS E during the PM peak hour – changed to LOS A)
- Andersen and DuBois (LOS E during the AM peak hour – changed to LOS C)
- Andersen and Lindaro (LOS E during the PM peak hour – changed to LOS D)
- Bellam and I-580 eastbound (LOS E during the PM peak hour – changed to LOS C)
- Freitas and US 101 northbound (LOS F during the AM peak hour – changed to LOS B)
- Freitas and Redwood (LOS F during the AM peak hour – changed to LOS C)
- Harbor and Francisco East (LOS F during the AM peak hour – changed to LOS B)
- Mission and Grand (LOS F during the AM peak hour – changed to LOS B)
- Mission and Grand (LOS F during the PM peak hour – changed to LOS B)
- Smith Ranch and US 101 northbound ramps (LOS E during the AM peak hour – changed to LOS B)

With improvements as proposed in *Draft General Plan 2020*, which would be implemented as part of this alternative, this would result in acceptable LOS at all of these intersections, which would be a less-than-significant impact.

*Impact IV.2-2* The Second Street and A Street intersection would operate at an LOS that is acceptable for Downtown intersections (LOS B AM peak / LOS E PM peak). This would be a less-than-significant impact.

*Impact IV.2-3* The Third Street and Union Street intersection would operate in the AM peak hour at an LOS that is acceptable for City intersections (LOS C). However, this intersection would operate at an LOS that is unacceptable for City intersections (LOS E). This would be a significant unavoidable impact.

*Impact IV.2-4* The Lincoln Avenue and US 101 intersection would operate at an LOS that is unacceptable for City intersections (LOS E AM peak / LOS F PM peak). This would be a significant unavoidable impact.

*Impact IV.2-5* The Mission Avenue and Irwin Street intersection would operate at an LOS that is acceptable for this intersection (LOS E AM peak / LOS F PM peak). However, the increase in delay for the PM peak hour would be greater than five seconds (from 98.9 seconds under Baseline conditions to 113.3 seconds under the Reduced Development Alternative conditions). This would be a significant unavoidable impact.

### **City and CMA Roadway Segments**

*Impact IV.2-6* Under Alternative 3 (*Reduced Development*) conditions the following City roadway segments would exceed significance criteria thresholds:<sup>7</sup>

- A Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (LOS E in the AM peak hour)
- D Street – southbound from 4<sup>th</sup> to Bayview (LOS E in the AM peak hour)
- Freitas Parkway – eastbound from Las Gallinas to 101 NB on-ramp/Civic Center (LOS E in the PM peak hour)

Unacceptable LOS at these City roadway segments would represent a significant and unavoidable impact.

*Impact IV.2-7* Under Alternative 3 (*Reduced Development*) conditions, several City roadway segments that operate at LOS E or F under Baseline conditions would continue to operate at LOS E or F. In some cases, the peak hour operations would slightly improve (i.e., vehicle speed would increase).

In the following cases, segments that operate at LOS E or F under Baseline conditions would improve to LOS D or better under Alternative 3 (*Reduced Development*) conditions:

- 2<sup>nd</sup> Street – eastbound from G to Grand (AM peak hour)
- 2<sup>nd</sup> Street – eastbound from G to Grand (PM peak hour)
- 5<sup>th</sup> Street – westbound from Irwin to E (AM peak hour)
- Bellam – eastbound from Andersen to Kerner (PM peak hour)
- Bellam – westbound from Kerner to Andersen (AM peak hour)
- Del Presidio – northbound from Las Gallinas to Freitas (PM peak hour)
- Del Presidio – southbound from Freitas to Las Gallinas (AM peak hour)
- Lincoln – northbound from 2<sup>nd</sup> to US 101 SB/Hammondale (PM peak hour)
- Lincoln – southbound from US 101 SB/Hammondale to 2<sup>nd</sup> (AM peak hour)

In addition, the following segments would remain at LOS E or F, but vehicle speeds would improve or stay the same:

- Bellam – westbound from Kerner to Andersen (PM peak hour)
- C Street – northbound from 1<sup>st</sup> to 5<sup>th</sup> (PM peak hour)
- Del Presidio – southbound from Freitas to Las Gallinas (PM peak hour)
- E Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (AM peak hour)
- E Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (AM peak hour)

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<sup>7</sup> As described in the *Significance Criteria* section of *Section IV.2 Transportation and Circulation*, a segment would exceed significance thresholds if it is operating at an acceptable LOS under Baseline conditions and would operate at an unacceptable LOS E or LOS F under project conditions. However, for segments that are operating at unacceptable LOS under Baseline conditions, it would exceed significance thresholds if the calculated average travel speed would decrease by five miles per hour or more.

- E Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (PM peak hour)
- Grand – southbound from Mission to 2<sup>nd</sup> (AM peak hour)
- Grand – southbound from Mission to 2<sup>nd</sup> (PM peak hour)
- Hetherton – southbound from Mission to 2<sup>nd</sup> (PM peak hour)
- Irwin – northbound from 2<sup>nd</sup> to Mission (AM peak hour)
- Irwin – northbound from 2<sup>nd</sup> to Mission (PM peak hour)
- Lindaro – northbound from Andersen to 3<sup>rd</sup> (PM peak hour)
- Lindaro – southbound from 3<sup>rd</sup> to Andersen (AM peak hour)
- Lindaro – southbound from 3<sup>rd</sup> to Andersen (PM peak hour)
- Mission – westbound from Grand to Lincoln (AM peak hour)
- Mission – westbound from Grand to Lincoln (PM peak hour)

In other cases, however, the peak hour operations would not improve (i.e., vehicle speed would decrease). The segments listed below operate at LOS E or F under Baseline conditions and would continue to operate at LOS E or F, and calculated traffic speeds would decrease. However, because the calculated traffic speeds would decrease less than five miles per hour, this decrease would be below the threshold of significance. These segments are:

- A Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (PM peak hour)
- A Street – southbound from 4<sup>th</sup> to 2<sup>nd</sup> (AM peak hour)
- A Street – southbound from 4<sup>th</sup> to 2<sup>nd</sup> (PM peak hour)
- B Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (AM peak hour)
- B Street – southbound from 5<sup>th</sup> to 2<sup>nd</sup> (PM peak hour)
- C Street – northbound from 1<sup>st</sup> to 5<sup>th</sup> (AM peak hour)
- Del Presidio – northbound from Las Gallinas to Freitas (AM peak hour)
- E Street – northbound from 2<sup>nd</sup> to 5<sup>th</sup> (PM peak hour)
- Hetherton – southbound from Mission to 2<sup>nd</sup> (AM peak hour)
- Lindaro – northbound from Andersen to 3<sup>rd</sup> (AM peak hour)

Although the vehicle speed would decrease slightly in these roadway segments, the decrease does not exceed the significance threshold of five miles per hour. Therefore, this would be a less-than-significant impact.

*Impact IV.2-8* Under Alternative 3 (*Reduced Development*) conditions, all of the CMA roadway segments operate at acceptable LOS (LOS D or better). This would be a less-than-significant impact.

### **Freeway Facilities**

*Impact IV.2-9* Under Alternative 3 (*Reduced Development*) conditions the following freeway sections would operate at an unacceptable (LOS F) level: <sup>8</sup>

- US 101 & I-580 interchange – westbound I-580 to northbound US 101 (AM peak hour)
- US 101 & I-580 interchange – westbound I-580 to northbound US 101 (PM peak hour)
- I-580 – eastbound at Richmond Bridge (PM peak hour)
- I-580 – westbound at Richmond Bridge (AM peak hour)
- US 101 – north of Miller Creek (PM peak hour)

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<sup>8</sup> As described in the *Significance Criteria* section of *Section IV.2 Transportation and Circulation*, a freeway section would exceed significance thresholds if it is operating at an acceptable LOS under Baseline conditions and would operate at an unacceptable LOS under project conditions. However, for segments that are operating at unacceptable LOS under Baseline conditions, it would exceed significance thresholds if there is an increase in the V/C of 0.01 or more.

Unacceptable LOS at these freeway sections would be a significant unavoidable impact.

*Impact IV.2-10* Under Alternative 3 (*Reduced Development*) conditions, the same freeway off-ramps would exceed lane storage as under *Draft General Plan 2020*. The vehicle queue would exceed lane storage at two off-ramps:

- US 101 northbound at Second and Irwin
- I-580 eastbound/US 101 northbound at Bellam

The off-ramp approach analysis indicates that the approach vehicle queue would remain within the off-ramp boundaries and would not encroach into the deceleration lane on the freeway. Thus, both of these queues operate at acceptable levels. This would be a less-than-significant impact.

### **Parking Facilities**

*Impacts IV.2-11 through 14* Similar to *Draft General Plan 2020*, the removal of parking spaces along Las Gallinas Avenue and Grand Avenue would be a less-than-significant impact and the removal of parking spaces along Lincoln Avenue would be a significant unavoidable impact. Also similar to the proposed project, the additional parking demand generated by development consistent with *General Plan 2000* would be a less-than-significant impact because new development would be required to supply adequate parking for its new use.

### **Bicycle and Pedestrian Facilities and Transit Services**

*Impacts IV.2-15 through 16* Development consistent with Alternative 3 (*Reduced Development*) would result in increased demand for bicycle and pedestrian facilities and transit services. However, implementation of policies and programs included in the *Draft General Plan 2020* would result in improvements in bicycle and pedestrian facilities and transit services. This would be a less-than-significant impact.

## **AIR QUALITY**

The Clean Air Plan is based on existing and projected population and employment numbers. This alternative would not result in a conflict with the Clean Air Plan with respect to population. It would also be expected to result in a rate of increase in Vehicle Miles Traveled (VMT) no greater than the rate of increase in population.

Additionally, this alternative would include the *Draft General Plan 2020* policies and programs that support the Clean Air Plan Transportation Control Measures (TCMs) as listed in the discussion of Impact IV.3-1 in **Chapter IV.3 Air Quality**. Therefore, this alternative would be consistent with the TCMs and would not result in a significant impact.

Finally, this alternative would still include the *Draft General Plan 2020* programs and policies discussed in Impact IV.3-3 Odor/Toxics Buffer Zones. Therefore development consistent with this alternative would still buffer sensitive uses from potential odors and/or toxic air contaminants. After mitigation this would be a less-than-significant impact.

## **NOISE**

This alternative would result in an increase in traffic noise over existing conditions. However, similar to the proposed project, impacts related to noise sensitive uses near roadways would be less-than-significant. Because this alternative would result in less of an increase in development than with the proposed project, noise impacts would be accordingly lower than those identified with the proposed project. Therefore, impacts related to stationary noise, airport noise, and noise sensitive uses would all be less-than-significant. Impacts related to SMART would be significant and unavoidable.

## **PUBLIC SERVICES AND UTILITIES**

This alternative would result in similar impacts to those expected with the *Draft General Plan 2020*. It would result in significant unavoidable impacts related to police services, parks, library services, wastewater treatment south of Puerto Suello Hill, and water supply. It would result in less-than-significant impacts related to fire services, wildland fires, schools, wastewater treatment north of Puerto Suello Hill, landfill capacity, electricity and gas, and the exposure of underground hazardous wastes. And finally, potential releases of hazardous materials, and the location of hazardous materials near schools would be significant impacts. Because this alternative would result in slightly less development and lower population, impacts would be accordingly somewhat less severe due to the lower potential for exposure to hazardous materials and the lower demand for services such as police protection and wastewater treatment. However, this difference is minor.

## **CULTURAL RESOURCES**

Development consistent with this alternative could result in the disturbance of archaeological or prehistoric resources. However, similar to the proposed project, this alternative would not alter the requirements of the City's existing Archaeological Resource Protection Ordinance. This would be a less-than-significant impact to archaeological resources. Development consistent with this alternative could also result in impacts on historic or cultural resources. Similar to the proposed project, this would be a less-than-significant impact due to the policies and programs provided in the *Draft General Plan 2020*. In addition, this alternative would include the beneficial impacts of the *Draft General Plan 2020* programs and policies that would encourage re-use and/or restoration of historic resources. While impacts to cultural resources would be considered less-than-significant, because this alternative would result in slightly less development, this alternative would accordingly result in slightly fewer possibilities for impacts to archaeological, prehistoric, historic, or cultural resources than the proposed project.

## **VISUAL QUALITY**

Similar to the *Draft General Plan 2020*, this alternative would result in less-than-significant impacts on the scenic resources and visual quality of the City. Similarly, this alternative would result in less-than-significant impacts related to conflicts with adjacent development. Nighttime lighting impacts would also be significant, similar to the proposed project. While these impacts would be considered less-than-significant, because this alternative would result in less development, the potential for impacts would be slightly less than those identified with the proposed project.



## **BIOLOGICAL RESOURCES**

Impacts due to development consistent with this alternative would be similar to those identified for the proposed project, although potentially at a reduced scale due to the somewhat reduced amount of development. Similar to the *Draft General Plan 2020*, this alternative would potentially impact special status species and sensitive natural communities. This alternative would not likely result in invasive exotic species impacts due to residential and commercial landscaping, and this alternative would have a less-than-significant impact on the movement of native wildlife due to the protected areas proposed with this alternative.

## **GEOLOGY, SOILS, AND SEISMICITY**

This alternative would result in new development that could be developed on unstable soils which would result in potential groundshaking, landsliding, subsidence, erosion, expansive soil, and earthquake related ground failure hazards impacts. Similar to the proposed project, these impacts would be considered significant, and the landsliding impact would be considered significant and unavoidable. These impacts would be slightly less than the impacts identified with the proposed project due to the somewhat decreased amount of development and the decreased population. Again, similar to the proposed project, because there is a slight possibility that septic systems could be used within the planning area, there would be a potentially significant impact related to the septic suitability of soils.

## **HYDROLOGY, WATER QUALITY, AND FLOOD HAZARDS**

Similar to the proposed project, the new development associated with this alternative would not result in impacts to water quality, groundwater, and the stormwater drainage systems. There would not be significant impacts related to erosion and creek siltation, which is typically due to construction activities, would occur. In addition, creek improvements may also be associated with new development. This alternative would result in additional development which could place people within areas that could be inundated by tidal flooding, storm event flooding, seiche, tsunami, or mudflow, however this would not represent a significant impact for those hazards. This alternative would not result in flooding or stormwater drainage system capacity impacts.

## **AGRICULTURE**

Similar to the proposed project, this alternative would not result in significant impacts to agriculture lands.

## **VI.4 ALTERNATIVES CONSIDERED BUT NOT INCLUDED**

An EIR can conceivably analyze an infinite number of alternatives or variations on alternatives. However, CEQA directs EIRs to analyze a reasonable range of alternatives to the project which would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects of the project. The analysis of a range of alternatives is governed by a “rule of reason” for alternatives which could feasibly attain the basic objectives of the project. The following alternatives were determined to be infeasible and are not included in this analysis.

**General Plan 2020 with St. Vincent's and Silveira Properties** Per *General Plan 2000* policy, the St. Vincent's and Silveira properties have a development potential of 2,100 housing units and 361,000 square feet of nonresidential use. The *Draft General Plan 2020* includes a program stating that the properties are not to be annexed into the City and requesting that LAFCO remove them from the City's Sphere of Influence which would leave planning approvals for any proposed development to Marin County. Impacts of development at St. Vincent's/Silveira are therefore discussed in Alternative 2, the No Project / No Action / *General Plan 2000* Alternative since *General Plan 2000* included development policies for the properties. Development of the properties is not assumed elsewhere in the EIR due to the intention to remove them from the City's Sphere of Influence. As of the time of preparation of this EIR, the draft Marin Countywide Plan has not been released, which would likely propose some limited amount of development on these sites. Development of these properties with more urban land uses consistent with annexation to a city is therefore considered infeasible.

## **VI.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

The *State CEQA Guidelines* require that an EIR's analysis of alternatives identify the "environmentally superior alternative" among all of those considered. Based on the analysis of the project and the alternatives considered, the EIR finds that Alternative 1 (*No Project / No Development*) would be the environmentally superior alternative because it would avoid most of the environmental impacts associated with increased development.

The *Guidelines* also state that, if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. A comparison of the environmental impacts of each alternative is in the provided below and in **Exhibit VI.5-1**. Based on a comparison of the of the significant environmental impacts of all the development alternatives in this exhibit, Alternative 3 (*Reduced Development*) and the *Draft General Plan 2020* would result in the same number of significant unavoidable impacts and the same number of less-than-significant impacts. Alternative 3 (*Reduced Development*) would result in slightly reduced significant impacts than the proposed project and therefore would be the environmentally superior alternative. The primary advantage of this alternative is that less development would reduce the opportunities for potential impacts, particularly as they relate to construction and traffic.

### **LAND USE, POPULATION, EMPLOYMENT AND HOUSING**

While none of the alternatives, or the *Draft General Plan 2020*, would result in significant land use, population, employment, or housing impacts, Alternative 1(*No Project / No Development*), would be the environmentally superior alternative with respect to land use, population, employment, and housing. This alternative would result in the least possibility of impacts related to these issues.

Land use impacts would be greatest with Alternative 2 (*General Plan 2000*). Alternative 3 (*Reduced Development*), would have the least land use, population, employment, and housing impacts of the development alternatives. Because this alternative would result in less development than Alternative 2 (*General Plan 2000*) or the *Draft General Plan 2020*, it would result in slightly fewer opportunities for potential impacts related to land use changes or population, employment, or housing increases.

## **TRANSPORTATION AND CIRCULATION**

Both the *Draft General Plan 2020* and Alternative 3 (*Reduced Development*) would be the environmentally superior alternatives with respect to transportation and circulation. These scenarios both would have similar levels of impacts, and would result in less impacts than Alternative 1 (*No Project / No Development*) and Alternative 2 (*General Plan 2000*).

In comparison of *Draft General Plan 2020* and Alternative 3 (*Reduced Development*), Alternative 3 (*Reduced Development*) would have a lower level of development. As a result, there would be slight differences in the LOS at some intersections and roadway segments.<sup>9</sup> In most cases, the intersections would operate at the same LOS with a less than five second difference in delay. For example, in the PM peak hour, Second Street and A Street intersection would operate at LOS F under both the *Draft General Plan 2020* and the Alternative 3 (*Reduced Development*) conditions. Under Alternative 3 (*Reduced Development*) conditions, this intersection would experience a delay of 1.9 seconds less than under the *Draft General Plan 2020*.

At one of the intersections that would operate at an unacceptable level, the delay experienced under Alternative 3 (*Reduced Development*) conditions would be slightly more than the delay experienced under *Draft General Plan 2020*. This intersection, Fourth Street and Ross Valley Road, in the AM peak, would result in a 0.6 second greater delay under Alternative 3 (*Reduced Development*).

At one intersection, the difference in delay would be greater than five seconds. This intersection, Shoreline and Francisco East, in the PM peak hour, would operate at LOS D under both *Draft General Plan 2020* and Alternative 3 (*Reduced Development*) conditions, with a 6.8 second greater delay under *Draft General Plan 2020* conditions. This LOS, however, is considered acceptable and would not result in an impact under either the *Draft General Plan 2020* or the Alternative 3 (*Reduced Development*) conditions.

For roadway segments, under Alternative 3 (*Reduced Development*), all segments have a 0.1 to 0.2 second improvement except for two segments: Bellam between Andersen and Kerner, in the PM peak hour, and Lindaro between Andersen and Third, also in the PM peak hour. Bellam would improve from LOS, and a calculated speed of 9.7 miles per hour (mph), under *Draft General Plan 2020*, to LOS E, and a calculated speed of 9.4 mph. This difference would result in an improved LOS, but a difference in calculated speed of less than five miles per hour. Lindaro, on the other hand, would stay at the same LOS, but calculated speeds would be 0.1 mph slower under Alternative 3 (*Reduced Development*) than under *Draft General Plan 2020*.

Thus, the differences between *Draft General Plan 2020* and Alternative 3 (*Reduced Development*) are minimal, and both would be considered the environmentally superior alternative with respect to transportation and circulation.

## **AIR QUALITY**

Alternative 3 (*Reduced Development*) would be the environmentally superior alternative with respect to air quality impacts. Similar to the *Draft General Plan 2020*, Alternative 3 (*Reduced Development*) would not result in any significant air quality impacts based on BAAQMD significance thresholds for

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<sup>9</sup> The information presented below is based upon level of service calculations that are available for at the City of San Rafael, Community Development Department, Planning Division, 1400 Fifth Street, San Rafael, California.

general plans. It would, however, result in less development than the *Draft General Plan 2020* and therefore less regional emissions from mobile, stationary and area sources of pollution. Both Alternatives 1 (*No Project / No Development*) and 2 (*General Plan 2000*) would result in significant and unavoidable air quality impacts.

## **NOISE**

Alternative 1 (*No Project / No Development*) would be the environmentally superior alternative with respect to noise impacts. This alternative would result in no impacts due to traffic or airport noise. This alternative would not result in new stationary noise sources, nor would this alternative result in the development of future noise sensitive development in existing noisy environments. As with all of the alternatives, and the *Draft General Plan 2020*, this alternative would result in significant unavoidable impacts related to SMART generated noise.

Similar to the *Draft General Plan 2020*, Alternative 3 (*Reduced Development*) would not result in any significant noise impacts, except those associated with SMART. Because Alternative 3 (*Reduced Development*) would result in less development than the *Draft General Plan 2020*, it would result in slightly less noise impacts related to traffic increases and fewer potential impacts related to stationary noise sources. Alternative 2 (*General Plan 2000*) would result in greater noise impacts than the *Draft General Plan 2020*, Alternative 1 (*No Project / No Development*), and Alternative 3 (*Reduced Development*).

## **PUBLIC SERVICES AND UTILITIES**

All of the alternatives would result in similar impacts to public services and utilities. Alternative 1 (*No Project / No Development*) and Alternative 2 (*General Plan 2000*) would result in one more significant unavoidable impact than *Draft General Plan 2020* and Alternative 3 (*Reduced Development*) because these alternatives would address hazardous materials near schools.

Alternative 3 (*Reduced Development*) however, would have reduced public services and utilities impacts, because this alternative would result in the least amount of development and the lowest population. Impacts for Alternative 3 (*Reduced Development*) would be slightly less severe due to the lower potential for exposure to hazardous materials and the lower demand for services such as police protection and wastewater treatment. However, the difference between Alternative 3 (*Reduced Development*) and *Draft General Plan 2020* would be minor in this regard.

## **CULTURAL RESOURCES**

Alternative 1 (*No Project / No Development*), Alternative 2 (*General Plan 2000*), Alternative 3 (*Reduced Development*), and the *Draft General Plan 2020* would all have no significant impacts to archaeological, prehistoric, historic, or cultural resources. Cultural resources impacts would be similar for the *Draft General Plan 2020* and all of the alternatives.

## **VISUAL QUALITY**

Alternative 1 (*No Project / No Development*) would be the environmentally superior alternative with respect to visual quality as scenic resources as the visual quality of the city would be maintained in the existing conditions.

Alternative 3 (*Reduced Development*) and the *Draft General Plan 2020* would have similar visual quality impacts. Alternative 3 (*Reduced Development*) would, however, result in less development and therefore fewer opportunities for visual quality impacts compared to *Draft General Plan 2020*. In addition, this alternative would include the *Draft General Plan 2020* programs and policies that address nighttime lighting impacts and other visual quality impacts. Alternative 2 (*General Plan 2000*) would result in the most visual quality impacts.

### **BIOLOGICAL RESOURCES**

Alternative 1 (*No Project / No Development*) would be the environmentally superior alternative with respect to biological resources as it would result in no biological resources impacts beyond the potential invasive species impact.

Alternative 3 (*Reduced Development*) and the *Draft General Plan 2020* would have similar biological resources impacts. Alternative 3 (*Reduced Development*) would, however, have slightly less biological resources impacts than the *Draft General Plan 2020*. Alternative 2 (*General Plan 2000*) would result in the most biological resources impacts. Because Alternative 3 (*Reduced Development*) would result in the least amount of development, the special status species and sensitive natural communities impacts, while still significant, would be slightly less than the impacts identified with the *Draft General Plan 2020*.

### **GEOLOGY, SOILS, AND SEISMICITY**

Alternative 1 (*No Project / No Development*), would be the environmentally superior alternative with respect to geology, soils, and seismicity. This alternative would result in no significant impacts related to geologic resources or seismic activity.

Alternative 3 (*Reduced Development*) and the *Draft General Plan 2020* would have similar geology, soils and seismicity impacts. Alternative 2 (*General Plan 2020*) would have the most significant geology, soils, and seismicity impacts of all of the development alternatives. Alternative 3 (*Reduced Development*) would have the slightly less geologic impacts than the *Draft General Plan 2020* because it would result in less development and therefore fewer opportunities for impacts related to ground failure.

### **HYDROLOGY, WATER QUALITY, AND FLOOD HAZARDS**

While the *Draft General Plan 2020* would not result in any significant hydrology impacts, Alternative 1 (*No Project / No Development*), would be the environmentally superior alternative with respect to hydrology, water quality, and flood hazards. Because this alternative would result in no additional development, this alternative would result in the least opportunity for potential significant hydrology-related impacts.

Alternative 3 (*Reduced Development*) would be the environmentally superior alternative of the development alternatives. Similar to the *Draft General Plan 2020* and Alternative 1 (*No Project / No Development*), Alternative 3 (*Reduced Development*) would have no significant hydrology impacts. However, because this alternative would result in less development and less of an increase in population and employment than the *Draft General Plan 2020* it would also result in slightly fewer opportunities for potential impacts related to hydrology. Alternative 2 (*General Plan 2000*) would result in the most significant hydrology-related impacts.

## **AGRICULTURE**

Agricultural impacts would be similar for the *Draft General Plan*, Alternative 1 (*No Project/No Development*) and Alternative 3 (*Reduced Development*). Alternative 2 (*General Plan 2000*) would result in a significant impact to agricultural lands.

Exhibit VI.5-1 compares the proposed project and the three alternatives.

**Exhibit VI.5-1**  
**Impact Comparison**

<b>Impact</b>	<b>Draft General Plan 2020 (Proposed Project)</b>	<b>Alternative 1 (No Project)</b>	<b>Alternative 2 (General Plan 2000)</b>	<b>Alternative 3 (Reduced Development)</b>
<i>Land Use</i>				
IV.1-1 Conflict with Land Use or Other Plans	LTS	LTS	S	LTS
IV.1-2 Incompatible Land Uses & Changes to Neighborhood Character	LTS	LTS	S	LTS
IV.1-3 Growth and Concentration of Population	LTS	LTS	LTS	LTS
IV.1-4 Employment Growth Rate	LTS	LTS	LTS	LTS
IV.1-5 Jobs-to-Housing Ratio	LTS	LTS	LTS	LTS
<i>Transportation and Circulation</i>				
IV.2-1 LOS at Intersections Improved to Acceptable Levels with <i>Draft General Plan 2020</i>	LTS	SU	SU	LTS
IV.2-2 LOS at Second Street and A Street with <i>Draft General Plan 2020</i>	LTS	SU	LTS	LTS
IV.2-3 LOS at Third Street and Union Street with <i>Draft General Plan 2020</i>	SU	LTS	SU	SU
IV.2-4 LOS at Lincoln Avenue and US 101 SB Ramps with <i>Draft General Plan 2020</i>	SU	SU	SU	SU
IV.2-5 LOS at Mission Avenue and Irwin Street with <i>Draft General Plan 2020</i>	SU	LTS	LTS	SU
IV.2-6 Unacceptable City Roadway Segment LOS Resulting from <i>Draft General Plan 2020</i>	SU	SU	SU	SU
IV.2-7 City Roadway Segment LOS Resulting from <i>Draft General Plan 2020</i>	LTS	n/a	LTS	LTS
IV.2-8 Congestion Management Agency Arterial LOS	LTS	LTS	LTS	LTS
IV.2-9 LOS Along US 101 and I-580 Mainlines Resulting from <i>Draft General Plan 2020</i>	SU	SU	SU	SU
IV.2-10 LOS on Freeway Off-ramps Resulting from <i>Draft General Plan 2020</i>	LTS	LTS	LTS	LTS
IV.2-11 Removal of On-Street Parking Spaces Along Las Gallinas Avenue	LTS	LTS	LTS	LTS
IV.2-12 Removal of On-Street Parking Spaces Along Grand Avenue	LTS	LTS	LTS	LTS
IV.2-13 Removal of On-Street Parking Spaces Along Lincoln Avenue	SU	LTS	SU	SU
IV.2-14 Parking in Newly-Developed Areas Citywide	LTS	LTS	LTS	LTS
IV.2-15 Increased Demand for Bicycle and Pedestrian Facilities under <i>Draft General Plan 2020</i>	LTS	LTS	SU	LTS
IV.2-16 Increased Demand for Transit Services under <i>Draft General Plan 2020</i>	LTS	LTS	SU	LTS

<sup>a</sup> S = Significant (impact would be less-than-significant with implementation of mitigation measures)  
 SU = Significant Unavoidable (impact would remain significant even with implementation of mitigation measures)  
 LTS = Less-Than-Significant

**Exhibit VI.5-1 (continued)**  
**Impact Comparison**

<b>Impact</b>	<b>Draft General Plan 2020 (Proposed Project)</b>	<b>Alternative 1 (No Project)</b>	<b>Alternative 2 (General Plan 2000)</b>	<b>Alternative 3 (Reduced Development)</b>
<i>Air Quality</i>				
IV.3-1 Consistency with Clean Air Plan	LTS	LTS	LTS	LTS
IV.3-2 Consistency with Clean Air Plan Transportation Control Measures	LTS	SU	SU	LTS
IV.3-3 Odor/Toxics Buffer Zones	S	S	S	S
<i>Noise</i>				
IV.4-1 Increased Traffic Noise	LTS	LTS	SU	LTS
IV.4-2 Increased Rail Noise	SU	SU	SU	SU
IV.4-3 Stationary Noise Sources	LTS	LTS	SU	LTS
IV.4-4 Increased Airport Noise	LTS	LTS	LTS	LTS
IV.4-5 Future Noise Sensitive Development	LTS	LTS	SU	LTS
<i>Public Services</i>				
IV.5-1 Fire Protection and Emergency Services	LTS	LTS	LTS	LTS
IV.5-2 Wildland Fires	LTS	LTS	LTS	LTS
IV.5-3 Release of Hazardous Materials	SU	LTS	SU	SU
IV.5-4 Hazardous Materials, Substances, or Waste near Schools	S	SU	SU	S
IV.5-5 Exposure to Underground Hazardous Wastes	LTS	LTS	LTS	LTS
IV.5-6 Police Services	SU	SU	SU	SU
IV.5-7 Schools	LTS	LTS	LTS	LTS
IV.5-8 Parks	SU	SU	SU	SU
IV.5-9 Library Services	SU	SU	SU	SU
IV.5-10 Wastewater Treatment Capacity – North of Puerto Suello Hill	LTS	LTS	LTS	LTS
IV.5-11 Wastewater Treatment Capacity – South of Puerto Suello Hill	SU	SU	SU	SU
IV.5-12 Water Supply	SU	SU	SU	SU
IV.5-13 Landfill Capacity	LTS	LTS	LTS	LTS
IV.5-14 Electricity and Gas Demand	LTS	LTS	LTS	LTS
<i>Cultural Resources</i>				
IV.6-1 Impacts on Archaeological and Prehistoric Resources	LTS	LTS	LTS	LTS
IV.6-2 Impacts on Historic or Cultural Resources	LTS	LTS	LTS	LTS
<i>Visual Quality</i>				
IV.7-1 Scenic Resources	LTS	LTS	SU	LTS
IV.7-2 Conflicts with Adjoining Development	LTS	LTS	SU	LTS
IV.7-3 Visual Setting and Character of the City	LTS	LTS	SU	LTS
IV.7-4 Nighttime Lighting and Glare	S	S	S	S

<sup>a</sup> S = Significant (impact would be less-than-significant with implementation of mitigation measures)  
SU = Significant Unavoidable (impact would remain significant even with implementation of mitigation measures)  
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**Exhibit VI.5-1 (continued)**  
**Impact Comparison**

<b>Impact</b>	<b>Draft General Plan 2020 (Proposed Project)</b>	<b>Alternative 1 (No Project)</b>	<b>Alternative 2 (General Plan 2000)</b>	<b>Alternative 3 (Reduced Development)</b>
<i>Biological Resources</i>				
IV.8-1 Special-Status Plant and Animal Species	S	LTS	S	S
IV.8-2 Sensitive Natural Communities	S	LTS	S	S
IV.8-3 Federally Protected Wetlands	LTS	LTS	SU	LTS
IV.8-4 Movement of Native Wildlife	LTS	LTS	SU	LTS
IV.8-5 Habitat for Native Wildlife	LTS	LTS	SU	LTS
IV.8-6 Invasive Exotics	LTS	SU	SU	LTS
<i>Geology, Soils, and Seismicity</i>				
IV.9-1 Seismic Ground Shaking	S	LTS	S	S
IV.9-2 Seismic Related Ground Failure	S	LTS	S	S
IV.9-3 Landsliding	SU	LTS	SU	SU
IV.9-4 Subsidence	S	LTS	S	S
IV.9-5 Erosion	S	LTS	S	S
IV.9-6 Expansive Soils	LTS	LTS	S	LTS
IV.9-7 Septic Suitability of Soils	S	LTS	S	S
<i>Hydrology, Water Quality, and Flood Hazards</i>				
IV.10-1 Water Quality Standards	LTS	LTS	SU	LTS
IV.10-2 Groundwater	LTS	LTS	SU	LTS
IV.10-3 Erosion and Siltation	LTS	LTS	SU	LTS
IV.10-4 Flooding and/or Stormwater Drainage System Capacities	LTS	LTS	LTS	LTS
IV.10-5 Tidal Flooding	LTS	LTS	S	LTS
IV.10-6 Stormwater Drainage System Expansions	LTS	LTS	LTS	LTS
IV.10-7 Exposure to Flooding Hazards	LTS	LTS	S	LTS
IV.10-8 Inundation by Seiche, Tsunami or Mudflow	LTS	LTS	SU	LTS
<i>Agriculture</i>				
IV.11-1 Farmland Conversion	LTS	LTS	SU	LTS

Source: Nichols • Berman

<sup>a</sup> S = Significant (impact would be less-than-significant with implementation of mitigation measures)  
SU = Significant Unavoidable (impact would remain significant even with implementation of mitigation measures)  
LTS = Less-Than-Significant



## ***VII. REPORT PREPARATION***



## **VII.1 REPORT PREPARERS**

### ***City of San Rafael, Community Development Department, Planning Division***

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Chris Baldassari, Contract Assistant Planner

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Wayne Shijo

### ***Donald Ballanti and Associates – Air Quality***

Don Ballanti

### ***Rosen Goldberg & Derr, Inc. – Noise***

Harold Goldberg, PE

### ***Live Oak Associates, Inc. – Biological Resources***

Rick Hopkins, PhD, Wildlife Ecologist  
Melissa Denena, Wildlife/Wetland Ecologist; Botanist  
Bernie Wone, MA, Wildlife Ecologist

### ***Miller Pacific – Geology, Hazardous Materials***

Scott Stephens  
Mike Dwyer

### ***Clearwater Hydrology – Hydrology, Water Quality, and Flood Hazards***

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California Department of Conservation  
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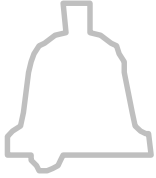
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***APPENDIX VIII.1  
INITIAL STUDY***



CITY OF



*San Rafael*

MAYOR  
Albert J. Boro

COUNCIL MEMBERS  
Paul M. Cohen  
Barbara Heller  
Cyr N. Miller  
Gary Phillips

**DATE:** *May 6, 2003*

**TO:** *Responsible and Trustee Agencies and Members of the Public*

**FROM:** *Chantry Bell, Associate Planner  
City of San Rafael Community Development Department*

**SUBJECT:** Notice of Preparation of a Draft Environmental Impact Report (DEIR)

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**PROJECT TITLE:** *City of San Rafael General Plan 2020*

**LEAD AGENCY:** The City of San Rafael will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the project identified below.

**PROJECT LOCATION:**

The City of San Rafael is located within the County of Marin, one of the nine counties of the San Francisco Bay Area Region. The City is located 17 miles north of San Francisco, along the western edge of San Francisco Bay (see Exhibit EIR-1). The project location for the proposed City of San Rafael *General Plan 2020* is the San Rafael Planning Area. This covers the city limits of San Rafael and the following surrounding unincorporated areas: California Park, Country Club, Bayside Acres, and Los Ranchitos; unincorporated areas on the Sun Valley slope; China Camp State Park; the Santa Venetia area; and the Marinwood and Lucas Valley area (developed and undeveloped portions) (see Exhibit EIR-2).

San Rafael's Planning Area, defined by the direct physical and social relationships of all of the areas within it, encompasses 51 square miles, including 21 square miles of water area and 30 square miles of land area. It is bounded by Big Rock Ridge and the Novato City limits on the north, San Pablo and San Rafael Bays on the east, the San Rafael-Sleepy Hollow Divide on the northwest, and Southern Heights Ridge and Cal Park Hill on the southwest. The Planning Area boundary is consistent with the City's Sphere of Influence (SOI) boundary. The SOI is the probable ultimate physical boundary and service area of San Rafael.

Specific locations with anticipated land use changes are: Marin Square (Bellam Boulevard), Loch Lomond Marina (Pt. San Pedro Road at Loch Lomond Drive), the light industrial area around Davidson Middle School (Jordan and Irwin Streets), Medway and Canal Streets, Northgate Town Center area (area around Northgate Mall and Northgate One), the Civic Center (future transit station site), Downtown, and Canalways (Shoreline Drive and Kerner Boulevard).

**APPLICANT:** The City of San Rafael

**PROJECT DESCRIPTION**

San Rafael's current General Plan, *General Plan 2000*, was adopted in 1988. In 1998 the City determined that a comprehensive update of the *General Plan 2000* was needed to address changed conditions since adoption of the 1988 plan to maintain a plan current in policy, program implementation, and budget direction.

A more detailed project description and background is contained in Attachment 1.

**SUBMISSION OF COMMENTS:**

The City of San Rafael needs to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the Environmental Impact Report (EIR) prepared by our agency when considering your permit or other approval for the project.

The attached Initial Study identifies potential environmental impacts of the proposed *General Plan 2020* that will be addressed in detail in the Draft EIR. As identified in the Initial Study, the potential environmental impacts of the proposed *General Plan 2020* include:

- |   |  |  |
|---|--|--|
| <input checked="" type="checkbox"/> Aesthetics                    | <input checked="" type="checkbox"/> Agriculture Resources              | <input checked="" type="checkbox"/> Air Quality              |
| <input checked="" type="checkbox"/> Biological Resources          | <input checked="" type="checkbox"/> Cultural Resources                 | <input checked="" type="checkbox"/> Geology /Soils           |
| <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology / Water Quality          | <input checked="" type="checkbox"/> Land Use / Planning      |
| <input type="checkbox"/> Mineral Resources                        | <input checked="" type="checkbox"/> Noise                              | <input checked="" type="checkbox"/> Population / Housing     |
| <input checked="" type="checkbox"/> Public Services               | <input checked="" type="checkbox"/> Recreation                         | <input checked="" type="checkbox"/> Transportation / Traffic |
| <input checked="" type="checkbox"/> Utilities / Service Systems   | <input checked="" type="checkbox"/> Mandatory Findings of Significance |  |

Due to time limits mandated by State Law, your response must be sent no later than 30 days after receipt of this Notice of Preparation, or by **June 9, 2003**. If you want to comment on the scope of issues to be addressed within the Draft EIR, all written responses must be submitted to the City of San Rafael Community Development Department, P.O. Box 151560, San Rafael, California 94915-1560, Attention: Chantry Bell.

As part of the Notice of Preparation process, the City of San Rafael Planning Commission will hold a public scoping session. The purpose of the scoping session is to explain the EIR process and to obtain comments from the public on what information should be included in the EIR. The date, time, and place for the public scoping session is as follows:

**Date:** Tuesday, May 27, 2003  
**Place:** City of San Rafael City Council Chambers  
1400 Fifth Avenue, San Rafael, California  
**Time:** 7:30 p.m.

If you need any additional information or have questions regarding this project, please contact Chantry Bell at (415) 485-3116.

**ATTACHMENT 1  
TO NOTICE OF PREPARATION**

**SAN RAFAEL GENERAL PLAN 2020**

**PROJECT BACKGROUND AND DESCRIPTION**

**PROJECT BACKGROUND**

San Rafael's current General Plan, *General Plan 2000*, was adopted in 1988. In 1998 the City determined that a comprehensive update of the *General Plan 2000* was needed to address changed conditions since adoption of the 1988 plan to maintain a plan current in policy, program implementation, and budget direction. To create a plan that most accurately reflects current preferences and desires of the community, the City established the following General Plan work plan goals:

- Create a simple, easy-to-read document;
- Address changed conditions;
- Include recent policy recommendations; and
- Meet State legal requirements, including environmental review requirements.

The City Council appointed a 19-member General Plan Steering Committee in May 2000. The charge of the Steering Committee was to prepare a recommended General Plan for the City of San Rafael by identifying important issues, developing goals, themes and values, preparing draft plan policies, and identifying implementation programs.

Over the past three years, the Steering Committee has:

- Audited the *General Plan 2000* (General Plan Report Card). Steering Committee review identified the progress that has been made toward implementing the 1988 General Plan goals;
- Reviewed the Trends Report;
- Participated in three town meetings to prepare a vision for San Rafael in 2020;
- Established General Plan Goals;
- Participated in Task Groups to draft General Plan policies;
- Conducted a two day community design charette; and
- Prepared draft General Plan Elements.

In addition, the Steering Committee and City Staff met with a wide range of community groups for input on issues, potential housing sites and policy options.

## PROPOSED GENERAL PLAN/PROJECT DESCRIPTION

The project is a comprehensive update of the *General Plan 2000*. The following is a list of the topical elements that would be prepared or updated in the *San Rafael General Plan 2020*:

- Air and Water Quality
- Circulation
- Conservation
- Culture and the Arts
- Community Design
- Economic Vitality
- Governance
- Housing
- Infrastructure
- Land Use
- Neighborhoods
- Noise
- Parks and Recreation
- Safety

The Air and Water Quality, Conservation, Culture and the Arts, Community Design, Economic, Governance and Infrastructure Elements would be new elements of the *General Plan 2020*. Several of these elements are addressed in the *General Plan 2000* as follows: Conservation policies are located in the Natural Environment Element; Community Design policies are located in the Land Use, Downtown, Francisco Boulevard West, East San Rafael, Canal, Bayfront and Marin Island, and the Montecito/Happy Valley sections; and Infrastructure policies are located in the Land Use Element. The existing Neighborhood Element would be revised to consolidate the *General Plan 2000* policies as well as the policies in the eight existing neighborhood plans. The new Neighborhood Element would replace all existing neighborhood plans.

The following sections broadly discuss the potential General Plan revisions in the context of the areas of the environmental analysis to be covered in the EIR.

## LAND USE AND POPULATION

The primary technical and policy issue that would form the basis of the *General Plan 2020* is the selection of new population, housing, and job projections for year 2020 using the U.S. 2000 Census and ABAG'S *Projections 2000*. The *General Plan 2000* was based on a projected 2000 Planning Area (includes unincorporated areas) population of 60,400. *Projections 2000* estimates a 2020 Planning Area population of 77,100, with 30,500 households and 55,970 jobs.

The Draft Land Use Element would be consistent with State planning law, including the requirement that the element be consistent with other General Plan elements. All elements of the General Plan are interrelated, however, the Land Use Element, more than any other element, relates directly to all other elements of the General Plan. This element would establish the planned land use pattern for San Rafael based on historic development and the community's vision for the future. Other General Plan elements ensure that infrastructure, utilities, and public facilities are available to accommodate planned land uses, and that the unique qualities of San Rafael are safeguarded and enhanced. The Circulation Element would provide the framework for accommodating increased traffic from planned development in accordance with the Land Use Element.

The City of San Rafael is a built-out community with limited development opportunities. Updated Land Use Element policies would promote in-fill development on underutilized sites, the redevelopment of properties, and the maintenance of the historical significance and diversity of the community. The Land Use Element would maintain and improve the coordination of varied patterns of land use intended to enhance and maintain present and future needs of the community.

The land use map and policies would also reflect development areas appropriate for providing housing units consistent with State law requirements.

A Background Technical Report was prepared as part of the update process to summarize existing conditions and the regulatory framework. The *San Rafael General Plan 2020 Background Report (Background Report)* is available at the Community Development Department. For land use and population see pages D-1 to D-38, *Land Use*, pages A-1 to A-15, *Planning Background*, and pages F-8 to F-11, *Population and Housing Conditions*.

## HOUSING

The Draft Housing Element would be consistent with all State law requirements. The Draft Housing Element would contain policies to provide all types of housing to meet the varied needs of San Rafael's population. Policies would promote the distribution of new housing units throughout the City, and require the design of the units to be compatible with the surrounding neighborhoods. Draft Housing Element policies would also support community partnerships to assist in the development of needed affordable housing and prevent discrimination in San Rafael's housing market. Public participation during project review would continue to be encouraged. Policies would continue to protect existing housing stock from conversion to non-residential uses. New policies would encourage the construction of new mixed-use, higher density housing units near public transit and services. Second dwelling unit construction would also be allowed, consistent with new State law provisions. Existing General Plan policies carried forward in the *General Plan 2020* would encourage innovative housing approaches in financing and design to increase the availability of below market rate housing. Updated Element policies would provide a housing sites list, consistent with ABAG requirements for meeting San Rafael's regional share of housing needs and include an increase in the number of inclusionary affordable housing units required in new housing projects. For existing housing needs, conditions, characteristics, and the regulatory framework see pages F-1 to F-28, *Housing in the Background Report*.

## CIRCULATION

The Circulation Element establishes policies affecting the movement of people, goods and vehicles within and through the city. It is closely linked to the Land Use Element, which establishes policies concerning where and how physical development shall occur within the city. State law requires the Land Use and Circulation Elements be consistent. This element would meet this and other State requirements for circulation elements, as outlined by the Governor's Office of Planning and Research.

The central focus of the Circulation Element would be on creating a more diversified, safe, cost-effective, and resource-efficient transportation network. Policies would stress improving the City's transportation mode split to increase the use of public transit, bicycles, and other alternative modes, and fewer people drive alone in cars. In addition to improving existing regional transit options, policies would encourage the development and use of transit rail service through San Rafael operating on the Sonoma Marin Rail Transit Authority (SMART) right-of-way.

Other policies would encourage the use of traffic calming devices to provide safe and enjoyable streets for all users, and mixed use development to allow residents to live close to jobs and other services and therefore reduce the number of automobile trips. For existing circulation issues and the regulatory framework in San Rafael see pages E-1 to E-37, *Circulation in the Background Report*.

## **AIR QUALITY**

The Draft Air and Water Quality Element policies would ensure that high quality air and water is available to all who reside, work, and play in the City. Emissions from gas-powered vehicles contribute fine particulate matter into the air. The Draft Air and Water Quality Element policies would seek to mitigate the effects of vehicular pollution by supporting policies that promote more environmentally friendly forms of transport such as public transit and the reduction of the use of single occupancy vehicles, as well as promote land use design practices that incorporate walking and biking options. The Draft Conservation Element would also include air quality policies. For existing air quality issues and the regulatory framework in San Rafael see pages B-16 to B-25, *Air Quality* in the *Background Report*.

## **NOISE**

The City of San Rafael recognizes the issue of excessive, unnecessary, and unreasonable noises. The Noise Element would have standards to protect people from such noises in the community. The Draft Noise Element would be consistent with all State guidelines and requirements and the recently adopted City Noise Ordinance, which enforces noise standards.

Vehicular traffic on the roadways is the single largest source of unacceptable noise. Airplanes and mechanical equipment are also contributors, as are other sources such as leafblowers and construction equipment. Average noise levels are highest along Highways 101 and 580 and along major traffic corridors. Draft Noise Element policies would minimize noise impacts from increased traffic levels through land use policies (mixed-use development), law enforcement (speed limit enforcement), and street improvements (roadway improvements and traffic calming). The Draft Noise Element would also provide a policy to minimize the noise impacts of the future commuter rail service (SMART).

The San Rafael Rock Quarry, located in unincorporated Marin County adjacent to the City of San Rafael at 1000 Pt. San Pedro Road, is another source of noise in the Planning Area. Noise sources associated with the quarry include on-site machinery, trucks, blasting, and haul trucks traveling on Pt. San Pedro Road west of the quarry.

Draft Noise Element policies would control noise impacts from existing sources and would also take actions that prevent adverse levels of noise from being generated by new sources. Such efforts include encouraging the design of new development projects in a manner that minimizes the exposure of residents and workers to excessive levels of noise. For existing noise conditions, noise exposure areas, and the regulatory framework see pages B-73 to B-100, *Noise* in the *Background Report*.

## **PUBLIC SERVICES AND UTILITIES**

Public services and utilities would be covered in the Draft Infrastructure, Draft Parks and Recreation, and Draft Safety Elements of *General Plan 2020*. It is important to assure that services are maintained in accordance with projected growth.

The Draft Infrastructure Element would provide policies and programs for the planning, construction, management, and maintenance of public facilities provided by the City of San Rafael related to roads, drainage, telecommunications, water and power systems, and other facilities. Policies and programs would also address such issues as functional and technological adequacy,



disabled accessibility, and parks and recreation facilities (including the cultural needs of the community).

The Draft Parks and Recreation Element would provide policies and programs which identify and document present park facilities, compare those facilities with current and long-term needs, and establish attainable goals to meet the community's recreation needs.

The Draft Safety Element would focus on reducing potential risk of death, injury, damage to property, and economic and social disruption resulting from fire, flood, and geologic hazards, and other public health and safety hazards, including hazardous materials. The Draft Safety Element would provide policies for the type, location, intensity, and design of development (including public improvements) in areas of potential hazards. These policies would focus on making informed decisions about land use and development near these hazards. The Draft Safety Element would also provide policies to ensure adequate fire protection, paramedic, and police services, including emergency (disaster) preparedness planning and an urban search and rescue program.

For existing police and fire services (including the hazardous materials program), water supply and flood control issues, emergency preparedness, and public utilities see pages G-1 to G-31, *Public Services and Facilities* in the *Background Report*.

## **CULTURAL RESOURCES**

The Cultural Affairs Element is a new General Plan Element for the City of San Rafael. This Draft Element would identify policies and programs which encourage, promote, and provide both public and private culturally diverse arts and cultural activities. Cultural activities include the visual, literary and performing arts; and community celebrations. The element would also provide for the expansion of library services, and for the protection and maintenance of historic buildings and archaeological resources. For existing cultural resources see pages C-6 to C-15, *Community Life* in the *Background Report*.

## **AESTHETICS**

The current General Plan, *General Plan 2000*, has design policies located in the Land Use, Downtown, Francisco Boulevard West, East San Rafael, Canal, Bayfront and Marin Island, and the Montecito/Happy Valley sections of the plan. The *General Plan 2020* would have all design policies located in the Community Design Element.

This element would provide policies and programs that would guide development of the City's built environment to create an appealing, functional, and safe city. The City's historic structures and surrounding natural landscapes add to the uniqueness and identity of San Rafael. The Draft Community Design Element would identify features in the surrounding landscape and ensure that the built city enhances those features. Policies would provide design direction for the preservation of views to the hillsides, the ridgelines, the bay, the canal, and surrounding areas. Policies would also encourage design attention to the major transportation corridors so that they may contribute to the quality of life in the City, as well as protecting, strengthening, and encouraging attention to the character of neighborhoods.

## **BIOLOGICAL RESOURCES**

The Draft Conservation Element would contain policies for the protection of biological resources. Existing plan policies for vegetation, wildlife, wetland, creeks, and shoreline protection are generally applied through the project review process for private development projects that require discretionary approval, such as subdivision or design review applications.

The Draft Conservation Element polices, to be prepared consistent with State law requirements, would protect natural resources to ensure their economic and recreational value, as well as their ecological value. Policies would address water, air quality, and wildlife and cover the following topics: wetlands; diked baylands; creeks and drainageways; native plants; animals and habitat; and resource management. Policies would also promote the restoration and/or rehabilitation and enhancement of damaged habitats. Biotic resource maps that show the locations of important habitats would also be included in this element.

For existing biological resources in the City and the regulatory framework see pages B-26 to B-48, *Biology* in the *Background Report*.

## **GEOLOGY, SOILS, AND SEISMICITY (INCLUDES MINERAL RESOURCES)**

Geology, soils, and seismicity issues would be covered in the Draft Safety Element. The Draft Safety Element would focus on reducing the potential risk of death, injuries, damage to property, and economic and social disruption resulting from geologic hazards, and other public health and safety hazards, including the seismic safety of new and existing buildings. This draft element would be consistent with the State requirements for Safety Elements. The Draft Safety Element would provide policies for the type, location, intensity, and design of development (including public improvements) in areas of potential hazards. These policies would focus on making informed decisions about land use and development near these hazards. The existing *General Plan 2000* features a Geotechnical Review Matrix which establishes geotechnical review standards for new development. The Draft Safety Element would propose a program to update this matrix. The San Rafael Rock Quarry is expected to continue quarrying operations during the planning period of *General Plan 2020*.

For existing geologic conditions in the City, including potential geologic and seismic hazards, and the regulatory framework for the Safety Element (including an explanation of San Rafael geotechnical review procedures) see pages B-51 to B-69, *Geology & Seismicity* in the *Background Report*.

## **HYDROLOGY, WATER QUALITY, AND FLOOD HAZARDS**

Hydrology and water quality polices would be in the Draft Air and Water Quality Element. Flood hazard policies would be in the Draft Safety Element.

The Draft Air and Water Quality Element would require that San Rafael meet all local, State and federal standards for water quality, including potential pollutant runoff into the storm drain system, the San Francisco Bay, creeks, drainageways, and the San Rafael Canal. Draft water quality policies would protect public health, wildlife, and watersheds, and ensure opportunities for public recreation and economic development in the City. Policies would also promote the improvement of water quality in existing bodies of water to prevent further degradation.

The Draft Safety Element would focus on reducing the potential risk of death, injuries, damage to property, and economic and social disruption resulting from flood hazards. This Draft Element would be consistent with the State requirements for Safety Elements. The Draft Safety Element would provide policies for the type, location, intensity, and design of development (including public improvements) in areas of potential hazards. These policies would focus on making informed decisions about land use and development near these hazards. The draft element would also provide for the completion of the remaining San Rafael Basin storm drain improvement project that would achieve flood protection objectives established by the City within a 50 year planning period. Policies would also support levee upgrades to provide flood protection by the Bay and State and local legislation that provide funding for the construction of flood control improvements.

For existing hydrology, water quality, and flooding conditions in the City and the regulatory framework see pages B-3 to B-15, *Environmental Context* and pages G-12 to G20, *Public Services and Facilities* in the *Background Report*.

## AGRICULTURE

Ranches that are actively used for grazing exist in the western portion of the Planning Area, in Lucas Valley. The unincorporated neighborhood of Los Ranchitos features large properties with horses. There are no agricultural uses within the city limits of San Rafael.

## DESCRIPTION OF PROJECT ALTERNATIVES

The Draft Environmental Impact Report will consider the following range of alternatives:

- *No Project/No Action/General Plan 2000 Alternative* – This alternative will reflect growth under existing *General Plan 2000* policies, assuming **feasible** infrastructure improvements and community services. This alternative will describe the consequences of not acting on the proposed project (the *General Plan 2020*) and will analyze population and economic growth consistent with *General Plan 2000*. This alternative will have a higher level of growth than proposed *General Plan 2020*.
- *General Plan 2020 with St. Vincent's and Silveira properties Alternative* – The St. Vincent's and Silveira properties are within San Rafael's current Sphere of Influence boundaries. Per *General Plan 2000* policy, the properties have a development potential of 2,100 housing units and 361,000 square feet of nonresidential use.

*General Plan 2020* would propose to not include these properties, leaving planning approvals to Marin County and would include a program to revise the City's Sphere of Influence consistent with City Council direction to remove these properties from the Sphere of Influence and the City's planning area.

This alternative will include residential and commercial development on these two properties. Based on the recent development application submitted to the City and subsequently denied, one potential development scenario for St. Vincent's would be 451 single-family homes, 90 second units, and 315 multifamily units; 4,000 square feet of neighborhood retail use, and 120,000 square feet of office use. Also included will be a

relocation of the School for Boys, no change in use of the H complex, and an on-site K-8 school for children living on the site.

A possible development scenario for the Silveira property would be 300 single-family homes, 60 second units, 210 multifamily units, 6,000 sq. ft. of neighborhood retail and 180,000 square feet of office use. This alternative will have a higher level of growth than proposed *General Plan 2020*.

- *A Reduced Development Alternative* – A Reduced Development Alternative would be developed and analyzed. The goal of this alternative will be to reduce identified significant impacts, with an emphasis on traffic impacts while still meeting the City’s housing objectives. For example, development assumptions will likely be lowered to minimize traffic impacts on the Bellam and Freitas interchanges. Housing assumptions will reflect the need to meet San Rafael’s housing needs and nonresidential development will likely be lowered from *General Plan 2020* assumptions. This alternative will have a lower level of growth than proposed *General Plan 2020*.

**INITIAL STUDY**

**SAN RAFAEL GENERAL PLAN 2020**

Lead Agency:

City of San Rafael  
Community Development Department  
1400 Fifth Avenue (P.O. Box 151560)  
San Rafael, CA 94915-1560

Contact: Chantry Bell, Associate Planner

Date: May 6, 2003

## TABLE OF CONTENTS

<b>ENVIRONMENTAL CHECKLIST .....</b>	<b>3</b>
<b>EXHIBITS.....</b>	<b>5</b>
<b>ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:.....</b>	<b>7</b>
<b>DETERMINATION:.....</b>	<b>7</b>
<b>EVALUATION OF ENVIRONMENTAL IMPACTS.....</b>	<b>8</b>
I.    AESTHETICS .....	8
II.   AGRICULTURE.....	8
III.  AIR QUALITY .....	9
IV.  BIOLOGICAL RESOURCES.....	10
V.   CULTURAL RESOURCES.....	11
VI.  GEOLOGY AND SOILS .....	12
VII. HAZARDS AND HAZARDOUS MATERIALS.....	13
VIII. HYDROLOGY AND WATER QUALITY.....	15
IX.  LAND USE AND PLANNING.....	16
X.   MINERAL RESOURCES .....	17
XI.  NOISE .....	17
XII. POPULATION AND HOUSING.....	18
XIII. PUBLIC SERVICES .....	19
XIV. RECREATION.....	19
XV.  TRANSPORTATION/TRAFFIC.....	20
XVI. UTILITIES AND SERVICE SYSTEMS .....	21
XVII. MANDATORY FINDINGS OF SIGNIFICANCE .....	22
<b>SOURCE REFERENCES.....</b>	<b>24</b>
<b>DETERMINATION FOR PROJECT .....</b>	<b>24</b>
<b>REPORT AUTHORS AND CONSULTANTS .....</b>	<b>24</b>

# ENVIRONMENTAL CHECKLIST

<b>Project Title</b>	San Rafael <i>General Plan 2020</i>
<b>Lead Agency Name &amp; Address</b>	City of San Rafael Community Development Department Planning Division 1400 Fifth Avenue (P.O. Box 151560) San Rafael, California 94915-1560
<b>Contact Person &amp; Phone Number</b>	Chantry Bell, Associate Planner Phone number: (415) 485-3116 Email: chantry.bell@ci.san-rafael.ca.us
<b>Project Location</b>	The City of San Rafael is located within the County of Marin, one of the nine counties of the San Francisco Bay Area Region. The City is located 17 miles north of San Francisco, along the western edge of San Francisco Bay. The project location for the City of San Rafael <i>General Plan 2020</i> is the San Rafael Planning Area / Sphere of Influence. This covers the city limits of San Rafael and the surrounding unincorporated areas. (See Exhibit EIR-2)
<b>Project Sponsor's Name &amp; Address</b>	City of San Rafael Community Development Department Planning Division 1400 Fifth Avenue (P.O. Box 151560) San Rafael, California 94915-1560
<b>General Plan Designation</b>	The project is an update of San Rafael <i>General Plan 2000</i> .
<b>Zoning</b>	Varies throughout the planning area.

## Other Public Agencies Whose Approval Is Required

The following list is not exhaustive but it is based on the best available information at this time.

The City of San Rafael's adoption of the *General Plan 2020* would lead to revisions in the City's Municipal Code, including the Zoning Ordinance. It is possible that changes could be made to other existing City plans and programs as well, depending on the final adopted provisions of *General Plan 2020*. A number of future actions may be based (in whole or part) on the environmental evaluation undertaken as part of *General Plan 2020* and the EIR. Review and approval of subsequent development projects may require review and approval by agencies including, but not limited to, the following:

- **The City of San Rafael** issues specific plans, tentative tract and parcel maps, zoning changes, conditional use permits, and other discretionary development approvals.
- **The State Department of Food and Agriculture** reviews projects affecting soil and plant life, sedimentation, erosion, and hydrologic conditions. Development identified in *General Plan 2020* may affect these issues.
- **The Air Resources Board** reviews air quality associated with residential, commercial, industrial, and transportation growth.
- **The California Department of Fish and Game (CDFG)** issues state Section 1600 et seq. permits for individual private development projects and public works projects.
- **The U.S. Army Corps of Engineers** issues federal 404 permits for individual development projects and public works projects.
- **The Regional Water Quality Control Board, Region 2**, issues state National Pollutant Discharge Elimination System (NPDES) permits for individual private development projects and public projects.
- **The State Department of Health Services** reviews projects associated with water quality and water pollution control.
- **The San Francisco Bay Conservation and Development Commission (BCDC)** reviews projects adjacent to shoreline areas.
- **The State Department of Boating and Waterways** reviews projects utilizing navigable waterways.
- **The State Department of Housing and Community Development** reviews planning projects with housing and regional planning issues.
- **The California State Department of Transportation** reviews transportation construction projects.



**EXHIBIT EIR-1**  
Insert Exhibit EIR-1

**EXHIBIT EIR-2**

Insert Exhibit EIR-2

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- |   |   |  |
|---|---|--|
| <input checked="" type="checkbox"/> Aesthetics                    | <input checked="" type="checkbox"/> Agriculture Resources             | <input checked="" type="checkbox"/> Air Quality              |
| <input checked="" type="checkbox"/> Biological Resources          | <input checked="" type="checkbox"/> Cultural Resources                | <input checked="" type="checkbox"/> Geology /Soils           |
| <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology / Water Quality         | <input checked="" type="checkbox"/> Land Use / Planning      |
| <input type="checkbox"/> Mineral Resources                        | <input checked="" type="checkbox"/> Noise                             | <input checked="" type="checkbox"/> Population / Housing     |
| <input checked="" type="checkbox"/> Public Services               | <input checked="" type="checkbox"/> Recreation                        | <input checked="" type="checkbox"/> Transportation / Traffic |
| <input checked="" type="checkbox"/> Utilities / Service Systems   | <input checked="" type="checkbox"/> Mandatory Finding of Significance |  |

**DETERMINATION:**

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an EARLIER EIR or NEGATIVE DECLARATION pursuant to applicable legal standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

Printed Name

Chantry Bell, Associate Planner

## EVALUATION OF ENVIRONMENTAL IMPACTS

	<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
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### I. AESTHETICS

Would the project:

- |   |                                     |                          |                          |                          |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|
| a. <i>Have a substantial adverse effect on a scenic vista?</i>  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. <i>Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. <i>Substantially degrade the existing visual character or quality of the site and its surroundings?</i>  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. <i>Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</i>                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**I (a, b, c, d) Potentially Significant Impact:** An analysis of impacts on the visual resources and aesthetic character of the City of San Rafael will be included in the EIR, including impacts of potential development on the City's scenic resources and scenic vistas as well as the potential visual impact of the development of infill housing. Development under *General Plan 2020* could result in structures that degrade or impair the scenic quality of existing amenities in the City of San Rafael.

### II. AGRICULTURE

Would the project: {In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland.}

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a. <i>Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. <i>Conflict with existing zoning for agricultural use, or a Williamson Act contract?</i>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

	<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
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c. *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?*

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------

**II (a, b, c) No Impact:** Ranches that are actively used for grazing exist in the western portion of the Planning Area, in Lucas Valley. The unincorporated neighborhood of Los Ranchitos features large properties with horses. Development of these areas would result in conversion of agricultural land, which would be a significant impact.

### III. AIR QUALITY

Would the project:

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

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------

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

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------

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

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------

d. *Expose sensitive receptors to substantial pollutant concentrations?*

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------

e. *Create objectionable odors affecting a substantial number of people?*

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------	--------------------------	--------------------------

**III (a, b, c, d, e) Potentially Significant Impact:** The EIR will describe the current baseline air quality, including federal / State attainment status for air pollutants. It will also provide a consistency analysis with population / employment assumptions used in the development of the Clean Air Plans and evaluate General Plan consistency with regional standards. Levels of potential increases in air pollution due to increases in vehicle trips resulting from limited additional development will be studied. Sensitive receptors and objectionable odors will also be addressed.

<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
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**IV. BIOLOGICAL RESOURCES**

Would the project:

- |  |                                     |                          |                          |                          |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|
| <p>a. <i>Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</i></p> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>b. <i>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 Game or US Fish and Wildlife Service?</i></p>   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>c. <i>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?</i></p>   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>d. <i>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?</i></p>   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

IV (a, b, c, d) Potentially Significant Impact: The analysis of biological resources will be based on collecting existing information on the City’s biological and wetland resources. As necessary, State, federal, and local wildlife biologists will be consulted to determine concerns or specific knowledge of any sensitive resources of particular concern in the City. The EIR will also provide a discussion of the regulatory framework affecting biological and wetland resources, information on the City’s vegetation and wildlife resources, and updated information on special-status species, threatened and endangered species, sensitive natural communities, riparian corridors, and other habitats.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <p>e. <i>Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</i></p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
---	---	--	----------------------

**IV (e) No Impact:** The City of San Rafael is evaluating protective standards as part of the *General Plan 2020*. Because the General Plan must be, by law, internally consistent, there would be no policies that conflict with those aimed at protecting biological resources. Furthermore, the City of San Rafael does not have a Tree Preservation Ordinance.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <i>f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**IV (f) No Impact:** Currently, no approved local, regional, or state habitat or natural community conservation plans exist that include any portion of the City of San Rafael.

## V. CULTURAL RESOURCES

Would the project:

- |  |                                     |                                     |                          |                          |
|--|-------------------------------------|-------------------------------------|--------------------------|--------------------------|
| <i>a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?</i>    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| <i>b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?</i> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <i>c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</i>       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <i>d. Disturb any human remains, including those interred outside of formal cemeteries?</i>                          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**V (a) Potentially Significant Impacts:** The analysis of cultural resources in the EIR will include a review of data and information available from the Office of Historic Preservation, the California Historical Resources Information System, as well as any relevant current cultural studies. The potential impact of *General Plan 2020* on historical and cultural resources will be evaluated.

**V (b, c, d) Less Than Significant Impact with Mitigation Incorporated:** The City of San Rafael has an Archaeological Ordinance and maintains an archaeological sensitivity database based on parcels and their proximity to known and potential sensitive sites. The database includes known archaeological remains, known archaeological sites, and archaeological sensitivity zones. The potential exists for uncovering historic human burials that cannot be located by using the City’s database and/or during cultural resource site surveys. <sup>1</sup>

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<sup>1</sup> City of San Rafael Municipal Code, Chapter 2.19, Archaeological Resources Protection.

<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
---	---	--	----------------------

Destruction or disturbance of such resources could be a potentially significant impact. Implementation of the following mitigation measure would reduce the impacts to less than significant: If human remains are encountered during a public or private construction activity, State Health and Safety Code 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The Marin County Coroner must be notified within 24 hours.

If the Coroner determines that the burial is not historic, but prehistoric, the Native American Heritage Commission must be contacted to determine the most likely descendent (MLD) for the area. The MLD may become involved with the disposition of the burial following scientific analysis. Implementation of state law would reduce the potential impact of uncovering human remains to a level of less than significant.

## VI. GEOLOGY AND SOILS

Would the project:

a. *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

VI (a)(i). Less than Significant Impact: There are no Alquist-Priolo Earthquake Fault Zones (formerly known as Alquist-Priolo Special Studies Zones) within the Planning Area and the Planning Area is not near any known active faults. The nearest known active fault traces are the San Andreas fault, about 14 kilometers to the southwest, and the Hayward fault, 14 kilometers to the northeast. Therefore, the potential for fault surface rupture within the Planning Area is low.

a. (continued):

ii) *Strong seismic ground shaking?*

iii) *Seismic related ground failure, including liquefaction?*

iv) *Landslides?*

b. *Result in substantial soil erosion or the loss of topsoil?*



	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporation	Less-Than-Significant Impact	No Impact
c. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VI (a[ii-iv], b, c, d, e) Potentially Significant Impacts: The EIR will assess the potential geologic, seismic, and soil impacts of *General Plan 2020*. This section of the EIR will emphasize geotechnical hazards, seismic hazards, slope stability and landsliding, and soil hazards including subsidence, expansive soils, and erosion. The focus of this section will be to analyze new information on anticipated ground shaking from seismic events; incorporate information on faults and seismicity from the 1997 Uniform Building Code; and review local effects of recent significant earthquakes.

## VII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporation	Less-Than-Significant Impact	No Impact
d. 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, would it create a significant hazard to the public or the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**VII (a, b, c, d, h) Potentially Significant Impact:** The EIR will describe the use of hazardous materials and the treatment and disposal of hazardous waste as required by the City, as well as the State and federal regulations in place. The EIR will analyze environmental impacts of proposed policies which might expose people or structures to a significant risk of loss, injury or death involving wildland fires.

**VII (f) Less than Significant Impact:** *General Plan 2020* does not propose any changes to the location of the existing privately owned San Rafael Airport, nor the establishment of any new airport. Properties surrounding the airport are built-out. The airport property has a covenant allowing airport, recreation, and other ancillary uses only, and a use permit specifically for the operation of the airport. The 100 airport based aircraft allowed by conditional use permit is not expected to change. All development in the vicinity of the San Rafael Airport would be required to adhere to the provisions of the *Airport Land Use Planning Handbook*, published by Caltrans' Division of Aeronautics as well as the policies of the City's general plans. The *Handbook* includes safety as well as noise compatibility standards.

**VII (e, g) No Impact:** The proposed project is not located within an airport land use plan, nor is it located within two miles of a public use airport. The City has an adopted Emergency Response Plan in cooperation with other public agencies that provides procedures to be followed in fire, flood, and earthquake response.

*Potentially  
Significant  
Impact*

*Less-Than-  
Significant With  
Mitigation  
Incorporation*

*Less-Than-  
Significant  
Impact*

*No  
Impact*

### VIII. HYDROLOGY AND WATER QUALITY

Would the project:

- |  |                                     |                          |                          |                          |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|
| a. <i>Violate any water quality standards or waste discharge requirements?</i>   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. <i>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)?</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. <i>Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?</i>  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. <i>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?</i>  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. <i>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?</i>   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. <i>Otherwise substantially degrade water quality?</i>   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g. <i>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?</i>  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

	<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
<i>h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>j. Inundation by seiche, tsunami, or mudflow?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**VIII (a, b, c, d, e, f, g, h, i, j) Potentially Significant Impact:** The EIR will analyze the environmental impacts of proposed objectives and policies on surface water and groundwater quality, erosion and sedimentation, boat waste disposal maintenance and operations, canal dredging, flooding, and the management of water supplies. This will include a discussion of the adequacies of existing policies versus proposed policies in addressing water resource problems. Proposed surface water and groundwater quality objectives and policies would coincide with local, state and federal regulatory requirements and would address several aspects of development within the City. Erosion and sedimentation are important aspects of water quality as they relate to runoff into the Bay, creeks and storm drains. Erosion and sedimentation issues would be dealt with through policies related to proposed channel modifications, stabilization, or restoration of degraded stream channels, road construction, and riparian setbacks.

Flooding issues are generally associated with an increase in impervious surface area and development within a floodplain. Detention and infiltration practices are some of the measures that could be used to address flood problems within the City.

**IX. LAND USE AND PLANNING**

Would the project:

<i>a. Physically divide an established community?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**IX (a) No Impact:** The *General Plan 2020* proposes less development than the existing *General Plan 2000*. Therefore, the *General Plan 2020* would not make any major land use plan changes: no communities would be divided.

<i>b. 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?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**IX (b) Potentially Significant Impacts:** The EIR will evaluate the impacts of the projected growth and development under new plan policies on the existing land use patterns in the City as well as the consistency of *General Plan 2020* with applicable land use plans.

	<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
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<i>c. Conflict with any applicable habitat conservation plan or natural community conservation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**IX (c) No Impact:** Currently, there are no adopted local, regional, or state habitat conservation plans that include any portion of the City of San Rafael.

## **X. MINERAL RESOURCES**

Would the project:

<i>a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**X (a, b) No Impact:** The San Rafael Rock Quarry is the only mineral resource located in the City with local, regional, or state significance. This site would not be redeveloped during the planning time frame of *General Plan 2020*. Rock quarrying operations would continue. Therefore, no impact would result.

## **XI. NOISE**

Would the project:

<i>a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>b. Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**XI (a, b, c, d) Potentially Significant Impact:** Noise modeling for transportation-generated noise will be conducted for various City roadway segments, based on existing and future traffic information. A Citywide noise

<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
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measurement program was completed in February 2001 to update the data from the *General Plan 2000*. These new baseline measurements noise modeling will provide perspective on the effects of changes in land use patterns over the last 16 years in San Rafael. Newly developed areas will also be evaluated. A noise impact report was prepared for the freeway widening project to provide new reversible carpool (HOV) lanes on Highway 101.<sup>2</sup> General Plan policies related to the freeway widening and the future rail transit project (SMART) will be evaluated. The proximity of sensitive land uses to excessive noise levels will be analyzed. The effectiveness of current City's policies and standards, including the City's new noise ordinance, will also be evaluated.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| e. <i>For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f. <i>For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</i>  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

XI (e, f) Less-Than-Significant Impacts: same as VII (e, f).

## **XII. POPULATION AND HOUSING**

Would the project:

- |  |                                     |                          |                          |                          |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|
| a. <i>Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|

XII (a) Potentially Significant Impact: The EIR will include forecasts of population, households, and employment, using the 2000 Census as the baseline. Provision for affordable housing will also be addressed.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b. <i>Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. <i>Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</i>           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

<sup>2</sup> *Gap Closure Traffic Noise Impact Report*, State of California, Department of Transportation, June 1997.

<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
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XII (b, c) No Impacts: *General Plan 2020* would not include provisions that would result in the displacement of housing. Moreover, the Housing Element would contain detailed policies and programs to increase the supply of affordable housing.

**XIII. PUBLIC SERVICES**

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- |                                    |                                     |                          |                          |                          |
|------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| a. <i>Fire protection?</i>         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. <i>Police protection?</i>       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. <i>Schools?</i>                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. <i>Parks?</i>                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. <i>Other public facilities?</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

XIII (a, b, c, d, e) Potentially Significant Impact: The EIR will evaluate whether forecasted *General Plan 2020* development will result in demand for public services such that new facilities would need to be constructed (with the associated environmental impacts of that). Public service impacts to be analyzed include law enforcement, fire protection, parks and recreation, public education, and libraries.

**XIV. RECREATION**

Would the project:

- |   |                                     |                          |                          |                          |
|---|-------------------------------------|--------------------------|--------------------------|--------------------------|
| a. <i>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?</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. <i>Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?</i>                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

XIV (a, b) Potentially Significant Impacts: Refer to response for XIII above.

<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
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**XV. TRANSPORTATION/TRAFFIC**

Would the project:

a. *Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?*

	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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b. *Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?*

	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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XV (a, b) Potentially Significant Impact: The EIR will include an analysis of effects of the proposed land uses on the City’s transportation system and on Highway 101 and Interstate 580. This effort will focus on a comparison of potential impacts associated with the proposed project and alternatives to existing baseline conditions for the roadways of the transportation system. With the results of traffic modeling the EIR will provide an assessment of the existing levels of service and a baseline for evaluation of needed improvements. The traffic modeling will also provide input to the noise and air quality analyses.

c. *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?*

	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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XV (c) No Impact: See explanation in VII (e.f.).

d. *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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XV (d) Less than Significant Impact: All future roadway development occurring pursuant to the provisions of the General Plan will adhere to applicable standards of the City of San Rafael pertaining to roadway design. Use of roadways within the City will be required to adhere to applicable provisions of the State vehicle and/or streets and highway codes. Adherence to these standards would reduce any potential impacts related to this issue to a less than significant level.

e. *Result in inadequate emergency access?*

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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XV (e) No Impact: The roadway network will be designed, constructed, and maintained to ensure that adequate and efficient emergency access is maintained. Therefore, no impacts associated with this issue are anticipated.



	<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
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<i>f. Result in inadequate parking capacity?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**XV (f) Less than Significant Impact:** All future development projects occurring pursuant to the provisions of the proposed *General Plan 2020* will adhere to the applicable parking standards of the City, as outlined in the Municipal Code. Adherence to these standards would reduce potential impacts related to this issue to a less than significant level.

<i>g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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**XV (g) Less than Significant Impact:** Section 65089(b) (A) of the Government Code requires that general plans contain “trip reduction and travel demand element that promotes alternative transportation methods, including but not limited to carpools, vanpools, transit, bicycles, and park-and-ride lots; improvements in the balance between jobs and housing; and other strategies, including but not limited to, flexible work hours, telecommuting, and parking management programs.” The Circulation Element of *General Plan 2020* would include provisions for increasing transportation alternatives to automobile use. Also, the Metropolitan Transportation Commission, the regional transportation agency for planning and allocating funding, adopted a Regional Transportation Plan which coordinates regional transportation systems and improvements. All future development projects occurring through the provisions of *General Plan 2020* would adhere to the County and regional policies, plan, and programs in place to support alternative modes of transportation. Adherence to these provisions would reduce potential impacts to below a level of significance.

**XVI. UTILITIES AND SERVICE SYSTEMS**

Would the project:

<i>a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
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<i>d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<i>e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<i>f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**XVI (a, b, c, d, e, f) Potentially Significant Impact:** The EIR will evaluate whether forecasted *General Plan 2020* development and the alternatives would result in demand for public services such that new facilities would need to be constructed (with the associated environmental impacts of that). Public service impacts to be analyzed include water supply and delivery system, wastewater treatment and disposal, and solid waste disposal.

<i>g. Comply with federal, state, and local statutes and regulations related to solid waste?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**XVI (g) No Impact:** Implementation of the proposed project would result in the development of residential, commercial, industrial, agricultural, and recreational uses, and community and public facilities. The collection and disposal of solid waste would conform to applicable federal, State, and local plans and regulations, including AB 939 (Integrated Waste Management Act) and the Marin County Integrated Waste Management Plan.

**XVII. MANDATORY FINDINGS OF SIGNIFICANCE**

Would the project:

<i>a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**XVII (a) Potential to Degrade - Potentially Significant Impact:** The *General Plan 2020* has the potential to result in significant impacts on biological resources, including the potential to reduce substantially the habitat of certain

<i>Potentially Significant Impact</i>	<i>Less-Than- Significant With Mitigation Incorporation</i>	<i>Less-Than- Significant Impact</i>	<i>No Impact</i>
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wildlife and plant species. The EIR will address these issues and any feasible mitigation measures will be identified to avoid and/or reduce any significant impacts.

*b. Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a 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)?*

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**XVII (b) Cumulative Impacts - Potentially Significant Impact:** The *General Plan 2020* would define the extent of future development within the City of San Rafael. Increased traffic is one such anticipated cumulative impact. In addition, it is possible that the impacts of implementing *General Plan 2020* would combine with the impacts of development occurring in surrounding jurisdictions to create significant cumulative impacts. An assessment of the cumulative impacts of *General Plan 2020* and mitigation measures will be identified in the EIR to reduce and / or eliminate potentially significant cumulative impacts.

*c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**XVII (c) Adverse Impacts on Humans - Potentially Significant Impact:** Increases in traffic-related noise and air pollutant emissions, potential seismic and flooding hazards could have effects on the existing and future residents within the City of San Rafael. In addition, air pollutant emissions associated with the implementation of the proposed *General Plan 2020* could result in impacts to subregional and / or regional air quality. The EIR will address the severity of these effects generated by the proposed project and identify mitigation measures to reduce and/or eliminate potentially significant impacts.

**SOURCE REFERENCES**

The following is a list of references used in the preparation of this document. Unless attached herein, copies of all reference reports, memorandums and letters are on file with the City of San Rafael Department of Community Development. References to Publications prepared by federal or State agencies may be found with the agency responsible for providing such information.

*City of San Rafael General Plan 2000*, July 1988.

*City of San Rafael General Plan Background Report*, April 12, 2001.

*City of San Rafael Municipal Code*, Chapter 2.19, Archaeological Resource Protection.

*Gap Closure Traffic Noise Impact Report*, State of California, Department of Transportation, June 1997.

**DETERMINATION FOR PROJECT**

On the basis of this Initial Study and Environmental Checklist I find that the proposed project may have a significant effect on the environment, and an Environmental Impact Report will be prepared.

Signature

Date

Printed Name

Title

**REPORT AUTHORS AND CONSULTANTS**

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Chantry Bell, Associate Planner, City of San Rafael, Community Development Department

Bob Berman, Consultant, Nichols • Berman Environmental Planners

Sofia Zander, Consultant, Nichols • Berman Environmental Planners

***APPENDIX VIII.2  
RESPONSES TO NOP***



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## ***Public Scoping Meeting Comments***

As a part of the scoping process for the *San Rafael General Plan 2020* on May 27, 2003 the San Rafael Planning Commission conducted a public scoping meeting regarding the proposed project. The purpose of the meeting was to identify environmental issues and concerns that the public may have about the proposed project so that these issues can be evaluated in this EIR.

A summary of the public scoping meeting is provided below. Specific comments and concerns identified at the scoping meeting were taken into account in the analyses for the *San Rafael General Plan 2020 EIR*. After each specific comment below, the numbers in parentheses (IV.) refer to the section in the EIR where this topic is addressed. In a limited number of instances the specific comment is not addressed in the EIR. In these instances, the reason why the comment is not addressed is provided.

SAN RAFAEL GENERAL PLAN 2020  
SAN RAFAEL PLANNING COMMISSION SCOPING MEETING  
May 27, 2003

**Gregory Andrew (San Rafael Meadows Improvement Association)**

Comparison of *Vision North San Rafael* policies in *General Plan 2020*. (Section IV.1 – Land Use, Population, Employment, and Housing)

Economic analysis of land use changes and the effects on property values. (Effects analyzed under CEQA must be related to a physical change in the environment. Economic and social effects are not considered environmental effects under CEQA. Section 15131 of the CEQA Guidelines states that the evaluation of economic or social effect is generally treated as optional.)

Impact of commuter rail service on local street traffic, also hazards posed by rail service (at intersections and individuals living along rail). (Section IV.2 – Transportation and Circulation)

Hazardous materials at the area around Davidson School (Section IV.5 -- Public Services and Utilities)

Wants a “no rail” alternative. (San Rafael’s traffic modeling for the *Draft General Plan 2020* and the alternatives does not include assumptions for rail transit ridership.)

**Francis Nunez**

Raised concerns about airport noise. Airport noise is a potential significant impact that should be considered in the EIR. (Section IV.4 -- Noise)

**Alice Vipiana**

Focused on issues at Loch Lomond Marina. (As discussed in Section I -- Introduction this is a program EIR and by nature evaluates the environmental impacts of *Draft General Plan 2020* on a general level rather than a project-specific level. Site-specific projects will require subsequent environmental review.)

Aesthetics (height of proposed buildings) (Section IV.7 -- Visual Quality)

Traffic on Pt. San Pedro Road and Highway 101 (Section IV.2 -- Transportation and Circulation)

**Albert Barr (Loch Lomond Homeowners Association)**

Focused on issues at Loch Lomond Marina (As discussed in Section I -- Introduction this is a program EIR and by nature evaluates the environmental impacts of *Draft General Plan 2020* on a general level rather than a project-specific level. Site-specific projects will require subsequent environmental review.)

Aesthetics (Section IV.7 -- Visual Quality)

Impact on recreational boating use (This is a comment on the merits of the project and not on the scope of EIR)



Impact on rare and endangered bird species at marina (**Section IV.8 -- Biological Resources**)

Traffic impacts (Third Street, quarry trucks) (**Section IV.2 -- Transportation and Circulation**)

Wants an alternative analysis of less housing units (**Section VI -- Project Alternatives**)

**Paul Clark**

Focused on issues at Loch Lomond Marina (**As discussed in Section I -- Introduction this is a program EIR and by nature evaluates the environmental impacts of Draft General Plan 2020 on a general level rather than a project-specific level. Site-specific projects will require subsequent environmental review.**)

Mostly merits issues although did mention traffic issues. (**Section IV.2 -- Transportation and Circulation**)

**Sara Jensen**

Wanted more time to respond to NOP (**Consistent with the State CEQA Guidelines the NOP comment period was 30 days.**)

**Jeanne Emerson Cohn**

Focused on issues at Loch Lomond Marina (**As discussed in Section I -- Introduction this is a program EIR and by nature evaluates the environmental impacts of Draft General Plan 2020 on a general level rather than a project-specific level. Site-specific projects will require subsequent environmental review.**)

Aesthetics (design and density issues) (**Section IV.7 -- Visual Quality**)

Rare and endangered bird species (mentioned Clapper Rail) (**Section IV.8 -- Biological Resources**)

Issue of need fill material -- where were it come from (**Beyond scope of program EIR, site-specific projects will require subsequent environmental review.**)

Hazardous materials -- former gas station on site (**Section IV.5 -- Public Services and Utilities**)

**Don Dickenson**

Raised issue about alternatives

What is difference between the *No Project/General Plan* and *General Plan 2020 with St. Vincent's and Silveira Properties* alternatives in regard to St. Vincent's / Silveira? (**Subsequent to the issuance of the NOP it was determined that the *General Plan 2020 with St. Vincent's and Silveira properties* alternative was infeasible and therefore no additional analysis was conducted.**)

Wants a "no quarry" alternative. (**Policy NH-147 of Draft General Plan 2020 assumes that the quarry will remain in operation through the life of the General Plan**)

**Commissioner Lang**

Wants a “no rail” alternative. (San Rafael’s traffic modeling for the *Draft General Plan 2020* and the alternatives does not include assumptions for rail transit ridership.)

**Commissioner Alden**

Wants a “no rail” alternative. (San Rafael’s traffic modeling for the *Draft General Plan 2020* and the alternatives does not include assumptions for rail transit ridership.)

Wants to evaluate “hazards” with rail service (Section IV.5 – Public Services and Utilities)

Raised issues with plan policies regarding flooding (25-year flood vs. 100-year flood). (Section IV.10 – Hydrology, Water Quality, and Flood Hazards)

Wants to know impact of closing San Rafael Rock Quarry. (Policy NH-147 of *Draft General Plan 2020* assumes that the quarry will remain in operation through the life of the General Plan)

**Commissioner Scott**

No additional comments.

**Commissioner Atchison**

Raised issues regarding MMWD desalinization plant. (Section IV.5 – Public Services and Utilities)

**Commissioner Paul**

Raised issue regarding need for “no rail” alternative and closing of San Rafael Rock Quarry. **San Rafael’s traffic modeling for the *Draft General Plan 2020* and the alternatives does not include assumptions for rail transit ridership. Policy NH-147 of *Draft General Plan 2020* assumes that the quarry will remain in operation through the life of the General Plan)**

Raised an issue regarding what would be the impact of “no growth” in San Rafael on surrounding areas as well as San Rafael/ (Although *Draft General Plan 2002* projects less growth the *General Plan 2000* it is not a “no growth” plan -- it does provide for growth beyond existing conditions. A “no growth” plan is not considered a feasible alternative.)

---

***Written Response to the Notice of Preparation***

The city of San Rafael prepared the Notice of Preparation (NOP) for the *San Rafael General Plan 2020* in May 2003 and sent it to government agencies, special service districts, organizations, and individuals with an interest in or jurisdiction over the project in order to provide early consultation on the scope of the EIR. The NOP was sent on May 6, 2003 and the comment period was until 30 days after receipt of the NOP.

Exhibit VIII.2-1 presents a summary of the public comments received on the NOP during the review period together with an indication of where each issue is addressed in this EIR. IN a limit number of instances the specific comment is not addressed in the EIR. In these instances, the reason why the comment is not address is provided.

The comment letters received on the NOP follow Exhibit VIII.2-1.

**Exhibit VIII.2-1  
Disposition of NOP Responses**

<b>Commentor(s)</b>	<b>Comment or Topic</b>	<b>EIR Section</b>
<b>Bay Area Air Quality District</b>	Must analyze impacts of implementing General Plan 2020 related to air quality.	Section IV.3 -- Air Quality
	Consistency with Bay Area 2000 Clean Air Plan (CAP)	Section IV.3 -- Air Quality
	Concerned about amount of particulate matter that could be produced from wood burning stoves and fireplaces installed in future residential units.	Policy AW-4 <i>Draft General Plan 2020</i> deals with particulate matter pollution reduction. Program AW-4b directs city to adopt and implement the BAAQMD Model Woodsmoke Ordinance for new residential development.
<b>Paula A. Patty</b>	<p>Raised detailed questions regarding impact of new development at Loch Lomond Marina:</p> <ul style="list-style-type: none"> <li>Traffic impact on central San Rafael</li> <li>Affordable housing issues</li> <li>Noise</li> <li>Water availability</li> <li>Economic impact</li> <li>Alternatives to providing affordable housing</li> </ul>	Beyond scope of program EIR, site-specific projects will require subsequent environmental review.
<b>Al &amp; Alice Vipiana</b>	<p>Noted limited acres available for development in San Rafael - with removal of St. Vincent's / Silveria where will additional housing units be built?  Eventually all traffic ends up on Highway 101.</p>	This is a comment on the project merits and not scope of the EIR.
<b>Hugo Landecker (Gerstle Park Neighborhood Association)</b>	Questioned whether circulation improvements will occur and if they will have desired effects.	Beyond scope of program EIR, site-specific projects will require subsequent environmental review. General Plan traffic impacts are discussed in Section IV.2 -- Traffic and Circulation.
	2090 new housing units will	Beyond scope of program EIR,

	have a negative impact on air quality	site-specific projects will require subsequent environmental review. General Plan air quality impacts are discussed in Section IV.3 -- Air Quality.
	2090 new housing units will have a negative impact on parking	Beyond scope of program EIR, site-specific projects will require subsequent environmental review. General Plan traffic impacts are discussed in Section IV.2 -- Transportation and Circulation.
	2090 new housing units will impact solid waste programs.	Beyond scope of program EIR, site-specific projects will require subsequent environmental review. General Plan solid waste impacts are discussed in Section IV.5 Public Services and Utilities.
<b>Barbara Salzman (Marin Audubon Society)</b>	Land Use Designation Wants changes in land use designations in certain areas to protect natural resources.	This is a comment on the project merits and not scope of EIR.
	Wetland Buffers Questioned whether the 50 foot buffer from wetland is adequate.	Section IV.8 -- Biological Resources.
	Shoreline park fencing Design for fencing in Shoreline Park should be evaluated and revised.	Beyond scope of program EIR, site-specific projects will require subsequent environmental review.
	Wetland Protection/Enhancement Wants policies that promote the City taking a leadership role in this area.	This is a comment on the project merits and not scope of EIR. General Plan wetlands impacts are discussed in Section IV.8 Biological Resources.
	Tree Protection Wants specific tree protection policy regarding native trees.	This is a comment on the project merits and not scope of EIR.
<b>Peter Martin (North San Rafael Coalition)</b>	Wants to know how they can adequately respond to NOP before draft General Plan (particularly the Circulation,	Attachment 1 to the NOP provided a general discussion of the <i>Draft General Plan 2020</i> . This is consistent with the <i>State</i>

	Land Use, and Neighborhood Policies Elements) are released to the public.	<i>CEQA Guidelines.</i>
	<p>Land Use and Planning</p> <p>Wants comparison of <i>North San Rafael Vision</i> plan.</p> <p>Wants economic analysis of the effects on property values from changes in lands uses.</p> <p>Wants City Council to have “flexibility”</p>	<p>Section IV.1 – Land Use, Population, Employment, and Housing</p> <p>Effects analyzed under CEQA must be related to a physical change in the environment. Economic and social effects are not considered environmental effects under CEQA. Section 15131 of the CEQA Guidelines states that the evaluation of economic or social effect is generally treated as optional.</p> <p>Comment regarding “flexibility” is a comment on the project merits and not scope of EIR.</p>
	<p>Traffic/Circulation</p> <p>Impact of lowering LOS standard.</p> <p>Impact of lowering LOS standard on specific intersections plus impact on air quality, noise, aesthetics, hazards, compatibility with North San Rafael Vision plan.</p> <p>How will land use changes effect traffic -- how many hours will traffic be below traffic standard.</p> <p>Impact of rail service on City’s neighborhoods, etc.</p>	Section IV.2 -- Transportation and Circulation.
	<p>Hazards and Hazardous Materials</p> <p>Hazards with rail service</p> <p>Hazardous materials at Davidson School area.</p>	Section IV.5 -- Public Services and Utilities.
	<p>Hydrology and Water Quality</p> <p>Impact on Gallinas Creek and Miller Creek</p>	Section IV.10 -- Hydrology, Water Quality, and Flood Hazards

	watersheds. Impact of increased density in Northgate area.	
	Aesthetics Visual impact of height bonuses in new development in the Northgate and Civic Center areas.	Section IV.7 -- Visual Quality
	Alternatives Consider “worst case” scenario -- all developers get all the “exceptions” they ask for. Wants “no rail” alternative	San Rafael’s traffic modeling does not include assumptions for rail transit ridership.
<b>Erik Vink (State of California Department of Conservation)</b>	Raised issues related to impact on agricultural land.	Section IV.11 -- Agriculture.
<b>Timothy Sable (California Department of Transportation)</b>	Wants EIR to include an analysis of the effect of General Plan 2020 and alternatives on State transportation facilities, especially U.S. 101 and Interstate 580.	Section IV.2 -- Transportation and Circulation.
	Specifically request that EIR provide a level-of-service analysis for freeways, ramps, and ramp terminal intersections. A merge/diverge analysis should be performed for freeway and ramp junctions and all analyses should be based on AM and PM peak hour volumes. The analysis should include the (individual, not averaged) LOS and traffic volumes applicable to all intersection road approaches and turn movements.	Section IV.2 -- Transportation and Circulation.
	Made specific recommendations regarding mitigation measures including “all mitigate measures proposed should be fully discussed, including financing, scheduling, implementation responsibilities, and lead agency monitoring.	Section IV.2 -- Transportation and Circulation.
<b>Eric McGuire (Marin Municipal Water District)</b>	Provided water supply information pursuant to the	Section IV.5 -- Public Services

	relevant sections of CEQA Guidelines Section 15083.5	and Utilities.
<b><i>Michele Rodriguez (Marin County Community Development Agency)</i></b>	Requested clarification regarding status of both the Saint Vincent's and Silveira properties	Section III – Project Description.
	Suggested revisions to the project alternatives	Section VI. -- Project Alternatives.





BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

June 2, 2003

Chantry Bell  
Community Development Department  
City of San Rafael  
P.O. Box 151560  
San Rafael, CA 94915-1560

Subject: City of San Rafael General Plan 2020

ALAMEDA COUNTY  
Roberta Cooper  
Scott Haggerty  
(Chairperson)  
Nate Miley  
Shelia Young

CONTRA COSTA COUNTY  
Mark DeSaulnier  
Mark Ross  
Gayle Ulkema  
(Secretary)

MARIN COUNTY  
Harold C. Brown, Jr.

NAPA COUNTY  
Brad Wagenknecht

SAN FRANCISCO COUNTY  
Willie Brown, Jr.  
Chris Daly  
Jake McGoldrick

SAN MATEO COUNTY  
Jerry Hill  
Marland Townsend  
(Vice-Chairperson)

SANTA CLARA COUNTY  
Liz Kniss  
Julia Miller  
Dena Mossar  
(Vacant)

SOLANO COUNTY  
John F. Silva

SONOMA COUNTY  
Tim Smith  
Pamela Torliatt

William C. Norton  
EXECUTIVE OFFICER/APCO

Dear Chantry Bell:

Bay Area Air Quality Management District (District) staff have received your agency's Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the San Rafael General Plan 2020. We understand that the updated General Plan will be a blueprint for the City's future, describing the projected growth and development within the City over the long-term and serving as the foundation upon which the City will make development and other land use-related decisions.

We recommend that the DEIR analyze the General Plan's potential impacts upon air quality. The Bay Area is currently a non-attainment area for federal and state ambient air quality standards for ground level ozone and state standards for particulate matter. The air quality standards are set at levels to protect public health and welfare. Toxic air contaminants are also an area of serious concern in the Bay Area. Any project which exposes sensitive receptors or the general public to substantial levels of criteria air pollutants or toxic air contaminants would be deemed to have a significant impact and would need to be properly mitigated. The major source of air pollution in the Bay Area is motor vehicles. As general background for readers, the DEIR should discuss the health effects of air pollution, the region's attainment status with regard to ambient air quality standards and the contribution of mobile and stationary sources to air pollution emissions.

The DEIR should evaluate whether implementing the General Plan will create or exacerbate land use conflicts that would result in adverse air quality impacts. Sensitive receptors could potentially be exposed to air pollutants. Various industrial, commercial and agricultural land uses are potential sources of air pollutants. The DEIR should address: 1) the impacts of introducing new residents and other sensitive receptors near existing sources of air pollutants; and 2) the impacts of introducing new sources of air pollutants near existing sensitive receptors. The DEIR should also evaluate potential nuisance impacts, such as odors and dust that could result from plan implementation. Odors and dust may not necessarily cause physical harm, but can still be unpleasant and lead to citizen complaints. The plan should seek to avoid such impacts.

The DEIR should include an analysis of the General Plan's consistency with the Bay Area Clean Air Plan (CAP). In order to evaluate plan consistency

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with the CAP, the City should consider the following: the General Plan's consistency with the CAP's population and vehicle use projections, the extent to which the General Plan implements transportation control measures from the CAP, and whether the General Plan provides buffer zones around sources of odors, toxics and accidental releases. If planned appropriately, new development in the City need not increase vehicle use at a rate inconsistent with the CAP. The smart growth model of development for San Rafael proposed in the NOP can encourage more walking, biking and transit use and actually reduce vehicle miles traveled (VMT) in the area.

In many cases, it is not necessary for jurisdictions to quantify future air pollutant emissions as part of their analysis of plan consistency. For more details, we recommend that the City refer to the *BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans (1999)*. The document provides guidance on best practices for assessing and mitigating air quality impacts related to plan consistency, as well as for construction emissions, land use/design measures, project operations, motor vehicles, nuisance impacts and more. If you do not already have a copy of our guidelines, we recommend that you obtain a copy by calling our Public Information Division at (415) 749-4900 or downloading the online version from the District's web site at <http://www.baaqmd.gov/planning/plntrns/ceqaguid.htm>.

As part of the Regional Agencies Smart Growth Strategy/Regional Livability Footprint Project, Marin County residents recently expressed a preference for more infill and mixed use development that provides a range of travel options. We believe that through land use decisions that support transit, walking and cycling, Bay Area cities can help to reduce the rate of increase in VMT and improve local and regional air quality. We strongly recommend that the General Plan provide policies and programs that will implement strategies that have come out of that region-wide planning process. We support the City's plans to "encourage the construction of new mixed-use, higher density housing units near public transit and services" (*NOP, p. 3*). In addition, we are pleased that the Circulation Element will promote a "more diversified, safe, cost-effective, and resource-efficient transportation network" including the policies to "increase the use of public transit, bicycles, and other alternative modes, and fewer people drive [sic] alone in cars" (*NOP, p. 3*). The NOP indicates that the City will include an Air and Water Quality Element in the General Plan update, and District staff are available to assist the City in the development of this Element. We support the incorporation of air quality policies and programs into local General Plans as a comprehensive way for local jurisdictions to ensure continued progress toward clean air.

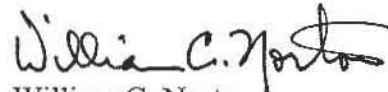
If the analysis finds that implementing the General Plan will result in significant air quality impacts, we encourage the City to consider creative and innovative mitigation measures to reduce air quality impacts associated with future development in San Rafael. Some possible mitigation measures include improved transit, shuttles, bicycle/pedestrian measures, reduced parking, parking fees, improved access to services, ridesharing, and others listed in the *BAAQMD CEQA Guidelines*. Without appropriate mitigation measures in place, future development could lead to a long-term cumulative increase in motor vehicle emissions, harming local and/or regional air quality and exposing residents to unhealthy air.

We are concerned about the amount of particulate matter that could be produced from woodburning stoves and fireplaces installed in future residential units. We encourage the City to

adopt a woodsmoke ordinance for fireplaces and woodstoves to reduce particulate pollution in San Rafael. Such an ordinance would require that all future development in the City include only clean-burning EPA-certified wood-burning appliances, pellet-fueled stoves, or natural gas fireplaces in future residential units. District staff are available to assist the County in the development of a local woodsmoke ordinance.

If you have any questions regarding these comments, please contact Suzanne Bourguignon, Environmental Planner, at (415) 749-5093.

Sincerely,



William C. Norton  
Executive Officer/APCO

WN:SB

cc: BAAQMD Director Harold C. Brown, Jr.

Paula A. Patty  
75 Lochinvar Road  
San Rafael, CA 94901

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JUN - 5 2003

Linda Jackson  
City of San Rafael  
PO Box 15160  
San Rafael, CA 94915

CITY OF SAN RAFAEL  
PLANNING

June 3, 2003

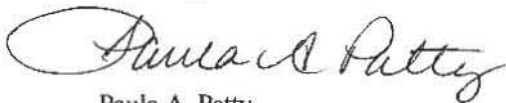
Re: General Plan Environmental Impact Report

I would like the following addressed in the Environmental Impact Report for the Loch Lomond Marina development:

- 1) Discuss the traffic impact of the new development on central San Rafael corridor which includes, Highway 101 Northbound and Southbound near the Central San Rafael Highway exits, Highway 580 exit onto Highway 101, Highway 580 exits onto Francisco Boulevard, Highway 580 onramp from Highway 101 Southbound, 2<sup>nd</sup> Street, 3<sup>rd</sup> Street, Irwin Street, Grand Street, Hetherton Street and East and West Francisco Boulevards. The traffic analysis should cover at least the timeframe from 5:00am to 8:00pm and cover the full range of weekdays, especially Mondays and Thursdays, over the winter months when San Rafael High School is fully active. Include in the discussion the traffic impact of this new development given the following conditions:
  - o Peak capacity of office buildings in the vicinity of the central San Rafael streets, specifically but not limited to the new San Rafael Corporate Center on Lindero Street.
  - o Increased traffic due to home turnover. As the Point San Pedro Street corridor residents age, homes that once housed retirees that leave their homes infrequently are being sold to parties that will likely have more than 1 occupant that will be commuting much more frequently through the central San Rafael corridor.
  - o Increased traffic due to an improved restaurant and grocery store at the Loch Lomond Marina development. With the renewal of Bruno's, the grocery store could attract the quantity of customers similar to those of Paradise Market in Corte Madera or Woodland Market in Kentfield.
  - o Increased traffic due to the businesses servicing the new homes and businesses in the Loch Lomond Marina development.
- 2) Given the premium the market pays for living near the water and for living in the Point San Pedro area, discuss type, size, quality and pricing for the affordable housing units. Discuss what the market will be for the affordable housing, i.e., will housing be available for very low-, low- and/or moderate-income families, with or without children.
- 3) Discuss how the affordable housing will remain affordable in the future.
- 4) Discuss how the affordable housing will be focused towards Marin workers and will reduce traffic.
- 5) Discuss how many very low-, low- and moderate-income jobs will be required to support the residents and businesses of the Loch Lomond Marina development. For example, with a 150 unit development and an estimated 3 residents per unit, if 450 residents get a one hour haircut every five weeks, then 2.3 hair stylists will be needed.
- 6) Discuss the noise impact from the additional traffic from the Loch Lomond Marina development.
- 7) Discuss the impact on water availability in times of drought and severe drought.
- 8) Discuss the economic impact to the city of San Rafael for all public services.
- 9) Discuss the economic impact on the Marin tourist trade due to increased traffic on Highway 101.
- 10) Discuss alternatives that would assist local Marin workers on getting affordable housing such as offering or guaranteeing low or zero interest rate home loans.

Thank you for the considering my topics.

Sincerely,



Paula A. Patty

Now that the City of San Rafael has backed away from the St. Vincent and Silveira Lands the city plans to do in filling. Realistically it should be called impacting including the impacting of our local streets.

The first thing we must keep in mind is that no matter what we negotiate with the Loch Lomond Marina developer and no matter what the developers goals are the San Rafael City council can override the developers and us. There is evidence of this kind of pressure and over riding has been put on other developers. Therefore we must make the city council aware that we will be politically active in city elections.

From the County of Marin: Assessor-Recorder – Acreage Report of January 9, 2003  
Total Marin County Acreage 388,352 useable for housing and commercial 79,909 acres  
Open space, Marshlands, Parks and other non-buildable land equals 308,443 acres

2090 The City of San Rafael must show the State of California that by 2006 there will be an additional ~~1,235~~ housing units built in San Rafael. The overall required new housing units in all of Marin County is 6,515.

The City Council backed away from years of City employee and citizen meetings which recommended the City of San Rafael annexing of St. Vincent's 836 acres to build 766-housing units. The 766 housing units would be placed on 90 of the 836 acres, leaving 746 acres undeveloped. One of the excuses for not developing the St. Vincent lands is traffic on Hwy. 101. The reality is that no matter where you build in Marin you eventually have to go to Hwy. 101 because it is the only main corridor north or south.

Al & Alice Vipiana  
453-3653

PS: After the January 9, 2003 Acreage Report, due to the Audubon purchase of the Bahia property, another 630 acres have been removed from the buildable acreage. The new amount of Marin land that can be built on is 79,279 acres. Land that can not be built on 309,073 acres. The 79,279 acres still includes the St Vincent/Silveira land

May 7, 2003

51 Locksley Ln  
SR 94901



**GERSTLE PARK NEIGHBORHOOD ASSOCIATION**  
**P. O. Box 150644, San Rafael, California 94915**

June 9, 2003

City of San Rafael  
Community Development Department  
1400 Fifth Avenue  
San Rafael., CA 94915-1560

Re: Notice of preparation of a Draft Environmental Impact Report dated  
May 6, 2003

I have reviewed the report and have the following comments:

Page 3 of the Background Report under "Circulation": The second sentence in the second paragraph doesn't make sense. This sentence needs to be expanded so that someone can understand it. A general comment on the subject of circulation is: While the intent of increasing the efficiency of the existing circulation system is good, we cannot be assured that the measures taken will ever happen and if the measures will have the desired effects.

Page 4 of the Background Report under "Air Quality": The report needs to be realistic. The attempts to resolve air quality issues are good, but the bottom line is: 2090 units of new housing will have a negative impact on air quality.

Page 21 of the initial study item "f": I disagree with the "less than significant impact" on parking capacity. The proposed 2090 units will have "potentially significant impact" on parking, particularly in the downtown area.

Page 22 of the initial study under item "g": I disagree that there will be no impact on existing solid waste programs. 2090 additional units of housing will certainly produce solid waste. Existing solid waste programs need to be evaluated and the impacts on these programs need to be analyzed. Therefore, the box marked "no impact" is erroneous.

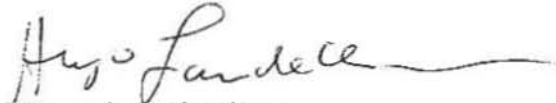
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**PLANNING**

If you have any questions please contact me at 415-456-0221 or email at <clandecker@saber.net>.

Very truly yours,

A handwritten signature in cursive script that reads "Hugo Landecker". The signature is written in black ink and has a long, sweeping horizontal line extending to the right.

Hugo Landecker  
President  
Gerstle Park Neighborhood Association

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JUN 09 2003

PLANNING



*Marin Audubon Society*    *Box 599*    *Mill Valley, California 94942-0599*

June 6, 2003

Chantry Bell  
Planning Department  
City of San Rafael  
P.O. Box 151560  
San Rafael, CA 94915

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JUN 13 2003

CITY OF SAN RAFAEL  
PLANNING

RE: SCOPING COMMENTS FOR GENERAL PLAN REVISION

Dear Ms. Bell:

The Marin Audubon Society appreciates the opportunity to submit scoping comments in response to the Notice of Preparation for the Revision to the General Plan. Our recommendations focus on protection and enhancement of San Francisco Bay and tributary creek habitats.

Many of the recommended policies in the GENERAL PLAN POLICY RECOMMENDATION document will assist in protecting San Rafael's bayland, wetland and creek resources. We recommend that these provisions be strengthened by addressing the following:

1. **LAND USE DESIGNATION:** Land use designation and zoning for all privately owned parcels along San Francisco Bay and streams and creeks should be revised to ensure protection of the resources. These properties would include: Loch Lomond Marina, Bayside Acres, Canalways and other undeveloped or underdeveloped parcels along the San Rafael Bayfront adjacent to the Starkweather Shoreline Park, and wetland and shoreline lands along Pt. San Pedro Road.

The natural resource values of each of these sites should be described and measures to ensure the protection of water quality and the wildlife and vegetative the habitats of San Francisco Bay should be recommended. These measures should include changing land use potential, reducing density, buffers etc. To accomplish protection of important habitats, acquisition should be promoted.

2. **WETLAND BUFFERS:** The policy providing for a 50 foot buffer from wetlands should be evaluated and revised to better ensure protection of wetlands. We are not aware of any project near wetlands that was actually required to provide a 50 foot buffer because the policy allows the width to be reduced. The width should be able to be lessened only if to do otherwise would result in a taking. Further, the provision for non-structures to be built within the buffer allows for swimming pools, parking lots, tennis courts, and many other developed uses to be within the buffer. This defeats the very purpose of the buffer which is to compliment and protect the wetland. Upland areas adjacent to wetlands are integral components of wetland habitats.

The EIR preparers should consult the Baylands Ecosystem Habitat Goals report (1999) for information and recommendation for 300 foot width for buffer zones from wetlands.



*A Chapter of National Audubon Society*



Adequate buffers should be defined and protected along both wetlands and creeks.

3. SHORELINE PARK FENCING: The design for fencing in Shoreline Park should be evaluated and revised. As designed and constructed, a chain link fence at the base of the levee may prevent dogs and people from entering the wetlands, but it also prevents wildlife from using the upland habitat, unless the species are very small birds or mice. For example, waterfowl, which depend on the Bay related habitats during the winter months and some of which nest in the Bay Area, cannot access much of the adjacent uplands. This substantially reduces the habitat value of the wetlands. Other alternatives should be explored and recommended.

4. WETLAND PROTECTION/ENHANCEMENT: Policies that promote the City's taking a leadership or partnership role in enhancing and protecting creek, wetland and Bay natural resources should be included.

5. TREE PROTECTION: Revise tree protection policies to ensure protection of native trees by including a specific policy. Native trees have numerous benefits, they: provide habitat for native birds and other wildlife, are adapted to our climate and require minimal irrigation. Current policy recommendations 5.1 through 5.3 appear to cover any and all trees, some of which are actually invasive and inappropriate.

Thank you for addressing our concerns.

Sincerely,



Barbara Sutzman

For the Conservation Committee

**NORTH SAN RAFAEL COALITION  
P. O. BOX 6642  
SAN RAFAEL CA 94903**

June 7, 2003

Chantry Bell  
Community Development Department  
City of San Rafael  
P.O. Box 151560  
San Rafael, CA. 94915-1560

Re: City of San Rafael General Plan 2020 – CEQA Scoping Comments

Dear Ms. Bell,

The North San Rafael Coalition (NSRC) is an umbrella organization comprised of neighborhood associations and individuals. It seeks to preserve and improve the quality of life in North San Rafael's incorporated and unincorporated neighborhoods. We have been actively following the development of the City's General Plan 2020. We have reviewed the Notice of Preparation for review of the General Plan, under the California Environmental Quality Act (CEQA).

On behalf of the NSRC, I am happy to have this opportunity to submit the following comments for consideration in the Scope of CEQA review, through an Environmental Impact Report (EIR).

We are disturbed that the deadline for CEQA Scoping comments (June 9, 2003) is in advance of parts of the draft General Plan (particularly the Circulation, Land Use, and Neighborhood Policies Elements) being released to the public. We ask that the deadline for submitting CEQA Scoping comments be extended until after the public has had at least some time to obtain and read the entire draft General Plan.

Land Use/Planning

- The EIR should conduct a full review of the compatibility of the General Plan 2020 with the North San Rafael Vision. This should be a point-by-point discussion of what is and is not in the General Plan from what is in the North San Rafael Vision. The North San Rafael Vision document should be incorporated into the General Plan and the EIR as an appendix.
- There should be an economic analysis of the effects on property values from changes in land uses, both for the sites where the land use zoning changes will occur and for the communities around those sites. While we recognize the City is unlikely to be able to predict market values of properties in dollars, it is reasonable to assume that a land use zoning change may have a positive or negative effect on property values and the City should recognize those effects.

- The EIR should analyze the range of possible impacts from the General Plan recommendation to allow the City Council "flexibility" to override the policy requiring infrastructure improvements be approved and funded before new development can proceed. It should also analyze the impacts of the recommended "flexibility" to override traffic standards, without General Plan amendment, in approving new development. These analyses should consider impacts to density, traffic, air quality, and noise.

### Traffic/Circulation

- The EIR should reconcile any conflicts between the Vision and Strategy statements in the General Plan and any lowering of any intersection Level of Service (LOS).
- The EIR should analyze the effects of lowering traffic standards, from LOS D to LOS E, at the Merrydale Overcrossing - Civic Center Drive, Freitas Parkway – Redwood Highway, and Freitas Parkway – Highway 101 Northbound ramp intersections. In addition to analyzing impacts to circulation, the EIR should also address effects from this lowering in relation to air quality, noise, aesthetics, hazards, and compatibility with the North San Rafael Vision.
- The EIR should analyze the effects of land use zoning changes on the duration of time during the day (number of hours) that traffic will be at or below the traffic standard. How long will "peak" conditions exist during the day under different scenarios?
- The EIR should analyze the implications of the City's support for rail, including impacts to local transportation and land use. While the City cannot implement a rail transportation project, it has stated its support, with that support included in the General Plan. In addition, the City is represented on the Sonoma-Marin Area Rail Transit Authority. A rail transportation project could have significant impacts on City neighborhoods, local streets, pedestrian and bicycle access routes, public services and other elements addressed by the General Plan. The EIR should analyze these impacts.

### Hazards & Hazardous Materials

- The EIR should analyze hazards that would be posed by implementation of a rail transportation project. The analysis should consider potential impacts from rail accidents.
- The EIR should analyze hazardous materials around the Davidson School area. This area has been recommended for housing. There should be some certainty that hazardous materials would not preclude housing development in this area before committing to it in the General Plan.

### Hydrology and Water Quality

- The EIR should analyze the impacts of the General Plan, as a whole, on runoff and water quality in the Gallinas Creek and Miller Creek watersheds, in their entirety. . In particular, the analysis should consider impacts from the proposed increased density of development in the Northgate area.

### Aesthetics

- The EIR should analyze visual impacts of height bonuses being used in new development or redevelopment in the Northgate and Civic Center area, including shading, visual impacts from highway and surrounding neighborhoods (such as Quail Hill), and compatibility with North San Rafael Vision.

### Alternatives

- The EIR should include consideration of the worst case scenario in which all developers ask for exceptions to the traffic standards, development infrastructure requirements, density, and height bonuses, as the maximum possible effects of the General Plan. This scenario should be analyzed in terms of density, traffic, aesthetics, and all other parameters.
- The EIR should analyze a no rail alternative, considering alternative means of achieving traffic relief and circulation goals, as well as alternative uses of the Northwestern Pacific right-of-way. The General Plan recommendations appear to assume that a rail transportation project will be implemented but that is not a sure thing and the City should consider how a no-rail scenario would effect transportation and land use.

As the EIR proceeds, please send us copies of all CEQA documents related to the General Plan 2020. Those documents should be addressed to the attention of Gregory Andrew, at the NSRC address provided below.

Sincerely



Peter Martin, Chair  
Executive Committee

North San Rafael Coalition  
P. O. Box 6642  
San Rafael CA 94903



DEPARTMENT OF CONSERVATION  
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JUN - 9 2003

CITY OF SAN RAFAEL  
PLANNING

June 2, 2003

DIVISION OF  
LAND RESOURCE  
PROTECTION

■ ■ ■  
801 K STREET  
SACRAMENTO  
CALIFORNIA  
95814

PHONE  
916/324-0850

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INTERNET  
constrv.ca.gov

■ ■ ■  
GRAY DAVIS  
GOVERNOR

Ms. Chantry Bell  
San Rafael Community Development Department  
P.O. Box 15160  
1400 Fifth Avenue  
San Rafael, CA 94915-1560

Subject: Notice of Preparation (NOP) of a Draft Environmental Impact Report  
for the City of San Rafael General Plan 2000 **SCH #2003052031**

Dear Ms. Bell

The Department of Conservation's Division of Land Resource Protection (Division) monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. The Division has reviewed the above NOP and we offer the following recommendations for the DEIR with respect to the project's potential impacts on agricultural land.

The proposed project involves a comprehensive update of the City's General Plan. The NOP notes that the western portion of the planning area includes grazing lands and that development in these areas would result in the conversion of agricultural land – a significant impact. Therefore, the Division recommends that, at a minimum, the following items be specifically addressed to document and treat the project impacts on agricultural land, agricultural land use and Williamson Act lands.

Agricultural Setting of the Project

- Project setting in terms of the actual and potential agricultural productivity of the land. For example, the Division's 2000 Marin County Important Farmland Map could be used for this purpose.
- Current and past agricultural use of the project area.

Project Impacts on Agricultural Land

- Type, amount, and location of farmland conversion resulting directly and indirectly (growth-inducement) from project implementation.

Impacts on current and future agricultural operations; e.g., land-use conflicts, increases in land values and taxes, vandalism, etc.

- Incremental project impacts leading to cumulatively considerable impacts on agricultural land. This would include impacts from the proposed project as well as impacts from past, current and probable future projects.

Impacts on agricultural resources may also be quantified and qualified by use of established thresholds of significance (California Code of Regulations Section 15064.7). The Division has developed a California version of the USDA Land Evaluation and Site Assessment (LESA) Model, a semi-quantitative rating system for establishing the environmental significance of project-specific impacts on farmland. The model may also be used to rate the relative value of alternative project sites. The LESA Model is available from the Division at the contact listed below.

#### Williamson Act Lands

A project is deemed to be of statewide, regional or area-wide significance if it will result in cancellation of a Williamson Act contract for a parcel of 100 or more acres [California Code of Regulations Section 15206(b)(3)]. Since lands under Williamson Act contract exist on or adjacent to the planning area, the Department recommends that the following information be provided in the DEIR:

- A map detailing the location of agricultural preserves and contracted land within each preserve. The DEIR should also tabulate the number of Williamson Act acres, according to land type (e.g., prime or non-prime agricultural land), which could be impacted directly or indirectly by the project.
- A discussion of Williamson Act contracts that may be terminated in order to implement the General Plan. The DEIR should discuss the impacts that termination of Williamson Act contracts would have on nearby properties also under contract; i.e., growth-inducing impacts (in the sense that the removal of contract protection not only lifts a barrier to development, but results in higher property taxes, and thus, an incentive to shift to a more intensive land use, such as urban development.)
- An agricultural preserve is a zone authorized by the Williamson Act, and established by the local government, to designate land qualified to be placed under the Act's 10-year contracts. Preserves are also intended to create a setting for contract-protected lands that is conducive to continuing agricultural use. Therefore, the uses of agricultural preserve land must be restricted by zoning or other means so as not to be incompatible with the agricultural use of contracted land within the preserve (Government Code Section 51230). Therefore, the DEIR should also discuss any proposed general plan designation or zoning within agricultural preserves affected by the project.

### Mitigation Measures and Alternatives

Feasible alternatives to the project's location or configuration that would lessen or avoid farmland conversion impacts should be considered in the DEIR. Similarly, while the direct conversion of agricultural land is often deemed to be an unavoidable impact by CEQA analyses, mitigation measures must nevertheless be considered. The Division has compiled an annotated listing of approximately 30 "conservation tools" that have been used to conserve or mitigate project impacts on agricultural land. This compilation report may be requested from the Division.

One of the tools described in the report is the purchase of agricultural conservation easements on land of at least equal quantity and size as partial compensation for the direct loss of agricultural land, as well as for the mitigation of growth inducing and cumulative impacts on agricultural land. We highlight this measure because of its growing acceptance and use by lead agencies as mitigation under CEQA.

Mitigation using conservation easements can be implemented by at least two alternative approaches: the outright purchase of conservation easements tied to the project, or via the donation of mitigation fees to a local, regional or statewide organization or agency, including land trusts and conservancies, whose purpose includes the purchase, holding and maintenance of agricultural conservation easements. Whatever the approach, the conversion of agricultural land should be deemed an impact of at least regional significance and the search for mitigation lands conducted regionally, and not limited strictly to lands within the San Rafael planning area.

Information about conservation easements is available on the Department's website, or by contacting the Division at the address and phone number listed below. The Department's website address is:

<http://www.conservation.ca.gov/DLRP/>

Of course, the use of conservation easements is only one form of mitigation that should be considered. The following mitigation measures could also be considered:

- Increasing home density or clustering residential units to allow a greater portion of the development site to remain in agricultural production.
- Protecting nearby farmland from *premature* conversion through the use of less than permanent long-term restrictions on use such as 20-year Farmland Security Zone contracts (Government Code Section 51296) or 10-year Williamson Act contracts (Government Code Section 51200 et seq.).

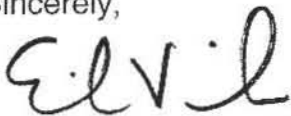
Ms. Chantry Bell  
June 2, 2003  
Page 4

- Establishing buffers such as setbacks, berms, greenbelts, and open space areas to separate farmland from incompatible urban uses.
- Investing in the commercial viability of the remaining agricultural land in the project area through a mitigation bank which invests in agricultural infrastructure, water supplies and marketing.

The Department believes that the most effective approach to farmland conservation and impact mitigation is one that is integrated with general plan policies. For example, the measures suggested above could be most effectively applied as part of a comprehensive agricultural land conservation element in the City's General Plan. Mitigation policies could then be applied systematically toward larger goals of sustaining an agricultural land resource base and economy. Within the context of a general plan mitigation strategy, other measures could be considered, such as the use of transfer of development credits, mitigation banking, and economic incentives for continuing agricultural uses.

Thank you for the opportunity to comment on the NOP. If you have questions on our comments, or require technical assistance or information on agricultural land conservation, please contact the Division at 801 K Street, MS 13-71, Sacramento, California 95814; or, phone (916) 324-0850.

Sincerely,



Erik Vink  
Assistant Director

cc: Marin County RCD  
P.O. Box 1147  
Point Reyes Station, CA 94956



**DEPARTMENT OF TRANSPORTATION**

P. O. BOX 23660  
OAKLAND, CA 94623-0660  
(510) 286-4444  
(510) 286-4454 TDD



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June 9, 2003

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CITY OF SAN RAFAEL  
PLANNING

MRN-General  
MRN000054  
SCH 2003052031

Ms. Chantry Bell  
City of San Rafael  
Community Development Department  
P.O. Box 151560  
San Rafael, CA 94915-1560

Dear Ms. Bell:

**City of San Rafael General Plan 2020 – Notice of Preparation (NOP)**

Thank you for including the California Department of Transportation (Department) in the environmental review process for the proposed general plan update. We have reviewed the NOP and have the following comments to offer:

The Draft Environmental Impact Report (DEIR) should include an analysis of the effect this general plan update and its alternatives will have on State transportation facilities, specifically U.S. 101 and Interstate 580.

1. The analysis should provide a level-of-service (LOS) analysis for freeways, ramps, and ramp terminal intersections. A merge/diverge analysis should be performed for freeway and ramp junctions and all analysis should be based on AM and PM peak hour volumes. The analysis should include the (individual, not averaged) LOS and traffic volumes applicable to all intersection road approaches and turn movements. The procedures contained in the 2000 update to the Highway Capacity Manual should be used as a guide for the analysis. We also recommend utilizing Caltrans' "Guide for the Preparation of Traffic Impact Studies" which can be accessed from <http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf> the following webpage:
2. Mitigation measures should be identified where the general plan update would have a significant impact. The Department considers the following to be significant impacts:
  - Off-ramps with vehicle queues that extend into the ramp's deceleration area or onto the freeway,
  - Vehicle queues at intersections that exceed existing lane storage,
  - Traffic impacts that cause any ramp's merge/diverge LOS to be worse than the freeway's LOS, and
  - Traffic impacts that cause the LOS to deteriorate below LOS E for freeways and LOS D for highways and intersections. If the LOS is already "E" or "F", then a quantitative measure of increased queue lengths and delay should be used to determine appropriate mitigation measures.


3. Mitigation measures should consider highway and non-highway improvements and services. Special attention should be given to the development of alternate solutions to circulation problems that do not rely on increased highway construction. The project sponsor should consider coordinating the following possible improvements with general plan "build out", if it is determined in the traffic analysis that they would be warranted:
  - Widening interchange ramps to increase capacity,
  - Modifying ramp terminal intersections,
  - Adding auxiliary lanes between interchanges,
  - Increasing the ramp acceleration or deceleration lane length to improve merge/diverge operations, and
  - Adding signalization and ramp intersection geometric improvements at impacted interchanges
4. All mitigation measures proposed should be fully discussed, including financing, scheduling, implementation responsibilities, and lead agency monitoring.
5. Funding for planned highway and transit system improvements in the San Rafael area has not kept pace with new growth. In an effort to obtain funding for these regional highway and transit improvements, the City should consider establishing a "fair share" fee program for project developer's to contribute to as mitigation, when project-related or cumulative impacts to study area roadways are identified.

We look forward to reviewing the DEIR for this project. We do expect to receive a copy from the State Clearinghouse, but in order to expedite our review you may send two copies in advance to:

Maija Cottle  
Office of Transit and Community Planning  
Department of Transportation, District 4  
P.O. Box 23660  
Oakland, CA 94623-0660

Should you require further information or have any questions regarding this letter, please call Maija Cottle of my staff at (510) 286-5737.

Sincerely,

  
TIMOTHY C. SABLE  
District Branch Chief  
IGR/CEQA

c: Philip Crimmins (State Clearinghouse)



# MARIN MUNICIPAL WATER DISTRICT

220 Nellen Avenue Corte Madera CA 94925-1169  
www.marinwater.org

June 23, 2003

Chantry Bell, Associate Planner  
City of San Rafael Com. Dev. Dept.  
P.O. Box 151560  
San Rafael, CA 94915-1560

Subject: NOP – San Rafael General Plan 2000 EIR Preparation

Dear Ms. Bell;

Thank you for transmitting a copy of your NOP and Initial Study regarding the above referenced project. As with our past meetings on this subject it is the intention of MMWD to provide you with meaningful information so that your project process will be as smooth as possible and result in a General Plan document that will serve both the City and MMWD for years to come. This District is one of those unnamed agencies, referred to on page 4 of your Initial Study, that will act as a CEQA defined Responsible Agency for many of the future development projects within the City of San Rafael, when those projects relate to public water service and supply. This letter is written pursuant to the relevant sections of CEQA Guidelines Section 15083.5 (City or County Consultation with Water Agencies).

Two issues of relevance need to be explored with regard to environmental impacts of the City's new General Plan 2020. The first is whether MMWD can provide domestic water to the City's projected growth, and second; what are the impacts of the City's growth projections with respect to the projections the District used to develop its water supply to serve its customers?

Supply opportunities from the District's reservoirs had remained static since the raising of Peters Dam in 1983 until increased stream releases were put in place in 1995. With this environmental use and with increased demand the District has relied on the use of water transfers from Sonoma County Water Agency, and to a lesser extent, on the increased generation of recycled water. In 1992 Bond Measure V was successfully passed which allowed for the purchase of up to 10,000 acre-feet of new supply from Sonoma County Water Agency (SCWA). About half, or 5,000 acre-feet, was to be applied to the shortfall existing at the time, and end the moratorium on new construction, and the remaining half was to be applied to new demand up to the year 2025. Measure V also included funding for the implementation of conservation measures which were to be implemented first, and the remaining new SCWA supply

would then come on line as needed. Over the last decade, the additional SCWA supply has been increased to a point that full use is now constrained by existing piping and water diversion issues that SCWA is working to address.

The District continues to develop a water conservation program that, overall, is one of the most sophisticated in the entire United States, and has reduced demand by about 15% since 1991, and 25 % since 1970. However, conservation was never designed to replace all of MMWD's increasing demand.

After the passage of Measure V, a citizens advisory group was created to determine, after biennial (two-year interval) reviews, the need for constructing additional facilities in order to fully use the supply the District secured from SCWA.

A supply/demand deficit became apparent in 2000 when a discernable annual shortfall of 1,650 acre-feet was identified. Without a new supply source this shortfall is expected to increase to 8,800 acre-feet by year 2025. Based upon current supply (including infrastructure deficiencies) this District cannot serve additional growth without further increasing the supply deficit.

In 2000 the Board voted to update and revise its Integrated Water Resources Management Program rather than proceed with funding for pipeline improvements that would allow the full use of the SCWA supply due to concerns over long-term source reliability and the potential impact of increased Russian and Eel River diversions on salmon and steelhead populations.

Also, as noted on page 26 of the District's Urban Water Management Plan 2000, "The Sonoma County Water Agency water delivery system is currently under a state of impairment and is not projected to be able to deliver above our current supply level for at least the next five years". Therefore, this supply source is fraught with both short term and long term problems.

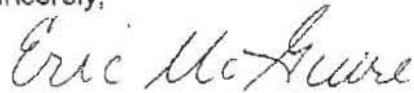
The District is currently continuing its efforts to increase water conservation; exploring additional opportunities to partner on water recycling with the Las Gallinas Valley Sanitary District, and exploring a new supply source based on desalination of water from San Francisco Bay. The District Board has approved the development of an Environmental Impact Report for a proposed desalination plant and has expressed its serious commitment to pursuing this new supply source.

It is the obligation of MMWD, as a utility provider, to reasonably accommodate planned growth within its service area. The District's 1990 Water Supply Plan utilized statistical projections from a variety of established sources to develop a water supply amount that would match water demand projections to the year 2025. The District's Water Supply Plan EIR (1990) identified a buildout (year 2025) population in the San Rafael Planning Area of 74,560. The City's Projections 2000 document estimates a year 2020 planning area population of 77,100, slightly higher than MMWD's projections. On the other hand, the City's Projections 2000 estimates a year 2020 household number of 30,500 while

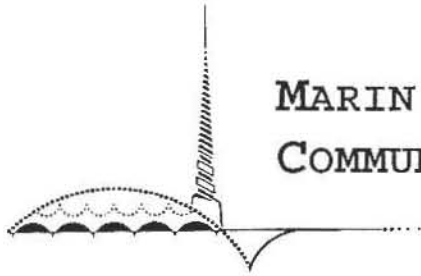
MMWD estimated 32,350 households for the year 2025. It is understood that such demographic projections are not exact science but based on "best guess" estimates of available statistics. While the City's new projections show a slightly higher population than those of MMWD, the housing figure has been reduced which is consistent with the higher population density we have been seeing for the past decade. Approximately one-half of individual household water use has traditionally been consumed by irrigation. With both higher population densities per household and a trend to smaller lot sizes the changes in the two projections over the past decade are somewhat compensating and overall the differential is not interpreted as significant.

Thank you for the opportunity to comment. If you have any questions or comments please call me at 945-1586.

Sincerely,

A handwritten signature in cursive script that reads "Eric McGuire". The signature is written in black ink and is positioned below the word "Sincerely,".

Eric McGuire  
Environmental Services Coordinator



MARIN COUNTY  
COMMUNITY DEVELOPMENT AGENCY

ALEX HINDS, DIRECTOR

June 27, 2003

Chantry Bell, Associate Planner  
Department of Community Development  
1400 Fifth Avenue, PO Box 151560  
San Rafael, CA 94915-1560

RE: Comments on the Notice of Preparation and Initial Study for San Rafael General Plan 2020

Dear Chantry:

Thank you for providing the Planning Division of the Marin County Community Development Agency with an opportunity to comment on the Notice of Preparation and Initial Study for San Rafael General Plan 2020.

Our comments are mostly concerned with clarifying the status of the St. Vincent's/Silveira properties in the description of the proposed General Plan 2020 and the various alternatives proposed for analysis in the Environmental Impact Report. We are specifically addressing statements in the memorandum entitled NOTICE OF AVAILABILITY OF INITIAL STUDY AND INTENT TO PREPARE ENVIRONMENTAL IMPACT REPORT and in the memorandum entitled NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT.

There appear to be inconsistencies in these documents about the status of the Saint Vincent's and Silveira properties. In the first paragraph of the Project Location section (used in both documents), the San Rafael Planning Area is described as including a number of unincorporated areas, but not the Saint Vincent's/Silveira properties. In the second paragraph the planning area is described as being bounded by Big Rock Ridge and the Novato City limits on the north, and San Pablo Bay on the east. This description includes the Saint Vincent's and Silveira lands. The specific locations with anticipated land use changes listed in the third paragraph do not include Saint Vincent's/Silveira. In the Description of Project Alternatives on page 7, however, there is a statement that the General Plan 2020 would not include these properties, which do have land use designations in the current General Plan 2000. Your descriptions should make clear whether these lands are in or out of the planning area. Your listing of locations where changes are anticipated should also include Saint Vincent's and Silveira if a change from the previous general plan is proposed, as appears to be the case.

The paragraph on Agriculture on page 7 of the Notice of Preparation does not mention Saint Vincent's and Silveira as lands used for agriculture. Were these lands intentionally omitted because they are proposed for removal from the San Rafael planning area?

The Description of Project Alternatives on page 7 of the Notice of Preparation should be clarified. We recommend the following changes to the second alternative, entitled General Plan 2020 with St. Vincent's and Silveira Properties Alternative:

- The second sentence of the first paragraph: *"Per General Plan 2000 policies, the [Saint Vincent's and Silveira] properties have a development potential of 2,100 housing units and 361,000 square feet of nonresidential use."* should be moved to the description of the General Plan 2000 Alternative since that development potential is included in that alternative.
- The second paragraph under the General Plan 2020 with Saint Vincent's and Silveira Properties Alternative, which states that the properties would be removed from the City's Sphere of Influence and be subject to planning approvals from Marin County, should be removed from this section of the document and moved to the Land Use and Population section on page 2. This paragraph is part of the project description and is not one of the project alternatives.
- We recommend that the paragraph be rewritten as follows: *General Plan 2020 would include a program to revise the City's Sphere of Influence to exclude the Saint Vincent's and Silveira properties, consistent with City Council direction to remove these properties from the Sphere of Influence and the City's planning area. The County of Marin would be responsible for land use designations, zoning, and planning approvals for these properties. San Rafael's General Plan 2020 does not assign any development potential to these lands.*
- A sentence should be added to the Saint Vincent's and Silveira Properties Alternative explaining that the development potential for Saint Vincent's and Silveira analyzed in this alternative is lower than the development potential for those properties in the General Plan 2000.

We appreciate your consideration of our concerns and request that you revise these documents to make the clarifications enumerated in this letter.

Sincerely,

Michele Rodriguez  
Principal Planner





***APPENDIX VIII.3  
TRANSPORTATION DATA***



**Exhibit VIII.3-1**

**Unsignalized Intersections Delay and Level of Service, Existing and Baseline Conditions**

Intersection	Peak	Existing		Baseline	
		Delay	LOS	Delay	LOS
101 SB & Merrydale	AM	9.1	A*	23.8	C*
101 SB & Merrydale	PM	14.9	B*	31.4	D*
101 SB On & Francisco W.	AM	25.1	D*	31.8	D*
101 SB On & Francisco W.	PM	12.0	B*	19.4	C*
1st & C	AM	10.1	B*	11.3	B*
1st & C	PM	30.0	D*	30.8	D*
1st & D	AM	3.6	A*	3.8	A*
1st & D	PM	18.4	C*	27.2	D*
5th & Grand	AM	2.2	A*	2.5	A*
5th & Grand	PM	4.1	A*	4.7	A*
5th & H	AM	33.9	D	44.3	E
5th & H	PM	22.5	C	27.4	D
Arias & Nova Albion	AM	22.8	C	23.5	C
Arias & Nova Albion	PM	23.4	C	24.1	C
Castro & Francisco E.	AM	1.8	A*	2.9	A*
Castro & Francisco E.	PM	2.9	A*	3.7	A*
Freitas & 101 NB	AM	8.9	A*	31.5	D*
Freitas & 101 NB	PM	6.2	A*	6.7	A*
Freitas & Redwood	AM	11.4	B*	33.5	D*
Freitas & Redwood	PM	7.7	A*	8.53	A*
Harbor & Francisco E.	AM	1.9	A*	2.2	A*
Harbor & Francisco E.	PM	11.7	B*	25.4	D*
Irwin & Lincoln	AM	13.0	B	13.9	B
Irwin & Lincoln	PM	13.2	B	15.7	C
Lincoln & Linden	AM	2.8	A*	6.9	A*
Lincoln & Linden	PM	7.6	A*	-	F*
Lincoln & Brookdale	AM	0.5	A*	0.5	A*
Lincoln & Brookdale	PM	2.3	A*	-	F*
Lucas Valley & Los Gamos	AM	5.8	A*	7.5	A*
Lucas Valley & Los Gamos	PM	4.3	A*	5.7	A*
Miller Creek & 101 NB ON	AM	9.3	A*	9.5	A*
Miller Creek & 101 NB ON	PM	12.8	B*	14.6	B*
Miller Creek & 101 SB OFF	AM	12.1	B*	12.7	B*
Miller Creek & 101 SB OFF	PM	3.7	A*	3.6	A*
Mission & Court	AM	7.0	A*	7.3	A*
Mission & Court	PM	7.8	A*	9.1	A*
Mission & Grand	AM	27.0	D	35.4	E
Mission & Grand	PM	29.7	D	36.1	E
Northgate & Los Ranchitos	AM	6.4	A*	6.9	A*
Northgate & Los Ranchitos	PM	6.7	A*	7.0	A*
Nova Albion & Las Gallinas	AM	20.3	C	21.4	C
Nova Albion & Las Gallinas	PM	29.0	D	29.6	D
Redwood & Paul	AM	3.9	A*	4.2	A*
Redwood & Paul	PM	6.3	A*	7	A*
Redwood Hwy & 101 NB On	AM	0.7	A*	0.7	A*
Redwood Hwy & 101 NB On	PM	3.2	A*	4.1	A*
Shoreline & Kerner	AM	1.6	A*	1.9	A*
Shoreline & Kerner	PM	3.1	A*	5.1	A*
Sir Francis Drake & Andersen	AM	17.6	C*	18.3	C*
Sir Francis Drake & Andersen	PM	5.3	A*	5.9	A*
Union & Fourth	AM	5.2	A*	5.3	A*
Union & Fourth	PM	4.4	A*	5.2	A*
Union & Mission	AM	12.2	B	13.0	B
Union & Mission	PM	11.2	B	12.0	B
Woodland & Du Bois	AM	7.0	A*	7.4	A*
Woodland & Du Bois	PM	6.4	A*	8.3	A*
Woodland & Irwin	AM	7.0	A*	8.8	A*
Woodland & Irwin	PM	7.9	A*	9.4	A*

Delay is in seconds per vehicle.

LOS is Level of Service

\* Two-Way Stop controlled intersection. The intersection delay and LOS was calculated based on City's methodology.

Source: San Rafael Department of Public Works, January 2004.

**Exhibit VIII.3-2**  
**Signalized Intersection Delay and Level of Service, Existing and Baseline Conditions**

Intersection	Peak	Existing		Baseline	
		Delay	LOS	Delay	LOS
101 SB Off & Andersen	AM	10.8	B	11.1	B
101 SB Off & Andersen	PM	7.1	A	8	A
2nd & A	AM	104.7	F	128.8	F
2nd & A	PM	82.9	F	98.9	F
2nd & B	AM	30.9	C	48.5	D
2nd & B	PM	11.6	B	12.5	B
2nd & C	AM	5.1	A	6.1	A
2nd & C	PM	34.0	C	34.5	C
2nd & D	AM	22.1	C	31.5	C
2nd & D	PM	8.9	A	9.4	A
2nd & E	AM	16.8	B	23.3	C
2nd & E	PM	28.3	C	33.3	C
2nd & G	AM	13.7	B	17.0	B
2nd & G	PM	22.1	C	25.8	C
2nd & Grand	AM	22.1	C	26.2	C
2nd & Grand	PM	45.1	D	55.4	E
2nd & Hetherton	AM	30.5	C	33.3	C
2nd & Hetherton	PM	25.6	C	30.1	C
2nd & Irwin	AM	16.1	B	18.3	B
2nd & Irwin	PM	25.8	C	28.4	C
2nd & Lincoln	AM	15.5	B	16.5	B
2nd & Lincoln	PM	16.0	B	21.4	C
2nd & Lindaro	AM	9.1	A	34.6	C
2nd & Lindaro	PM	17.8	B	32.0	C
2nd & Shaver	AM	11.5	B	12.3	B
2nd & Shaver	PM	11.0	B	11.0	B
2nd & Tamalpais	AM	9.6	A	9.6	A
2nd & Tamalpais	PM	12.7	B	13.3	B
3rd & A	AM	9.8	A	14.9	B
3rd & A	PM	53.4	D	75.9	E
3rd & B	AM	3.7	A	4.2	A
3rd & B	PM	18.6	B	43.8	D
3rd & C	AM	1.3	A	1.5	A
3rd & C	PM	3.5	A	4.8	A
3rd & D	AM	4.2	A	4.3	A
3rd & D	PM	11.5	B	19.0	B
3rd & E	AM	5.7	A	5.9	A
3rd & E	PM	24.3	C	40.0	D
3rd & Grand	AM	14.6	B	15.8	B
3rd & Grand	PM	18.0	B	20.5	C
3rd & Hetherton	AM	24.4	C	38.4	D
3rd & Hetherton	PM	29.4	C	33.5	C
3rd & Irwin	AM	22.8	C	33.7	C
3rd & Irwin	PM	30.7	C	39.2	D
3rd & Lincoln	AM	33.3	C	42.9	D
3rd & Lincoln	PM	17.3	B	20.5	C
3rd & Lindaro	AM	9.6	A	9.7	A
3rd & Lindaro	PM	17.0	B	21.5	C
3rd & Shaver	AM	1.7	A	1.7	A
3rd & Shaver	PM	24.7	C	36.4	D

Delay is in seconds per vehicle.  
 LOS is Level of Service

Intersection	Peak	Existing		Baseline	
		Delay	LOS	Delay	LOS
3rd & Tamalpais	AM	8.3	A	12.3	B
3rd & Tamalpais	PM	10.2	B	11.5	B
3rd & Union	AM	21.2	C	24.5	C
3rd & Union	PM	41.6	D	46.7	D
4th & 2nd	AM	8.8	A	9.6	A
4th & 2nd	PM	13.1	B	14.3	B
4th & A	AM	8.0	A	8.7	A
4th & A	PM	17.7	B	31.5	C
4th & B	AM	5.8	A	6.2	A
4th & B	PM	6.5	A	7.4	A
4th & C	AM	6.0	A	6.2	A
4th & C	PM	9.6	A	10.2	B
4th & Cijos	AM	1.3	A	1.3	A
4th & Cijos	PM	3.7	A	3.8	A
4th & Court	AM	0.0	A	0.0	A
4th & Court	PM	0.0	A	0.0	A
4th & D	AM	7.1	A	7.4	A
4th & D	PM	7.0	A	7.4	A
4th & E	AM	6.6	A	7.0	A
4th & E	PM	34.5	C	46.8	D
4th & Grand	AM	8.7	A	9.1	A
4th & Grand	PM	13.1	B	13.7	B
4th & Greenfield	AM	7.8	A	9.6	A
4th & Greenfield	PM	5.3	A	8.5	A
4th & H	AM	9.4	A	10.1	B
4th & H	PM	14.5	B	18.8	B
4th & Hetherton	AM	6.9	A	7.4	A
4th & Hetherton	PM	5.8	A	5.8	A
4th & Irwin	AM	22.3	C	29.5	C
4th & Irwin	PM	12.4	B	15.3	B
4th & Lincoln	AM	35.4	D	47.1	D
4th & Lincoln	PM	12.3	B	14.7	B
4th & Lootens	AM	4.9	A	5.2	A
4th & Lootens	PM	8.2	A	10.9	B
4th & Ross Valley	AM	29.2	C	41.5	D
4th & Ross Valley	PM	29.9	C	35.1	D
5th & A	AM	30.4	C	66.0	E
5th & A	PM	11.4	B	16.0	B
5th & B	AM	8.0	A	9.5	A
5th & B	PM	11.0	B	12.5	B
5th & C	AM	6.9	A	8.0	A
5th & C	PM	10.9	B	12.4	B
5th & Court	AM	8.4	A	9.0	A
5th & Court	PM	10.7	B	12.1	B
5th & E	AM	6.2	A	7.6	A
5th & E	PM	11.2	B	13.0	B
5th & Hetherton	AM	7.0	A	8.2	A
5th & Hetherton	PM	18.8	B	19.3	B
5th & Irwin	AM	40.1	D	43.4	D
5th & Irwin	PM	17.3	B	30.8	C
5th & Lincoln	AM	18.9	B	22.8	C
5th & Lincoln	PM	10.5	B	11.6	B
Andersen & Du Bois	AM	43.6	D	51.6	D
Andersen & Du Bois	PM	27.6	C	32.3	C
Andersen & Lindaro	AM	21.8	C	31.1	C

Intersection	Peak	Existing		Baseline	
		Delay	LOS	Delay	LOS
Andersen & Lindaro	PM	34.0	C	53.7	D
Arias & Nova Albion	AM	14.6	B	14.6	B
Arias & Nova Albion	PM	12.6	B	12.6	B
Bayview & D	AM	6.4	A	6.4	A
Bayview & D	PM	9.5	A	10.6	B
Bellam & 580 EB	AM	28.2	C	30.9	C
Bellam & 580 EB	PM	39.3	D	48.3	D
Bellam & 580 WB	AM	22.5	C	28.6	C
Bellam & 580 WB	PM	21.8	C	23.1	C
Bellam & Andersen	AM	21.9	C	23.9	C
Bellam & Andersen	PM	22.9	C	26.1	C
Bellam & Francisco E.	AM	18.1	B	19.9	B
Bellam & Francisco E.	PM	22.7	C	25.2	C
Bellam & Kerner	AM	19.3	B	25.7	C
Bellam & Kerner	PM	26.5	C	34.5	C
Francisco W. & Andersen	AM	21.4	C	22.7	C
Francisco W. & Andersen	PM	25.3	C	40.1	D
Freitas & Del Presidio	AM	9.0	A	9.4	A
Freitas & Del Presidio	PM	40.0	D	44.9	D
Freitas & Las Gallinas	AM	21.5	C	23.1	C
Freitas & Las Gallinas	PM	18.1	B	18.7	B
Freitas & Northgate	AM	18.0	B	19.6	B
Freitas & Northgate	PM	16.6	B	17.9	B
Irene & Francisco E.	AM	7.8	A	7.8	A
Irene & Francisco E.	PM	4.7	A	5.5	A
Irene & Kerner	AM	6.1	A	7.1	A
Irene & Kerner	PM	8.3	A	12.6	B
Irwin & Andersen	AM	23.3	C	29.3	C
Irwin & Andersen	PM	27.7	C	32.7	C
Las Gallinas & Del Presiddio	AM	11.9	B	11.8	B
Las Gallinas & Del Presiddio	PM	17.8	B	17.9	B
Las Gallinas & Northgate	AM	19.5	B	20.1	C
Las Gallinas & Northgate	PM	21.9	C	22.2	C
Lincoln & 101 SB Ramps	AM	36.3	D	47.1	D
Lincoln & 101 SB Ramps	PM	47.6	D	66.4	E
Lincoln & Linden	AM	11.3	B	15.4	B
Lincoln & Linden	PM	26.4	C	41.2	D
Lincoln & Brookdale	AM	5.3	A	5.7	A
Lincoln & Brookdale	PM	6.4	A	7.3	A
Lucas Valley & 101 SB On	AM	12.0	B	14.4	B
Lucas Valley & 101 SB On	PM	18.7	B	24.5	C
Lucas Valley & Las Gallinas	AM	32.8	C	37.5	D
Lucas Valley & Las Gallinas	PM	23.3	C	28.4	C
McInnis & Civic Ctr	AM	13.7	B	13.8	B
McInnis & Civic Ctr	PM	9.9	A	9.9	A
Medway & Francisco E.	AM	11.6	B	12.0	B
Medway & Francisco E.	PM	18.6	B	19.8	B
Merrydale O.C. & Civic Ctr	AM	31.1	C	42.8	D
Merrydale O.C. & Civic Ctr	PM	20.9	C	28.5	C
Merrydale O.C. & Las Gallinas	AM	13.2	B	13.8	B
Merrydale O.C. & Las Gallinas	PM	30.8	C	37.7	D
Mission & Hetherton	AM	15.5	B	21.5	C
Mission & Hetherton	PM	17.5	B	22.1	C
Mission & Irwin	AM	23.5	C	29.7	C
Mission & Irwin	PM	85.7	F	98.9	F
Mission & Lincoln	AM	25.8	C	34.5	C

Intersection	Peak	Existing		Baseline	
		Delay	LOS	Delay	LOS
Mission & Lincoln	PM	43.6	D	47.7	D
Mitchell & Redwood	AM	5.4	A	5.5	A
Mitchell & Redwood	PM	6.5	A	6.8	A
N. San Pedro & Civic Ctr	AM	22.5	C	23.1	C
N. San Pedro & Civic Ctr	PM	17.5	B	17.6	B
N. San Pedro & Los Ranchitos	AM	11.8	B	12.8	B
N. San Pedro & Los Ranchitos	PM	12.0	B	12.9	B
N. San Pedro & Merrydale	AM	14.8	B	16.4	B
N. San Pedro & Merrydale	PM	18.4	B	20.1	C
Northgate & Los Ranchitos	AM	10	B	10.7	B
Northgate & Los Ranchitos	PM	12.6	B	12.9	B
Nova Albion & Las Gallinas	AM	14.8	B	15.2	B
Nova Albion & Las Gallinas	PM	18.4	B	18.3	B
Paloma & Lincoln	AM	11.2	B	14.2	B
Paloma & Lincoln	PM	37.4	D	49.4	D
Professional Ctr & Redwood	AM	6.9	A	7.5	A
Professional Ctr & Redwood	PM	6.6	A	7.1	A
Pt. San Pedro & Lochinvar	AM	4.6	A	4.5	A
Pt. San Pedro & Lochinvar	PM	3.6	A	3.5	A
Shoreline & Francisco E.	AM	12.3	B	15.2	B
Shoreline & Francisco E.	PM	12.9	B	13.2	B
Smith Ranch & 101 NB Ramps	AM	43.9	D	56.1	E
Smith Ranch & 101 NB Ramps	PM	10.6	B	12.3	B
Smith Ranch & Redwood HWY	AM	10.7	B	12.4	B
Smith Ranch & Redwood HWY	PM	24.1	C	27.8	C

Source: San Rafael Department of Public Works, January 2004

**Exhibit VIII.3-3  
 City Arterial Speed and Level of Service, Existing and Baseline Conditions**

Street	From	To	Direction	Existing			Baseline				
				AM Speed	AM LOS	PM Speed	PM LOS	AM Speed	AM LOS	PM Speed	PM LOS
2nd	G	Grand	EB	8.5	E	9.1	D	7.3	E	8.5	E
2nd	G	4th/Marquard	WB	14.4	C	12.2	D	14	C	11.6	D
3rd	Union	Shaver	WB	17.1	C	13	C	16.4	C	11.2	D
4th	H	Grand	EB	12.2	D	10	D	12	D	9.3	D
4th	Grand	2nd/Marquard	WB	12.8	D	11.6	D	12.6	D	10.9	D
4th	Ross Valley	2nd/Marquard	EB	14.1	C	17.2	C	12.3	D	16.4	C
4th	Greenfield	Ross Valley	WB	20.4	B	15.1	C	20.2	B	14	C
5th	E	Irwin	EB	13.5	C	12.4	D	13.1	C	11.8	D
5th	Irwin	E	WB	9.7	D	10.8	D	7.5	E	10	D
A	2nd	5th	NB	10.1	D	7.6	E	9.5	D	5	F
A	4th	2nd	SB	7.6	E	7.5	E	7.2	E	5.6	F
Andersen	Bellam	Lindaro	NB	17.2	C	14.4	C	15.9	C	12.4	D
Andersen	Lindaro	Bellam	SB	12	D	16.1	C	11.2	D	15.5	C
B	5th	2nd	SB	8.9	E	8.7	E	8.7	E	8.6	E
Bellam	Andersen	Kerner	EB	10.1	D	8.1	E	9.4	D	7.1	E
Bellam	Kerner	Andersen	WB	8.9	E	8.8	E	8.6	E	8.4	E
C	2nd	5th	NB	8.6	E	5.3	F	8.5	E	5.1	F
Civic Ctr	N. San Pedro	Merrydale O/C	NB	18.3	C	18.9	C	18.2	C	18.7	C
Civic Ctr	Merrydale O/C	N. San Pedro	SB	15.8	C	18.5	C	14.4	C	18	C
D	4th	Bayview	SB	11.2	D	11.4	D	11	D	11.3	D
Del Presidio	Las Gallinas	Freitas	NB	7	E	8.2	E	6.9	F	8.1	E
Del Presidio	Freitas	Las Gallinas	SB	8.1	E	5.4	F	8.3	E	5.4	F
E	2nd	5th	NB	8	E	6.3	F	7.8	E	5.9	F
E	5th	2nd	SB	5	F	4.1	F	4.1	F	3.5	F
Francisco E.	Shoreline	Medway	NB	18.9	C	18.8	C	18.7	C	18.5	C
Francisco E.	Medway	Shoreline	SB	20.4	B	20.5	B	20.3	B	20.4	B
Freitas	Las Gallinas	Del Presidio	EB	13.2	C	12.3	D	12.8	D	11.9	D
Freitas	Del Presidio	Las Gallinas	WB	18.3	C	17.4	C	18.2	C	17.3	C
Grand	2nd	4th	NB	18.6	C	11	D	18.3	C	10	D
Grand	4th	2nd	SB	5.2	F	7.5	E	4.7	F	6.9	F
Hetherton	Mission	2nd	SB	8.1	E	6.3	F	7.4	E	5.8	F
Irwin	2nd	Mission	NB	4.6	F	4.2	F	3.9	F	4	F
Las Gallinas	Del Presidio	Lucas Valley	NB	18.4	C	18.1	C	18.3	C	18.1	C
Las Gallinas	Lucas Valley	Merrydale O/C	SB	18.5	C	18.8	C	18.4	C	18.8	C
Lincoln	2nd	101 SB/Hammondale	NB	14.5	C	10	D	14.2	C	8.4	E
Lincoln	101 SB/Hammondale	2nd	SB	9.7	D	14.8	C	8.6	E	14.5	C
Lindaro	Andersen	3rd	NB	8.3	E	5.9	F	7.6	E	5	F
Lindaro	3rd	Andersen	SB	6.9	F	7.6	E	3.3	F	7.4	E

Speed is miles per hour.  
 LOS is Level of Service



Street	From	To	Direction	Existing				Baseline			
				AM Speed	LOS	PM Speed	LOS	AM Speed	LOS	PM Speed	LOS
Los Ranchitos	N. San Pedro	Merrydale O/C	NB	21	B	19.4	B	20.9	B	19.2	B
Los Ranchitos	Northgate	N. San Pedro	SB	21.3	B	21.7	B	21.1	B	21.6	B
Lucas Valley	Las Gallinas	101 SB Ramps	EB	11.6	D	16.5	C	10.7	D	16.1	C
Lucas Valley	101 SB Ramps	Las Gallinas	WB	18.9	C	16.6	C	18.7	C	15.7	C
Mission	Lincoln	Irwin	EB	14.3	C	13.1	C	14.1	C	12.5	D
Mission	Irwin	Lincoln	WB	6.4	F	4.8	F	5.6	F	4.5	F
N. San Pedro	Merrydale	Civic Ctr	EB	17.8	C	16.7	C	17.6	C	16.6	C
N. San Pedro	Civic Ctr	Los Ranchitos	WB	12.5	D	13.1	C	12.1	D	12.9	D
Northgate	Los Ranchitos	Freitas	NB	16.9	C	15.5	C	16.9	C	15.4	C
Northgate	Freitas	Los Ranchitos	SB	17.4	C	17.6	C	17.4	C	17.4	C
Redwood	Professional Ctr Dr	Smith Ranch	NB	20.9	B	19.6	B	20.7	B	19.2	B
Redwood	Smith Ranch	Professional Ctr	SB	18.6	C	17.4	C	18.5	C	17.3	C
Smith Ranch	101 NB Ramps	Redwood	EB	12	D	12.2	D	10.4	D	11.8	D
Smith Ranch	Redwood	101 NB Ramps	WB	14.9	C	12.2	D	14.4	C	11.2	D

Source: San Rafael Department of Public Works, January 2004

**Exhibit VIII.3-4  
Intersections, Baseline, 2020 without Improvements, and 2020 with Improvements**

Intersection	Peak	Baseline Status	Baseline Improvements (1)		2020 without roadway improvements		2020 with roadway improvements		General Plan 2020 Roadway Improvements (2)
			Delay	LOS	Delay	LOS	Delay	LOS	
101 SB & Merrydale	AM	Unsig	23.8	C*	40.8	E*	12.4	B	Signalization plus widening (add one westbound right lane)
101 SB & Merrydale	PM	Unsig	31.4	D*	95.3	F*	11.7	B	Signalization plus widening (add one westbound right lane)
101 SB Off & Andersen	AM	Sig.	11.1	B	11.2	B	-	-	(Ramp Closed)
101 SB Off & Andersen	PM	Sig.	8	A	11.1	B	-	-	(Ramp Closed)
101 SB On & Francisco W.	AM	Unsig	31.8	D*	44.5	E*	20	C	Signalization plus ramp reconfiguration (Add off Ramp and one northbound right lane)
101 SB On & Francisco W.	PM	Unsig	19.4	C*	51	F*	20.6	C	Signalization plus ramp reconfiguration (Add off Ramp and one northbound right lane)
1st & C	AM	Unsig	11.3	B*	12.1	B*	14.9	B	Signalization plus parking restriction to provide one eastbound left lane
1st & C	PM	Unsig	30.8	D*	33.6	D*	31.8	C	Signalization plus parking restriction to provide one eastbound left lane
1st & D	AM	Unsig	3.8	A*	4.9	A*	12.7	B	Signalization
1st & D	PM	Unsig	27.2	D*	41.4	E*	18	B	Signalization
2nd & A	AM	Sig.	128.8	F	137.1	F	20.4	C	Signal operation improvement plus widening (one eastbound right lane)
2nd & A	PM	Sig.	98.9	F	114.8	F	57.8	E	Signal operation improvement plus widening (one eastbound right lane)
2nd & B	AM	Sig.	48.5	D	55.9	E	9.1	A	Signal operation improvement
2nd & B	PM	Sig.	12.5	B	17.2	B	9.4	A	Signal operation improvement
2nd & C	AM	Sig.	6.1	A	6.5	A	4.6	A	Signal operation improvement
2nd & C	PM	Sig.	34.5	C	34.2	C	14.7	B	Signal operation improvement
2nd & D	AM	Sig.	31.5	C	34.1	C	19.5	B	Signal operation improvement
2nd & D	PM	Sig.	9.4	A	10.3	B	7.8	A	Signal operation improvement
2nd & E	AM	Sig.	23.3	C	28.5	C	11.7	B	Signal operation improvement plus widening (one northbound right lane)
2nd & E	PM	Sig.	33.3	C	41.6	D	12.9	B	Signal operation improvement plus widening (one northbound right lane)
2nd & G	AM	Sig.	17	B	18.1	B	13.2	B	Signal operation improvement
2nd & G	PM	Sig.	25.8	C	41.7	D	4.6	A	Signal operation improvement
2nd & Grand	AM	Sig.	26.2	C	31.6	C	15.7	B	Signal operation improvement plus widening (one northbound right lane)
2nd & Grand	PM	Sig.	55.4	E	66.4	E	14.4	B	Signal operation improvement plus widening (one northbound right lane)
2nd & Hetherton	AM	Sig.	33.3	C	43.8	D	31.2	C	Signal operation improvement
2nd & Hetherton	PM	Sig.	30.1	C	34.5	C	21.1	C	Signal operation improvement

(1) Roadway improvements currently programmed and funded.

(2) Draft General Plan 2020 improvements described in Exhibit IV.2-13.

\*Two-Way Stop controlled intersection. The intersection delay and Level Of Service was calculated based on city's methodology.

Intersection	Peak	Baseline Improvements (1)			2020 without roadway improvements			2020 with roadway improvements			General Plan 2020 Roadway Improvements (2)
		Status	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	
2nd & Irwin	AM	Sig.	18.3	B	19.7	B	24.2	C	Signal operation improvement		
2nd & Irwin	PM	Sig.	28.4	C	33.2	C	33.2	C	Signal operation improvement		
2nd & Lincoln	AM	Sig.	16.5	B	22.7	C	7.7	A	Signal operation improvement plus parking restriction (provide one southbound through lane)		
2nd & Lincoln	PM	Sig.	21.4	C	27	C	9.1	A	Signal operation improvement		
2nd & Lindaro	AM	Sig.	34.6	C	41	D	15.1	B	Signal operation improvement		
2nd & Lindaro	PM	Sig.	32	C	35.7	D	10.8	B	Signal operation improvement		
2nd & Shaver	AM	Sig.	12.3	B	12.3	B	10.7	B	Signal operation improvement		
2nd & Shaver	PM	Sig.	11	B	11.2	B	9	A	Signal operation improvement		
2nd & Tamalpais	AM	Sig.	9.6	A	13	B	11.8	B	Signal operation improvement		
2nd & Tamalpais	PM	Sig.	13.3	B	14.3	B	11.4	B	Signal operation improvement		
3rd & A	AM	Sig.	14.9	B	19	B	8.6	A	Signal operation improvement		
3rd & A	PM	Sig.	75.9	E	90.5	F	62.4	E	Signal operation improvement		
3rd & B	AM	Sig.	4.2	A	4.6	A	4.9	A	Signal operation improvement		
3rd & B	PM	Sig.	43.8	D	40.9	D	18.6	B	Signal operation improvement		
3rd & C	AM	Sig.	1.5	A	1.5	A	4.9	A	Signal operation improvement		
3rd & C	PM	Sig.	4.8	A	8.7	A	8.8	A	Signal operation improvement		
3rd & D	AM	Sig.	4.3	A	4.3	A	5.1	A	Signal operation improvement		
3rd & D	PM	Sig.	19	B	38.1	D	13.1	B	Signal operation improvement		
3rd & E	AM	Sig.	5.9	A	6.2	A	5.5	A	Signal operation improvement		
3rd & E	PM	Sig.	40	D	43.1	D	29.7	C	Signal operation improvement		
3rd & Grand	AM	Sig.	15.8	B	17.7	B	15.6	B	Signal operation improvement plus widening (one northbound through lane)		
3rd & Grand	PM	Sig.	20.5	C	32.9	C	17	B	Signal operation improvement plus widening (one northbound through lane)		
3rd & Hetherton	AM	Sig.	38.4	D	47.4	D	46.2	D	Signal operation improvement		
3rd & Hetherton	PM	Sig.	33.5	C	45.4	D	38.1	D	Signal operation improvement		
3rd & Irwin	AM	Sig.	33.7	C	41.2	D	21.7	C	Signal operation improvement		
3rd & Irwin	PM	Sig.	39.2	D	47.3	D	23.1	C	Signal operation improvement		
3rd & Lincoln	AM	Sig.	42.9	D	50.3	D	7	A	Signal operation improvement plus parking restriction (provide one southbound through and one northbound through lane)		
3rd & Lincoln	PM	Sig.	20.5	C	38.7	D	11.7	B	Signal operation improvement		
3rd & Lindaro	AM	Sig.	9.7	A	9.9	A	5.2	A	Signal operation improvement		
3rd & Lindaro	PM	Sig.	21.5	C	21.5	C	14.4	B	Signal operation improvement		
3rd & Shaver	AM	Sig.	1.7	A	1.7	A	2.1	A	Signal operation improvement		
3rd & Shaver	PM	Sig.	36.4	D	44.6	D	6.2	A	Signal operation improvement		
3rd & Tamalpais	AM	Sig.	12.3	B	16.6	B	9.7	A	Signal operation improvement		
3rd & Tamalpais	PM	Sig.	11.5	B	15.8	B	23.3	C	Signal operation improvement		
3rd & Union	AM	Sig.	24.5	C	34.7	C	31.8	C	Signal operation improvement (northbound left and southbound left protect phasing)		
3rd & Union	PM	Sig.	46.7	D	50.1	D	68.7	E	Signal operation improvement (northbound left and southbound left protect phasing)		
4th & 2nd	AM	Sig.	9.6	A	9.8	A	9.7	A	Signal operation improvement		
4th & 2nd	PM	Sig.	14.3	B	15.8	B	17.5	B	None		

Intersection	Peak	Baseline		Baseline		2020 without roadway		2020 with roadway		General Plan 2020 Roadway Improvements (2)
		Status	Improvements (1)	Delay	LOS	Delay	LOS	Delay	LOS	
4th & A	AM	Sig.		8.7	A	9	A	10.5	B	Signal operation improvement
4th & A	PM	Sig.		31.5	C	37.3	D	36.5	D	Signal operation improvement
4th & B	AM	Sig.		6.2	A	6.4	A	6.2	A	Signal operation improvement
4th & B	PM	Sig.		7.4	A	8.8	A	6.2	A	Signal operation improvement
4th & C	AM	Sig.		6.2	A	6.3	A	7.1	A	Signal operation improvement
4th & C	PM	Sig.		10.2	B	10.8	B	7.1	A	Signal operation improvement
4th & Cijos	AM	Sig.		1.3	A	1.6	A	1.2	A	Signal operation improvement
4th & Cijos	PM	Sig.		3.8	A	3.9	A	2.5	A	Signal operation improvement
4th & Court	AM	Sig.		0	A	0	A	4.8	A	Signal operation improvement
4th & Court	PM	Sig.		0	A	0	A	3	A	Signal operation improvement
4th & D	AM	Sig.		7.4	A	7.5	A	9.9	A	Signal operation improvement
4th & D	PM	Sig.		7.4	A	7.8	A	9.2	A	Signal operation improvement
4th & E	AM	Sig.		7	A	7.3	A	9	A	Signal operation improvement
4th & E	PM	Sig.		46.8	D	62.1	E	54.1	D	Signal operation improvement
4th & Grand	AM	Sig.		9.1	A	9.6	A	12.1	B	Signal operation improvement plus parking restriction (one southbound left and one westbound left lane)
4th & Grand	PM	Sig.		13.7	B	14.3	B	6.3	A	Signal operation improvement plus parking restriction (one southbound left and one westbound left lane)
4th & Greenfield	AM	Sig.		9.6	A	10.7	B	9.3	A	None
4th & Greenfield	PM	Sig.		8.5	A	12.1	B	9.5	A	Signal operation improvement
4th & H	AM	Sig.		10.1	B	13.1	B	8.6	A	Signal operation improvement
4th & H	PM	Sig.		18.8	B	26.5	C	7	A	Signal operation improvement
4th & Hetherton	AM	Sig.		7.4	A	8	A	9.3	A	Signal operation improvement
4th & Hetherton	PM	Sig.		5.8	A	5.8	A	8.2	A	Signal operation improvement
4th & Irwin	AM	Sig.		29.5	C	37.9	D	10.1	B	Signal operation improvement
4th & Irwin	PM	Sig.		15.3	B	20.7	C	11.8	B	Signal operation improvement
4th & Lincoln	AM	Sig.		47.1	D	52.8	D	13.9	B	Signal operation improvement plus parking restriction (provide one southbound through and one northbound through lane)
4th & Lincoln	PM	Sig.		14.7	B	16.5	B	14.4	B	Signal operation improvement
4th & Lootens	AM	Sig.		5.2	A	5.3	A	5.2	A	Signal operation improvement
4th & Lootens	PM	Sig.		10.9	B	11.4	B	9.6	A	Signal operation improvement
4th & Ross Valley	AM	Sig.		41.5	D	42.7	D	39.4	D	Signal operation improvement
4th & Ross Valley	PM	Sig.		35.1	D	40.1	D	29.5	C	Signal operation improvement
5th & A	AM	Sig.		66	E	83	F	19.7	B	Signal operation improvement
5th & A	PM	Sig.		16	B	20.5	C	5.3	A	Signal operation improvement
5th & B	AM	Sig.		9.5	A	9.9	A	7.9	A	Signal operation improvement
5th & B	PM	Sig.		12.5	B	13.8	B	9.1	A	Signal operation improvement
5th & C	AM	Sig.		8	A	9.1	A	3	A	Signal operation improvement
5th & C	PM	Sig.		12.4	B	15.4	B	8.9	A	Signal operation improvement
5th & Court	AM	Sig.		9	A	9.7	A	9	A	Signal operation improvement
5th & Court	PM	Sig.		12.1	B	14.2	B	12.3	B	Signal operation improvement
5th & E	AM	Sig.		7.6	A	8.5	A	9.6	A	Signal operation improvement
5th & E	PM	Sig.		13	B	17	B	18.9	B	Signal operation improvement
5th & Grand	AM	Unsig		2.5	A*	3.3	A*	4.8	A	Signalization plus parking restriction (one northbound left lane)
5th & Grand	PM	Unsig		4.7	A*	5.2	A*	5.4	A	Signalization plus parking restriction (one northbound left lane)

Intersection	Peak	Baseline		Baseline		2020 without roadway		2020 with roadway		General Plan 2020 Roadway Improvements (2)
		Status	Improvements (1)	Delay	LOS	Delay	LOS	Delay	LOS	
5th & H	AM	Unsig.		44.3	E	59.2	F	11.8	B	Signalization plus parking restriction and widening (one left lane on all directions)
5th & H	PM	Unsig.		27.4	D	37.7	E	10	B	Signalization plus parking restriction and widening (one left lane on all directions)
5th & Hetherton	AM	Sig.		8.2	A	9.6	A	7.6	A	Signal operation improvement
5th & Hetherton	PM	Sig.		19.3	B	20.4	C	11.2	B	Signal operation improvement
5th & Irwin	AM	Sig.		43.4	D	44.9	D	16.5	B	Signal operation improvement
5th & Irwin	PM	Sig.		30.8	C	42.1	D	20.5	C	Signal operation improvement
5th & Lincoln	AM	Sig.		22.8	C	23.9	C	11	B	Signal operation improvement plus parking restriction (provide one southbound through and one northbound through lane)
5th & Lincoln	PM	Sig.		11.6	B	12.3	B	11.2	B	Signal operation improvement
Andersen & Du Bois	AM	Sig.		51.6	D	57.9	E	26.6	C	Signal operation improvement
Andersen & Du Bois	PM	Sig.		32.3	C	45.4	D	40.4	D	Signal operation improvement
Andersen & Lindaro	AM	Sig.		31.1	C	37.6	D	44.1	D	Signal operation improvement
Andersen & Lindaro	PM	Sig.		53.7	D	59	E	50.2	D	Signal operation improvement
Arias & Nova Albion	AM	Sig.	Signalization	14.6	B	16.2	B	14.9	B	Signalization
Arias & Nova Albion	PM	Sig.	Signalization	12.6	B	12.2	B	14	B	Signalization
Bayview & D	AM	Sig.		6.4	A	6.6	A	6.5	A	Signal operation improvement
Bayview & D	PM	Sig.		10.6	B	11.9	B	15.4	B	Signal operation improvement
Bellam & 580 EB	AM	Sig.	Bellam Phase III	30.9	C	43.5	D	20.8	C	Signal operation improvement
Bellam & 580 EB	PM	Sig.	Bellam Phase III	48.3	D	63.1	E	24.2	C	Signal operation improvement
Bellam & 580 WB	AM	Sig.	Bellam Phase III	28.6	C	38.6	D	11.8	B	Signal operation improvement
Bellam & 580 WB	PM	Sig.	Bellam Phase III	23.1	C	26.7	C	16.7	B	Signal operation improvement
Bellam & Andersen	AM	Sig.		23.9	C	36.1	D	22.2	C	Signal operation improvement (eastbound left and westbound left protect phasing)
Bellam & Andersen	PM	Sig.		26.1	C	34.1	C	29.3	C	Signal operation improvement (eastbound left and westbound left protect phasing)
Bellam & Francisco E.	AM	Sig.		19.9	B	22.1	C	21.9	C	Signal operation improvement
Bellam & Francisco E.	PM	Sig.		25.2	C	31.8	C	19.5	B	Signal operation improvement
Bellam & Kerner	AM	Sig.		25.7	C	31	C	18.6	B	Signal operation improvement
Bellam & Kerner	PM	Sig.		34.5	C	50.2	D	29.4	C	Signal operation improvement
Castro & Francisco E.	AM	Unsig.		2.9	A*	3.8	A*	3.3	A*	None
Castro & Francisco E.	PM	Unsig.		3.7	A*	6.4	A*	5.3	A*	None
Francisco W. & Andersen	AM	Sig.		22.7	C	25.6	C	23.1	C	Signal operation improvement
Francisco W. & Andersen	PM	Sig.		40.1	D	46.6	D	26.8	C	Signal operation improvement
Freitas & 101 NB	AM	Unsig.		31.5	D*	59.8	F*	19.3	B	Signalization plus widening (add one northbound right lane)
Freitas & 101 NB	PM	Unsig.		6.7	A*	7.4	A*	6.3	A	Signalization plus widening (add one northbound right lane)
Freitas & Del Presidio	AM	Sig.		9.4	A	9.9	A	10.4	B	Signal operation improvement
Freitas & Del Presidio	PM	Sig.		44.9	D	51.3	D	35	C	Signal operation improvement
Freitas & Las Gallinas	AM	Sig.		23.1	C	25.1	C	39.3	D	Signal operation improvement (northbound left and southbound left protect phasing)
Freitas & Las Gallinas	PM	Sig.		18.7	B	18.3	B	30.9	C	Signal operation improvement (northbound left and southbound left protect phasing)
Freitas & Northgate	AM	Sig.		19.6	B	20.3	C	19.7	B	Signal operation improvement
Freitas & Northgate	PM	Sig.		17.9	B	19	B	19.6	B	Signal operation improvement

Intersection	Peak	Baseline		Baseline		2020 without roadway		2020 with roadway		General Plan 2020 Roadway Improvements (2)
		Status	Improvements (1)	Delay	LOS	Delay	LOS	Delay	LOS	
Freitas & Redwood	AM	Unsig		33.5	D*	80.8	F*	24.6	C	Signalization plus widening (add one southbound left lane)
Freitas & Redwood	PM	Unsig		8.5	A*	9.4	A*	19.7	B	Signalization plus widening (add one southbound left lane)
Harbor & Francisco E.	AM	Unsig		2.2	A*	2.6	A*	14.6	B	Signalization and change northbound right lane to northbound through and right lane
Harbor & Francisco E.	PM	Unsig		25.4	D*	90.9	F*	16.1	B	Signalization and change northbound right lane to northbound through and right lane
Irene & Francisco E.	AM	Sig.		7.8	A	8	A	10.2	B	Signal operation improvement
Irene & Francisco E.	PM	Sig.		5.5	A	7.2	A	3.6	A	Signal operation improvement
Irene & Kerner	AM	Sig.		7.1	A	9.5	A	7	A	Signal operation improvement
Irene & Kerner	PM	Sig.		12.6	B	24.3	C	14.3	B	Signal operation improvement
Irwin & Andersen	AM	Sig.		29.3	C	32.5	C	20.7	C	Signal operation improvement
Irwin & Andersen	PM	Sig.		32.7	C	38.8	D	46.2	D	Signal operation improvement
Irwin & Lincoln	AM	Unsig		13.9	B	16.4	C	12.3	B	Signalization plus parking restriction and widening (one left lane on all directions)
Irwin & Lincoln	PM	Unsig		15.7	C	25.9	D	22	C	Signalization plus parking restriction and widening (one left lane on all directions)
Las Gallinas & Del Presidio	AM	Sig.		11.8	B	11.8	B	11	B	Signal operation improvement
Las Gallinas & Del Presidio	PM	Sig.		17.9	B	17.5	B	16.8	B	Signal operation improvement
Las Gallinas & Northgate	AM	Sig.		20.1	C	21.9	C	16.9	B	Signal operation improvement
Las Gallinas & Northgate	PM	Sig.		22.2	C	22.8	C	21.2	C	Signal operation improvement
Lincoln & 101 SB Ramps	AM	Sig.		47.1	D	56.6	E	54.7	D	-
Lincoln & 101 SB Ramps	PM	Sig.		66.4	E	84.2	F	84.8	F	-
Lincoln & Brookdale	AM	Sig.	Signalization and change southbound left to southbound through and left	5.7	A	6.4	A	7.8	A	Signalization, change southbound left to southbound through and left, plus widening (one northbound through lane)
Lincoln & Brookdale	PM	Sig.	Signalization and change southbound left to southbound through and left	7.3	A	7.3	A	4.8	A	Signalization, change southbound left to southbound through and left, plus widening (one northbound through lane)
Lincoln & Linden	AM	Sig.	Signalization	15.4	B	20.5	C	20.6	C	Signalization plus widening (one northbound through lane)
Lincoln & Linden	PM	Sig.	Signalization	41.2	D	45.9	D	19.3	B	Signalization plus widening (one northbound through lane)
Lucas Valley & 101 SB On	AM	Sig.		14.4	B	16.2	B	8.8	A	2 WB through and 2 NB through lanes;
Lucas Valley & 101 SB On	PM	Sig.		24.5	C	40	D	34.8	C	2 WB through and 2 NB through lanes;
Lucas Valley & Las Gallinas	AM	Sig.		37.5	D	39	D	22.6	C	Signal operation improvement
Lucas Valley & Las Gallinas	PM	Sig.		28.4	C	39.4	D	17.2	B	Signal operation improvement
Lucas Valley & Los Gamos	AM	Unsig		7.5	A*	11.7	B*	16.9	B	Signalization; 2 WB left and 2 WB through lanes; Change EB right to through/Right
Lucas Valley & Los Gamos	PM	Unsig		5.7	A*	9.3	A*	19.8	B	Signalization; 2 WB left and 2 WB through lanes; Change EB right to through/Right
McInnis & Civic Ctr	AM	Sig.		13.8	B	14.2	B	10.9	B	Signal operation improvement
McInnis & Civic Ctr	PM	Sig.		9.9	A	11.9	B	12.3	B	Signal operation improvement
Medway & Francisco E.	AM	Sig.		12	B	12.4	B	12.2	B	Signal operation improvement
Medway & Francisco E.	PM	Sig.		19.8	B	21.6	C	27.4	C	Signal operation improvement
Merrydale O.C. & Civic Ctr	AM	Sig.		42.8	D	46.8	D	39	D	Signal operation improvement

Intersection	Peak	Baseline			2020 without roadway improvements			2020 with roadway improvements		
		Status	Improvements (I)	Baseline Delay LOS	Delay	LOS	Delay	LOS	Delay	LOS
Merrydale O.C. & Civic Ctr	PM	Sig.		28.5	C	49.1	D	39.8	D	Signal operation improvement
Merrydale O.C. & Las Gallinas	AM	Sig.		13.8	B	15.4	B	14	B	Signal operation improvement
Merrydale O.C. & Las Gallinas	PM	Sig.		37.7	D	54.4	D	36.7	D	Signal operation improvement
Miller Creek & 101 NB ON	AM	Unsig		9.5	A*	10.7	B*	12	B*	None
Miller Creek & 101 NB ON	PM	Unsig		14.6	B*	20.2	C*	29.5	D*	None
Miller Creek & 101 SB OFF	AM	Unsig		12.7	B*	14.4	B*	26	D*	None
Miller Creek & 101 SB OFF	PM	Unsig		3.6	A*	4.3	A*	4.3	A*	None
Mission & Court	AM	Unsig		7.3	A*	7.5	A*	7.7	A*	Signal or Roundabout
Mission & Court	PM	Unsig		9.1	A*	10.7	B*	11.1	B*	Signal or Roundabout
Mission & Grand	AM	Unsig		35.4	E	71.1	F	14.5	B	Signalization plus parking restriction (one left lane on all directions)
Mission & Grand	PM	Unsig		36.1	E	67.7	F	14.9	B	Signalization plus parking restriction (one left lane on all directions)
Mission & Hetherton	AM	Sig.		21.5	C	23.7	C	14.3	B	Signal operation improvement
Mission & Hetherton	PM	Sig.		22.1	C	30.3	C	15.6	B	Signal operation improvement
Mission & Irwin	AM	Sig.		29.7	C	62.2	E	59.7	E	Signal operation improvement
Mission & Irwin	PM	Sig.		98.9	F	107.6	F	114.4	F	Signal operation improvement
Mission & Lincoln	AM	Sig.		34.5	C	41.3	D	26.1	C	Signal operation improvement plus widening and parking restriction (provide one northbound through, one northbound left and one westbound right lane)
Mission & Lincoln	PM	Sig.		47.7	D	54.7	D	46.1	D	Signal operation improvement plus widening (one northbound through and one westbound right lane)
Mitchell & Redwood	AM	Sig.		5.5	A	5.5	A	5.5	A	Signal operation improvement
Mitchell & Redwood	PM	Sig.		6.8	A	7.7	A	6.8	A	Signal operation improvement
N. San Pedro & Civic Ctr	AM	Sig.		23.1	C	24.7	C	33.5	C	Signal operation improvement
N. San Pedro & Civic Ctr	PM	Sig.		17.6	B	17.8	B	17.4	B	Signal operation improvement
N. San Pedro & Los Ranchitos	AM	Sig.		12.8	B	14.1	B	12.8	B	Signal operation improvement
N. San Pedro & Los Ranchitos	PM	Sig.		12.9	B	15.1	B	14.6	B	Signal operation improvement
N. San Pedro & Merrydale	AM	Sig.		16.4	B	18.4	B	18.1	B	Signal operation improvement
N. San Pedro & Merrydale	PM	Sig.		20.1	C	23.4	C	25.1	C	Signal operation improvement
Northgate & Los Ranchitos	AM	Sig.	Signalization plus widening (add one northbound left lane)	10.7	B	12.7	B	10.2	B	Signalization plus widening (add one northbound left lane)
Northgate & Los Ranchitos	PM	Sig.	Signalization plus widening (add one northbound left lane)	12.9	B	14.9	B	15.4	B	Signalization plus widening (add one northbound left lane)
Nova Albion & Las Gallinas	AM	Sig.	Signalization	15.2	B	16.4	B	15.5	B	Signalization
Nova Albion & Las Gallinas	PM	Sig.	Signalization	18.3	B	18.7	B	20.5	C	Signalization
Paloma & Lincoln	AM	Sig.	Signalization	14.2	B	15.8	B	3.2	A	Signal operation improvement plus parking restriction (add one northbound through and one southbound through lane)
Paloma & Lincoln	PM	Sig.	Signalization	49.4	D	54.3	D	10.9	B	Signal operation improvement plus parking restriction (add one northbound through and one southbound through lane)
Professional Ctr & Redwood	AM	Sig.		7.5	A	8	A	7.7	A	Signal operation improvement
Professional Ctr & Redwood	PM	Sig.		7.1	A	7.6	A	7.4	A	None
Pt. San Pedro & Lochinvar	AM	Sig.		4.5	A	4.4	A	4.5	A	None

Intersection	Peak	Baseline		2020 without roadway improvements		2020 with roadway improvements		General Plan 2020 Roadway Improvements (2)		
		Status	Improvements (1)	Delay	LOS	Delay	LOS		Delay	LOS
Pt. San Pedro & Lochinvar	PM	Sig.		3.5	A	3.5	A	3.5	A	None
Redwood & Paul	AM	Unsig		4.2	A*	4.4	A*	4.4	A*	None
Redwood & Paul	PM	Unsig		7	A*	8	A*	8.7	A*	None
Redwood Hwy & 101 NB On	AM	Unsig		0.7	A*	0.7	A*	0.7	A*	None
Redwood Hwy & 101 NB On	PM	Unsig		4.1	A*	5.3	A*	5.3	A*	None
Shoreline & Francisco E.	AM	Sig.		15.2	B	17	B	33.1	C	Add Shoreline Under Crossing
Shoreline & Francisco E.	PM	Sig.		13.2	B	18.8	B	43.3	D	Add Shoreline Under Crossing
Shoreline & Kerner	AM	Unsig		1.9	A*	2.2	A*	6	A	Signalization
Shoreline & Kerner	PM	Unsig		5.1	A*	10.2	B*	9.2	A	Signalization
Shoreline Under & Andersen	AM	Sig.		-	-	-	-	14	B	New Signal (with Shoreline under crossing)
Shoreline Under & Andersen	PM	Sig.		-	-	-	-	40.9	D	New Signal (with Shoreline under crossing)
Sir Francis Drake & Andersen	AM	Unsig		18.3	C*	23.6	C*	25.7	C	Signalization plus widening (add one eastbound through and one westbound through lane)
Sir Francis Drake & Andersen	PM	Unsig		5.9	A*	7.6	A*	30.3	C	Signalization plus widening (add one eastbound through and one westbound through lane)
Smith Ranch & 101 NB Ramps	AM	Sig.		56.1	E	71.8	E	15.1	B	Signal operation improvement plus widening (2 EB through and 2 NB left lanes; Change EB Right to EB Through/Right)
Smith Ranch & 101 NB Ramps	PM	Sig.		12.3	B	16.9	B	7.7	A	Signal operation improvement plus widening (2 EB through and 2 NB left lanes; Change EB Right to EB Through/Right)
Smith Ranch & Redwood HWY	AM	Sig.		12.4	B	14	B	19.1	B	Signal operation improvement
Smith Ranch & Redwood HWY	PM	Sig.		27.8	C	39.5	D	36.7	D	Signal operation improvement
Union & Fourth	AM	Unsig		5.3	A*	5.7	A*	6.2	A	Signalization plus widening (one northbound left lane)
Union & Fourth	PM	Unsig		5.2	A*	6.1	A*	5.6	A	Signalization plus widening (one northbound left lane)
Union & Mission	AM	Unsig		13	B	14.6	B	14.7	B	None
Union & Mission	PM	Unsig		12	B	14	B	14.4	B	None
Woodland & Du Bois	AM	Unsig		7.4	A*	8.3	A*	10.9	B*	None
Woodland & Du Bois	PM	Unsig		8.3	A*	11	B*	29.6	D*	None
Woodland & Irwin	AM	Unsig		8.8	A*	9	A*	10.7	B*	None
Woodland & Irwin	PM	Unsig		9.4	A*	12.7	B*	14.8	B*	None

Source: San Rafael Department of Public Works, January 2004



**Exhibit VIII.3-5  
 City Arterial Speed and Level of Service, Baseline and General Plan 2020**

Street	Arterial Segment		Direction	Baseline						General Plan 2020		
	From	To		AM		PM		AM		PM		
				Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS	
2nd	G	Grand	EB	7.3	E	8.5	E	10.4	D	10.3	D	
2nd	G	4th/Marquard	WB	14	C	11.6	D	14.3	C	16.2	C	
3rd	Union	Shaver	WB	16.4	C	11.2	D	16.1	C	13.2	C	
4th	H	Grand	EB	12	D	9.3	D	*	*	*	*	
4th	H	Union	EB	*	*	*	*	12.4	D	10.8	D	
4th	Grand	2nd/Marquard	WB	12.6	D	10.9	D	*	*	*	*	
4th	Union	2nd/Marquard	WB	*	*	*	*	12.5	D	11.5	D	
4th	Ross Valley	2nd/Marquard	EB	12.3	D	16.4	C	12.5	D	16.5	C	
4th	Greenfield	Ross Valley	WB	20.2	B	14	C	20.3	B	15.4	C	
5th	E	Irwin	EB	13.1	C	11.8	D	*	*	*	*	
5th	E	Grand	EB	*	*	*	*	13.5	C	13.3	C	
5th	Irwin	E	WB	7.5	E	10	D	*	*	*	*	
5th	Irwin	H	WB	*	*	*	*	11.5	D	12.4	D	
A	2nd	5th	NB	9.5	D	5	F	7.6	E	4.1	F	
A	4th	2nd	SB	7.2	E	5.6	F	6.7	F	3.1	F	
Andersen	Bellam	Lindaro	NB	15.9	C	12.4	D	*	*	*	*	
Andersen	Shoreline Undercrossing	Lindaro	NB	*	*	*	*	15.8	C	12.1	D	
Andersen	Lindaro	Bellam	SB	11.2	D	15.5	C	*	*	*	*	
Andersen	Lindaro	Sir Francis Drake	SB	*	*	*	*	16.5	C	18.1	C	
B	5th	2nd	SB	8.7	E	8.6	E	6.7	F	6.6	F	
Bellam	Andersen	Kerner	EB	9.4	D	7.1	E	10.4	D	8.7	E	
Bellam	Kerner	Andersen	WB	8.6	E	8.4	E	9.1	D	8.8	E	
C	2nd	5th	NB	8.5	E	5.1	F	*	*	*	*	
C	1st	5th	NB	*	*	*	*	8.3	E	8.5	E	
Civic Ctr	N. San Pedro	Merrydale Over Crossing	NB	18.2	C	18.7	C	*	*	*	*	
Civic Ctr	N. San Pedro	Freitas	NB	*	*	*	*	17.8	C	17.6	C	
Civic Ctr	Merrydale Over Crossing	N. San Pedro	SB	14.4	C	18	C	16.4	C	16.9	C	
D	4th	Bayview	SB	11	D	11.3	D	8.3	E	9.2	D	
Del Presidio	Las Gallinas	Freitas	NB	6.9	F	8.1	E	6.7	F	11.5	D	
Del Presidio	Freitas	Las Gallinas	SB	8.3	E	5.4	F	9.8	D	6.6	F	

Speed is miles per hour.

LOS is Level of Service.

\*The arterial LOS is performed between signalized intersections only. Some of the segment limits may be different between scenarios as new signalized intersections are identified and added to the future scenario.

Arterial Segment		Baseline						General Plan 2020					
Street	From	To	Direction	AM		PM		AM		PM		Speed	LOS
				Speed	LOS	Speed	LOS	Speed	LOS	Speed	LOS		
E	2nd	5th	NB	7.8	E	5.9	F	8.1	E	3.8	F	3.8	F
E	5th	2nd	SB	4.1	F	3.5	F	6.2	F	7.3	E	7.3	E
Francisco E.	Shoreline	Medway	NB	18.7	C	18.5	C	*	*	*	*	*	*
Francisco E.	Shoreline	Harbor	NB	*	*	*	*	19	C	17.7	C	17.7	C
Francisco E.	Medway	Shoreline	SB	20.3	B	20.4	B	*	*	*	*	*	*
Francisco E.	Harbor	Shoreline	SB	*	*	*	*	19.4	B	18.4	C	18.4	C
Freitas	Las Gallinas	Del Presidio	EB	12.8	D	11.9	D	*	*	*	*	*	*
Freitas	Las Gallinas	101 NB On / Civic Ctr	EB	*	*	*	*	9	E	8.3	E	8.3	E
Freitas	Del Presidio	Las Gallinas	WB	18.2	C	17.3	C	*	*	*	*	*	*
Freitas	101 NB On / Civic Ctr	Las Gallinas	WB	*	*	*	*	15.6	C	13.1	C	13.1	C
Grand	2nd	4th	NB	18.3	C	10	D	*	*	*	*	*	*
Grand	2nd	Mission	NB	*	*	*	*	14.3	C	14.8	C	14.8	C
Grand	4th	2nd	SB	4.7	F	6.9	F	*	*	*	*	*	*
Grand	Mission	2nd	SB	*	*	*	*	6.8	F	6.8	F	6.8	F
Hetherton	Mission	2nd	SB	7.4	E	5.8	F	6.3	F	6.8	F	6.8	F
Irwin	2nd	Mission	NB	3.9	F	4	F	6.7	F	4	F	4	F
Las Gallinas	Del Presidio	Lucas Valley	NB	18.3	C	18.1	C	17.2	C	16.7	C	16.7	C
Las Gallinas	Lucas Valley	Merrydale Over Crossing	SB	18.4	C	18.8	C	18.3	C	18.1	C	18.1	C
Lincoln	2nd	101 SB / Hammondale	NB	14.2	C	8.4	E	14	C	9.3	D	9.3	D
Lincoln	101 SB / Hammondale	2nd	SB	8.6	E	14.5	C	15.2	C	14.3	C	14.3	C
Lindaro	Andersen	3rd	NB	7.6	E	5	F	6.7	F	5.1	F	5.1	F
Lindaro	3rd	Andersen	SB	3.3	F	7.4	E	6.5	F	7.5	E	7.5	E
Los Ranchitos	N. San Pedro	Merrydale Over Crossing	NB	20.9	B	19.2	B	20.9	B	17.9	C	17.9	C
Los Ranchitos	Northgate	N. San Pedro	SB	21.1	B	21.6	B	21.5	B	21.2	B	21.2	B
Lucas Valley	Las Gallinas	101 SB Ramps	EB	10.7	D	16.1	C	10.1	D	13.6	C	13.6	C
Lucas Valley	101 SB Ramps	Las Gallinas	WB	18.7	C	15.7	C	14.9	C	11	D	11	D
Mission	Lincoln	Irwin	EB	14.1	C	12.5	D	*	*	*	*	*	*
Mission	Lincoln	Grand	EB	*	*	*	*	14.2	C	12.8	D	12.8	D
Mission	Irwin	Lincoln	WB	5.6	F	4.5	F	*	*	*	*	*	*
Mission	Grand	Lincoln	WB	*	*	*	*	5.4	F	6.7	F	6.7	F
N. San Pedro	Merrydale	Civic Ctr	EB	17.6	C	16.6	C	16.9	C	16.1	C	16.1	C
N. San Pedro	Civic Ctr	Los Ranchitos	WB	12.1	D	12.9	D	12.1	D	12.1	D	12.1	D
Northgate	Los Ranchitos	Freitas	NB	16.9	C	15.4	C	16	C	14.8	C	14.8	C
Northgate	Freitas	Los Ranchitos	SB	17.4	C	17.4	C	16.7	C	18	C	18	C
Redwood	Professional Ctr Dr	Smith Ranch	NB	20.7	B	19.2	B	20.2	B	18.2	C	18.2	C
Redwood	Smith Ranch	Professional Ctr	SB	18.5	C	17.3	C	22.2	B	22.2	B	22.2	B

Street	Arterial Segment		Direction	Baseline				General Plan 2020			
	From	To		AM Speed	AM LOS	PM Speed	PM LOS	AM Speed	AM LOS	PM Speed	PM LOS
Smith Ranch	101 NB Ramps	Redwood	EB	10.4	D	11.8	D	13.5	C	13.7	C
Smith Ranch	Redwood	101 SB Ramps	WB	14.4	C	11.2	D	15.4	C	13.7	C



Source: San Rafael Department of Public Works, January 2004.

**Exhibit VIII.3-6  
Freeway Ramp Level of Service and Queue Analysis**

HWY	Intersection	Alternative	PK	Off Ramp										Intersection			
				Length (ft)		Queue 95th (ft)		Queue		Exceed		Delay (sec)		Approach		Delay (sec)	LOS
				Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left		
I01	I01 SB Off & Andersen	Existing	AM	600	21	130	No	No	No	6.6	21.2	A	C	18.6	B	10.8	B
I01	I01 SB Off & Andersen	GP 2020	AM	600	62	105	No	No	No	17.9	23.9	B	C	21.6	C	7.1	A
I01	I01 SB Off & Andersen	Existing	PM	800	16	248	No	No	No	3.0	36.8	A	D	31.4	C	20.0	C
I01	I01 SB Off & Andersen	GP 2020	PM	800	0	369	No	No	No	0.0	43.2	A	D	33.6	C	20.6	C
I01	I01 SB Ramps & Francisco W.	GP 2020	AM	1120	361	267	No	No	Yes-Right Lane (1)	36.8	17.6	D	B	22.3	C	16.1	B
I01	I01 NB Off & 2nd & Irwin	Existing	AM	1120	454	340	No	No	Yes-Right Lane (1)	35.5	18.1	D	B	22.2	C	24.2	C
I01	I01 NB Off & 2nd & Irwin	GP 2020	AM	1120	474	147	No	No	Yes-Right Lane (1)	98.4	12.7	F	B	43.4	D	25.8	C
I01	I01 NB Off & 2nd & Irwin	Existing	PM	1120	544	191	No	No	Yes-Right Lane (1)	61.1	13.1	E	B	29.1	C	33.2	C
I01	I01 NB Off & 2nd & Irwin	GP 2020	PM	1120	544	191	No	No	Yes-Right Lane (1)	61.1	13.1	E	B	29.1	C	33.2	C
I01	I01 SB On & 2nd & Hetherton	Existing	AM	800	38	348	No	No	No	1.6	19.1	A	B	15.4	B	15.6	B
I01	I01 SB On & 2nd & Hetherton	GP 2020	AM	800	47	488	No	No	No	1.7	20.2	A	C	16.3	B	14.4	B
I01	I01 SB Off & Mission & Hetherton	Existing	PM	920	46	392	No	No	No	1.4	25.3	A	C	18.8	B	17.5	B
I01	I01 SB Off & Mission & Hetherton	GP 2020	PM	920	95	516	No	No	No	2.8	18.2	A	B	14.3	B	15.6	B
I01	I01 SB Off & Mission & Hetherton	Existing	AM	800	6	275	No	No	No	9.2	17.2	A	B	17.1	B	36.3	D
I01	I01 SB Ramps & Lincoln	Existing	AM	800	6	300	No	No	No	9.2	17.9	A	B	17.8	B	54.7	D
I01	I01 SB Ramps & Lincoln	GP 2020	AM	800	12	528	No	No	No	5.4	19.8	A	B	19.4	B	47.6	D
I01	I01 SB Ramps & Lincoln	Existing	PM	800	14	643	No	No	No	4.7	22.4	A	C	21.8	C	84.8	F
I01	I01 SB Ramps & Merridale	GP 2020	AM	920	32	148	No	No	No	4.2	19.8	A	B	15.0	B	12.4	B
I01	I01 SB Ramps & Merridale	GP 2020	PM	920	40	219	No	No	No	3.2	19.2	A	B	13.7	B	11.7	B
I01	I01 NB Ramps & Freitas	GP 2020	AM	1240	136	855	No	No	No	9.7	23.6	A	C	18.1	B	19.3	B
I01	I01 NB Ramps & Freitas	GP 2020	PM	1240	88	313	No	No	No	9.2	6.2	A	A	7.3	A	6.3	A
I01	I01 SB Off & Freitas & Del Presidio	Existing	AM	1050	0	178	No	No	No	0.0	29.3	A	C	18.5	B	9.0	A
I01	I01 SB Off & Freitas & Del Presidio	GP 2020	AM	1050	0	198	No	No	No	0.0	25.9	A	C	16.5	B	10.4	B
I01	I01 SB Off & Freitas & Del Presidio	Existing	PM	1050	0	152	No	No	No	0.0	19.3	A	B	11.5	B	40.2	D
I01	I01 SB Off & Freitas & Del Presidio	GP 2020	PM	1050	0	149	No	No	No	0.0	10.4	A	B	6.2	A	34.9	C
I01	I01 NB Ramps & Smith Ranch	Existing	AM	1600	215	625	No	No	No	16.5	132.8	B	F	89.2	F	43.9	D
I01	I01 NB Ramps & Smith Ranch	GP 2020	AM	1600	299	214	No	No	No	21.4	22.2	C	C	21.9	C	15.1	B
I01	I01 NB Ramps & Smith Ranch	Existing	PM	1600	87	400	No	No	No	3.9	28.4	A	C	17.4	B	10.6	B
I01	I01 NB Ramps & Smith Ranch	GP 2020	PM	1600	202	151	No	No	No	14.4	26.1	B	C	20.7	C	7.7	A
I01	I01 SB Ramps & Lucas Valley	Existing	AM	1100	299	175	No	No	No	13.2	38.1	B	D	18.8	B	12.0	B

		Off Ramp											
		Length	Queue		Exceed	Delay (sec)	Movement		Approach		Intersection		
			Queue 95th (ft)	Extend into			LOS	Delay	Delay	Delay			
101	101 SB Ramps & Lucas Valley	1100	127	No	No	8.1	35.5	A	D	14.5	B	8.8	A
101	101 SB Ramps & Lucas Valley	1100	49	No	No	2.8	33.9	A	C	11.2	B	18.7	B
101	101 SB Ramps & Lucas Valley	1100	28	No	No	2.4	86.5	A	F	24.8	C	34.8	C
580	580 EB/101 NB Ramps & Bellam	700	361	No	Yes (2)	30.6	54.6	C	D	54.1	D	28.2	C
580	580 EB/101 NB Ramps & Bellam	700	240	No	Yes (2)	16.8	24.1	B	C	23.4	C	20.8	C
580	580 EB/101 NB Ramps & Bellam	700	219	No	Yes (2)	18.1	75.5	B	E	65.4	E	39.3	D
580	580 EB/101 NB Ramps & Bellam	700	496	No	Yes (2)	26.5	30.4	C	C	29.5	C	24.2	C
580	580 WB Ramps & Bellam	770	232	No	No	81.1	54.8	F	D	71.0	E	22.5	C
580	580 WB Ramps & Bellam	770	81	No	No	15.0	27.5	B	C	19.4	B	11.8	B
580	580 WB Ramps & Bellam	770	145	No	No	28.1	35.1	C	D	31.3	C	21.8	C
580	580 WB Ramps & Bellam	770	76	No	No	16.8	74.9	B	E	41.3	D	16.7	B

- (1) The right lane storage length is too short and the approach operates acceptably. Mitigation not required.  
(2) The queue exceeds the current storage length, but remains within the off ramp boundaries without encroaching into deceleration lane.

 Represents deleted intersection or roadway due to future design.  
 Represents the on ramp which queue analysis is not required.  
Source: San Rafael Department of Public Works, January 2004.

**Exhibit VIII.3-7a  
 Parking Survey Summary: Las Gallinas**

STREET: Las Gallinas (Merrydale to Del Presidio)  
 DATE: 1-16-04  
 DAY: Friday  
 TIME: 1:45 to 2:45 p.m  
 DIRECTION: WESTBOUND (\* Eastbound- no available parking spaces)

SITE	TIME	NO. OF SPACES AVAILABLE	NO. OF SPACES UTILIZED	PARKING RESTRICTION	
				HOURS	TIME DAY
1-800-INJURY	1:45:00 to 2:00 p.m.	3	0		
	2:00 to 2:15 p.m.		0		
	2:15 to 2:30 p.m.		0		
	2:30 to 2:45 p.m.		0		
<b>TOTAL</b>			0		
Wells Fargo	1:45:00 to 2:00 p.m.	5	0		
	2:00 to 2:15 p.m.		0		
	2:15 to 2:30 p.m.		1		
	2:30 to 2:45 p.m.		1		
<b>TOTAL</b>		5	2		
630 Las Gallinas	1:45:00 to 2:00 p.m.	4	0	2 hrs	9 am to 6 pm Mon. to Sat.
	2:00 to 2:15 p.m.		0		
	2:15 to 2:30 p.m.		0		
	2:30 to 2:45 p.m.		0		
<b>TOTAL</b>		4	0		

NOTES: Parking lot of the 3 sites not full.  
 Source: San Rafael Department of Public Works.

**Exhibit VIII.3-7b  
 Parking Survey Summary: GRAND**

Segment	Day	Parking	No Parking	Comments	AM						MPK						PM															
					Parking Space			Occupied*			% Occupied*			Parking Space			Occupied*			% Occupied*			Parking Space			Occupied*			% Occupied*			
					On St	Other	Sum	On St	Other	Sum	On St	Other	Sum	On St	Other	Sum	On St	Other	Sum	On St	Other	Sum	On St	Other	Sum	On St	Other	Sum				
<b>Northbound</b>																																
3rd - 4th	Mon.-Sat.	9am-6pm	2 hrs parking		2 Handicap spaces:	1	6	7	0	4	4	25%	67%	61%	1	6	7	0	5	5	17%	81%	71%	1	6	7	0	4	4	0%	60%	51%
4th - Mission						11	0	11	9	0	9	77%	77%	77%	11	0	11	10	0	10	87%	87%	87%	11	0	11	6	0	6	53%	53%	53%
<b>NB Total</b>						<b>12</b>	<b>6</b>	<b>18</b>	<b>9</b>	<b>4</b>	<b>13</b>	<b>73%</b>	<b>67%</b>	<b>71%</b>	<b>12</b>	<b>6</b>	<b>18</b>	<b>10</b>	<b>5</b>	<b>15</b>	<b>81%</b>	<b>81%</b>	<b>81%</b>	<b>12</b>	<b>6</b>	<b>18</b>	<b>6</b>	<b>4</b>	<b>9</b>	<b>48%</b>	<b>60%</b>	<b>52%</b>
<b>Southbound</b>																																
Mission - 5th						6	0	6	6	0	6	92%	92%	92%	6	0	6	6	0	6	95%	95%	95%	6	0	6	4	0	4	69%	69%	69%
5th - 4th						5	0	5	1	0	1	25%	25%	25%	5	0	5	5	0	5	95%	95%	95%	5	0	5	4	0	4	83%	83%	83%
4th - 3rd	Mon.-Sat.	9am-6pm	2 hrs & (1) 30min. parking			2	10	12	1	2	3	50%	18%	23%	2	10	12	2	9	11	91%	90%	90%	2	10	12	2	9	11	75%	92%	89%
3rd - 2nd						4	0	4	2	0	2	56%	56%	56%	4	0	4	4	0	4	94%	94%	94%	4	0	4	4	0	4	88%	88%	88%
<b>Total</b>						<b>17</b>	<b>10</b>	<b>27</b>	<b>10</b>	<b>2</b>	<b>12</b>	<b>59%</b>	<b>18%</b>	<b>44%</b>	<b>17</b>	<b>10</b>	<b>27</b>	<b>16</b>	<b>9</b>	<b>25</b>	<b>94%</b>	<b>90%</b>	<b>93%</b>	<b>17</b>	<b>10</b>	<b>27</b>	<b>13</b>	<b>9</b>	<b>23</b>	<b>78%</b>	<b>92%</b>	<b>83%</b>
<b>NB &amp; SB Total</b>						<b>29</b>	<b>16</b>	<b>45</b>	<b>19</b>	<b>6</b>	<b>25</b>	<b>65%</b>	<b>36%</b>	<b>54%</b>	<b>29</b>	<b>16</b>	<b>45</b>	<b>26</b>	<b>14</b>	<b>40</b>	<b>89%</b>	<b>86%</b>	<b>88%</b>	<b>29</b>	<b>16</b>	<b>45</b>	<b>19</b>	<b>13</b>	<b>32</b>	<b>66%</b>	<b>80%</b>	<b>71%</b>

\* Occupied spaces > Parking spaces available or % Occupied > 100%; park on red zone, etc.

Source: San Rafael Department of Public Works, September/October 2003.





APPENDIX VIII.3 TRANSPORTATION DATA  
San Rafael General Plan 2020 Draft EIR

Segment	Day	Parking	No Parking	Comments	AM			NPK			PM												
					Parking Space	Occupied	% Occupied	Parking Space	Occupied	% Occupied	Parking Space	Occupied	% Occupied										
					On St Other Sum	On St Other Sum	On St Other Sum	On St Other Sum	On St Other Sum	On St Other Sum	On St Other Sum	On St Other Sum	On St Other Sum										
Grand -	Mon.-	9am-6pm			39	0	29	0	29	73%	39	0	39	0	28	0	28	71%					
Prospect -	Sat.	2 hrs parking		2 Bus stops;																			
Prospect -	Mon.-	9am-6pm			6	0	6	0	6	107%	6	0	6	0	6	0	6	102%					
Paloma	Sat.	2 hrs parking		1 Bus stop;																			
Paloma -	Mon.-	9am-4pm			2	0	2	0	2	30%	2	0	2	0	1	0	1	0					
Maple	Sat.	2 hrs parking 4-6pm	No Parking/Tow-away																				
Maple - Laurel	Mon.-	9am-4pm			22	0	16	0	16	72%	22	0	22	15	0	15	68%	19					
Maple - Laurel	Sat.	2 hrs parking 4-6pm	No Parking/Tow-away	White zone;																			
Laurel -	Mon.-	9am-4pm			0	0	0	0	0		0	0	0	0	0	0	0	0					
Mission	Sat.	2 hrs parking 4-6pm	No Parking/Tow-away																				
Mission - 5th	Mon.-	9am-4pm			2	0	2	1	0	60%	2	0	2	1	0	1	69%	0					
Mission - 5th	Sat.	2 hrs parking 4-6pm	No Parking/Tow-away	1 Bus stop;																			
5th - 4th	Mon.-	9am-4pm			9	0	2	0	2	18%	9	0	9	4	0	4	48%	0					
5th - 4th	Sat.	2 hrs parking 4-6pm	No Parking/Tow-away	Meter;Yellow zone;																			
4th - 3rd	Mon.-	9am-4pm			10	0	7	0	7	70%	10	0	10	7	0	7	69%	0					
4th - 3rd	Sat.	2 hrs parking 4-6pm	No Parking/Tow-away	Meter;Yellow zone;																			
3rd - 2nd	Mon.-	9am-4pm			5	0	0	0	0	4%	5	0	5	4	0	4	85%	0					
3rd - 2nd	Sat.	2 hrs parking 4-6pm	No Parking/Tow-away																				
<b>SB Total</b>					<b>123</b>	<b>0</b>	<b>123</b>	<b>79</b>	<b>0</b>	<b>64%</b>	<b>123</b>	<b>0</b>	<b>123</b>	<b>79</b>	<b>0</b>	<b>79</b>	<b>64%</b>	<b>73</b>	<b>0</b>	<b>71</b>	<b>0</b>	<b>71</b>	<b>97%</b>
<b>NB &amp; SB Total</b>					<b>236</b>	<b>0</b>	<b>236</b>	<b>142</b>	<b>0</b>	<b>60%</b>	<b>236</b>	<b>0</b>	<b>236</b>	<b>148</b>	<b>0</b>	<b>148</b>	<b>63%</b>	<b>145</b>	<b>0</b>	<b>113</b>	<b>0</b>	<b>113</b>	<b>78%</b>

\* Occupied spaces > Parking spaces available or % Occupied > 100%; park on red zone, etc.

Source: San Rafael Department of Public Works, September/October 2003.



***APPENDIX VIII.4***  
***SPECIAL STATUS SPECIES***



**Exhibit VIII.4-1a**

**List of Special-Status Species That Could Occur in the San Rafael Planning Area:**

*Animal Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act*

Species	Status <sup>a</sup>	Habitat	Occurrence <sup>b</sup> in the Planning Area
California Freshwater shrimp ( <i>Syncaris pacifica</i> )	FE,CE	Low gradient streams of Marin, Sonoma and Napa Counties. This species prefers pools and undercut banks with exposed roots.	<b>Possible.</b> Miller and Gallinas Creeks provide limited habitat for this species in pools that may persist through the summer.
California Red-legged Frog ( <i>Rana aurora draytonii</i> )	FT,CSC	Present in ponds or slow moving waters with thick bank vegetation.	<b>Possible.</b> Suitable habitat present within Planning Area (i.e., Miller Creek & seasonal ponds throughout the area)
California Black Rail ( <i>Laterallus jamaicensis corturniculus</i> )	CT	Resident of saline and fresh emergent wetlands.	<b>Present.</b> Observed in Gallinas Creek, Novato Creek marsh, San Rafael Canal and Tubbs Island. Suitable habitat present within marshes of San Pablo Bay and Corte Madre Creek.
California Brown Pelican ( <i>Pelecanus occidentalis californicus</i> )	FE, CE	Nests in the Channel Islands.	<b>Present.</b> Foraging habitat is present in San Pablo and San Rafael Bays.
California Clapper Rail ( <i>Rallus longirostris obsoletus</i> )	FE,CE	Forages in higher marsh vegetation and along tidal creeks. Breeds Mid March- July in emergent wetlands	<b>Present.</b> Reported in Novato and Gallinas Creeks. Suitable habitat present within marshes of San Pablo Bay and Corte Madre Creek.
Peregrine Falcon ( <i>Falco peregrinus</i> )	CE	Individuals breed on cliffs in the Sierra or in coastal habitats; occurs in many habitats of the state during migration and winter.	<b>Present.</b> The Planning Area provides foraging habitat.
Salt Marsh harvest mouse ( <i>Reithrodontomys raviventrus</i> )	FE, CE	Found in saline emergent wetlands of San Francisco Bay. Pickleweed is primary habitat.	<b>Present.</b> Reported at McInnis Park and Petaluma Marsh, Spinnaker Marsh and Canalways.
Western Snowy Plover ( <i>Charadrius alexandrinus nivosus</i> )	FT	Nests in sandy marine and estuarine shores, and along salt levees.	<b>Possible.</b> Potential foraging habitat along shorelines and lagoons.
Steelhead Rainbow Trout ( <i>Oncorhynchus mykiss</i> )	FT	Cool Streams with suitable spawning habitat and conditions allowing migration	<b>Present.</b> Known to spawn in Miller Creek and possibly Mahon Creek.
Tidewater Goby ( <i>Eucyclogobius newberri</i> )	FE	A marine species occurring shallow water estuaries and lagoons from Del Norte Co. south to San Diego Co.	<b>Likely.</b> Reported in Corte Madre creek. Potential habitat present in tidal areas of Gallinas, Miller, & Mahon Creeks.

table continued next page

**Exhibit VIII.4-1b**

**List of Special-Status Species That Could Occur in the San Rafael Planning Area:  
 State and Federal Animal Species of Special Concern**

<b>Species</b>	<b>Status <sup>a</sup></b>	<b>Habitat</b>	<b>Occurrence <sup>b</sup> in the Planning Area</b>
California Tiger Salamander ( <i>Ambystoma californiense</i> )	FSC CSC	Vernal pools and stock ponds of central California.	<b>Possible.</b> Potential habitats present in the grasslands.
Foothill Yellow-legged Frog ( <i>Rana boylei</i> )	CSC	Rocky streams in a variety of habitats including valley-foothill riparian, coniferous forest and wet meadows	<b>Present.</b> Marginal to suitable habitat in Miller Creek.
Western Pond Turtle ( <i>Clemmys marmorata</i> )	FSC, CSC	Open slow moving water of rivers and creeks of central California with rocks and logs for basking.	<b>Present.</b> Known at Hamilton Field. Potential habitat is present in Mahon and Miller Creeks.
California Horned Lizard ( <i>Phrynosoma coronatum frontale</i> )	FSC CSC	Chaparral and rocky exposed areas along coastal California.	<b>Possible.</b> Suitable habitat in chaparral areas and are within species' range.
American White Pelican ( <i>Pelecanus erythrorhynchos</i> )	CSC	Nests in large lakes of Klamath Basin. Winters in San Francisco Bay area and large lakes and estuaries in limited areas around California.	<b>Likely.</b> May forage in adjacent waters of San Pablo Bay. Possible night roosts available on shore of Planning Area.
Double-crested Cormorant ( <i>Phalacrocorax auritus</i> )	CSC	Known nesting colonies in San Pablo and San Francisco bays. Forages in water less than 9 meters.	<b>Present.</b> While it may forage in adjacent waters suitable roosting or nesting areas are present in the Marin Islands.
Elegant Tern ( <i>Sterna elegans</i> )	CSC	Winters along coast in estuaries, bays and coastal waters. Breeds in Mexico up to San Diego.	<b>Possible.</b> May forage in northern coastal salt marsh of the Planning Area.
Barrow's Goldeneye ( <i>Bucephala islandica</i> )	CSC	Winters in San Francisco Bay area, and Marin and Sonoma Counties. Found in estuarine and brackish lacustrine waters.	<b>Possible.</b> Suitable habitat in adjacent waters is within species' range.
Osprey ( <i>Pandion haliaetus</i> )	CSC	Occurs along the California coast and inland along rivers and lakes with fish.	<b>Present.</b> Ospreys observed foraging in area.
White-tailed Kite ( <i>Elanus caeruleus</i> )	CSC	Open grasslands, wetlands, and agricultural areas throughout central California.	<b>Present.</b> Historically nested in vicinity. Foraging habitat present.

Species	Status <sup>a</sup>	Habitat	Occurrence <sup>b</sup> in the Planning Area
Northern Harrier ( <i>Circus cyaneus</i> )	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	<b>Present.</b> Observed foraging and breeds in the Planning Area.
Sharp-shinned Hawk ( <i>Accipiter striatus</i> )	CSC	Breeds in the mixed conifer forests of the northern Sierra Nevada. This species winters in a variety of habitats of the state.	<b>Present.</b> Observed in area. Wintering and foraging habitat present.
Cooper's Hawk ( <i>Accipiter cooperii</i> )	CSC	Breeds in oak woodlands, riparian forests and mixed conifer forest of the Sierra Nevada, but winters in a variety of lowland habitats.	<b>Present.</b> Observed in area. Wintering and foraging habitat present.
Golden Eagle ( <i>Aquila chrysaetos</i> )	CSC	Open grasslands, oak savannahs, agricultural fields, etc. of San Joaquin Valley and nearby foothills of Inner Coast Range.	<b>Present.</b> Seen foraging in grasslands of the Planning Area. Breeding habitat present in the redwood and eucalyptus groves.
Merlin ( <i>Falco columbarius</i> )	CSC	This falcon, which breeds in Canada, winters in a variety of California habitats, including grasslands, savannahs, wetlands, etc.	<b>Present.</b> Observed in the Planning Area. Wintering habitat present.
Burrowing Owl ( <i>Athene cunicularia</i> )	CSC	Found in open, dry grasslands, deserts and grasslands. Requires suitable burrows.	<b>Possible.</b> Burrows observed in St. Vincent School area (1984).
Long-eared Owl ( <i>Asio otus</i> )	CSC	Occurs in riparian woodlands and forests of the state.	<b>Present.</b> Long-eared owls have been observed within the Planning Area.
Short-eared Owl ( <i>Asio flammeus</i> )	CSC	Transient or occasional breeder in grasslands, marshes, and in some agricultural lands.	<b>Present.</b> Observed in the marsh areas. Winter foraging habitat present.
California Horned Lark ( <i>Eremophila alpestris actia</i> )	CSC	Found in a variety of open habitats where trees and shrubs are absent; breeds in grasslands and fallow fields.	<b>Likely.</b> Non-native grasslands may provide foraging habitat. Horned larks were observed on site in 1993. Whether these were the California subspecies or not is not known.

Species	Status <sup>a</sup>	Habitat	Occurrence <sup>b</sup> in the Planning Area
Yellow Warbler ( <i>Dendroica petechia brewster</i> )	CSC	Migrants move through many habitats of the state. This species breeds in riparian thickets of alder, willow and cottonwoods.	<b>Present.</b> Observed in the Planning Area. Suitable foraging and breeding habitat occurs along Miller Creek.
Salt Marsh Common Yellowthroat ( <i>Geothlypis trichas sinuosa</i> )	CSC	Inhabits emergent wetlands during summer and breeding	<b>Present.</b> Observed in the Planning Area. Breeding habitat may be present.
Black swift ( <i>Cypeloides niger</i> )	CSC	Breeds locally throughout California in coastal bluffs or canyons. Forages in wide variety of habitats.	<b>Present.</b> Individuals observed foraging in 1990 and are expected to move through during migration. No breeding habitat present.
Tri-colored Blackbird ( <i>Agelaius tricolor</i> )	CSC	Prefers emergent wetlands with dense cattails. Forages in grasslands and croplands.	<b>Possible.</b> Suitable foraging habitat available.
Yuma Myotis ( <i>Myotis yumanensis</i> )	FSC, CSC	Ranges throughout the state, but especially common in wooded canyon bottoms.	<b>Likely.</b> The Planning Area provides suitable foraging and roosting habitat.
Long-eared Myotis ( <i>Myotis evotis</i> )	FSC, CSC	Found throughout California, but especially common in coniferous forests. Forages 4-6 feet above the ground.	<b>Likely.</b> The Planning Area provides suitable foraging and roosting habitat.
Fringed Myotis ( <i>Myotis thysanodes</i> )	FSC, CSC	Found throughout California, often in coniferous forests and about mountain meadow.	<b>Likely.</b> The Planning Area provides suitable foraging and roosting habitat.
Long-legged Myotis ( <i>Myotis volans</i> )	FSC, CSC	Found throughout California, often in coniferous forests and brushy areas.	<b>Likely.</b> The Planning Area provides suitable foraging and roosting habitat.
Pacific Western Big-eared Bat ( <i>Plecotus townsendii townsendii</i> )	CSC	Primarily a cave-dwelling bat which may also roost in buildings. Occurs in a variety of habitats of the state.	<b>Likely.</b> The Planning Area provides suitable foraging and roosting habitat.
Pallid Bat ( <i>Antrozous pallidus</i> )	CSC	Grasslands, chaparral, woodlands, and forests of California; most common in dry rocky open areas providing roosting opportunities.	<b>Likely.</b> The Planning Area provides suitable foraging and roosting habitat.



Species	Status <sup>a</sup>	Habitat	Occurrence <sup>b</sup> in the Planning Area
Salt marsh wandering shrew <i>(Sorex vagrans halicoetes)</i>	CSC	Occurs in riparian, grasslands, and emergent wetland habitats with patchy open areas.	<b>Possible.</b> While suitable habitat occurs the subspecies may be limited to the southern arm of San Francisco Bay.
Suisun shrew <i>(Sorex ornatus sinuosus)</i>	CSC	Occurs only in San Pablo and Suisun bays in emergent wetlands.	<b>Possible.</b> Suitable habitat is present.
San Pablo vole <i>(Microtus californicus sanpabloensis)</i>	CSC	Occurs in a variety of grassland, riparian, and wetland habitats.	<b>Possible.</b> Suitable habitat present but subspecies may be limited to San Pablo Creek and the south shore of San Pablo Bay.

*table continued next page*

**Exhibit VIII.4-1c**

**List of Special-Status Species That Could Occur in the San Rafael Planning Area:**

*Plants Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act*

<b>Species</b>	<b>Status<sup>a</sup></b>	<b>Habitat</b>	<b>Occurrence<sup>b</sup> in the Planning Area</b>
Soft Bird's Beak <i>(Cordylanthus mollis mollis)</i>	FE, CNPS 1B	Coastal salt marshes of the North Central Coast.	<b>Possible.</b> Not observed, but suitable habitat is present in north coastal salt marsh.
Marin Western Flax <i>(Hesperolinon congestum)</i>	FT, CT CNPS 1B	Occurs in annual grasslands and chaparral typically on serpentine soils.	<b>Likely.</b> Known from some areas of Marin County (e.g., in patches of serpentine soils are present along Lucas Valley Road outside the city limits).
Santa Cruz Tarplant <i>(Holocarpha macradenia)</i>	FCT, CE CNPS 1B	Coastal prairie and non-native grasslands of coastal central California.	<b>Possible.</b> This species has been presumably extirpated from the San Francisco Bay area, but suitable habitat is present in grassland habitats of the City.
White-rayed Pentachaeta <i>(Pentachaeta bellidiflora)</i>	FE,CE CNPS 1B	Rocky areas on grassy slopes of San Francisco Bay.	<b>Possible.</b> Marginal habitat exists along Big Rock Ridge and Pacheco Ridge.
Showy Indian Clover <i>(Trifolium amoenum)</i>	FE, CNPS 1B	Once found throughout the San Francisco Bay area in annual grasslands and wetland swales, this species is now restricted to one known location in Sonoma Co.	<b>Unlikely.</b> This species has not been observed in the vicinity of the planning site. Suitable habitat for this species appears to be present in the form of annual grassland on the south slopes of Pacheco Ridge.

*table continued next page*

**Exhibit VIII.4-1d**

**List of Special-Status Species That Could Occur in the San Rafael Planning Area:  
 Species With a Listing Status Provided by the California Native Plant Society**

Species	Status <sup>a</sup>	Habitat	Occurrence <sup>b</sup> in the Planning Area
Bent-flowered Fiddleneck ( <i>Amsinckia lunaris</i> )	CNPS 4	Open oak woodlands and grasslands.	<b>Possible.</b> Suitable habitat is present, but not found during previous surveys.
Pt. Reye's Bird's Beak ( <i>Cordylanthus maritimus</i> ssp. <i>palustris</i> )	CNPS 1B	Coastal salt marshes of Marin and Sonoma Counties.	<b>Present.</b> Suitable habitat exists in north coastal salt marsh. This species has been observed just south of Gallinas Creek.
Tiburon Buckwheat ( <i>Erigonum luteolum</i> var. <i>caninum</i> )	CNPS 4	Chaparral and foothill grasslands of northern California on serpentine soils.	<b>Possible.</b> Suitable habitat in serpentine patches in grasslands along Lucas Valley Road.
San Francisco Wallflower ( <i>Erysimum franciscanum</i> )	CNPS 4	Coastal scrub, coastal dunes and foothill grasslands on serpentine soils.	<b>Possible.</b> Suitable habitat in serpentine patches in grasslands along Lucas Valley Road.
San Francisco Gumplant ( <i>Grindelia hirsutula</i> var. <i>maritima</i> )	CNPS 1B	Coastal bluff scrub, coastal scrub and annual grasslands of coastal central California.	<b>Possible.</b> This species has been documented in the vicinity of San Rafael.
Marsh Gumplant ( <i>Grindelia stricta</i> var. <i>angustifolia</i> )	CNPS 4	Coastal salt marshes of the San Francisco Bay.	<b>Present.</b> This species was observed in the northern coastal salt marsh adjacent to the San Pablo Bay.
Thin-lobed Horkelia ( <i>Horkelia tenuiloba</i> )	CNPS 1B	Moist sandy soils in openings in chaparral habitats from Marin to Mendocino County.	<b>Unlikely.</b> Marginal habitat for this species is present in chaparral areas.
Diablo Helianthella ( <i>Helianthella castanea</i> )	CNPS 1B	Open oak woodlands and hillside grasslands of the San Francisco Bay Area.	<b>Possible.</b> Suitable habitat is present in the Planning Area, but it has not been seen in previous surveys.
Hayfield Tarplant ( <i>Hemizonia congesta</i> ssp. <i>leucocephala</i> )	CNPS 3	Open oak woodlands, hillside grasslands, and fallow fields of Northern California.	<b>Likely.</b> Suitable habitat is present. This species has been seen on adjacent lands.
Woolly-headed Lessingia ( <i>Lessingia hololeuca</i> )	CNPS 3	Coastal scrub and hillside grasslands on serpentine soils of the San Francisco Bay Area.	<b>Unlikely.</b> Suitable habitat in serpentine patches in the grasslands along Lucas Valley Road.

Species	Status <sup>a</sup>	Habitat	Occurrence <sup>b</sup> in the Planning Area
Large-flowered Linanthus ( <i>Linantus grandiflorus</i> )	CNPS 4	Open oak woodlands and hillside grasslands with sandy soils.	<b>Possible.</b> Some suitable habitat may be present in the Planning Area although it was not observed during previous studies.
Marin County Navarretia ( <i>Navarretia rosulata</i> )	CNPS 1B	Pine forests and chaparral of Marin and Napa Counties on serpentine soils.	<b>Unlikely.</b> Not reported during previous surveys.
Gairdner's Yampah ( <i>Perideridia gairdneri</i> ssp. <i>gairdneri</i> )	CNPS 4	Upland deciduous forest, chaparral, and hillside grasslands.	<b>Unlikely.</b> Suitable habitat is present, but this species has not been observed during previous studies.
North Coast Semaphore Grass ( <i>Pleuropogon hooverianus</i> )	CNPS 1B	Meadows and grasslands from Marin to Mendocino County.	<b>Possible.</b> Suitable habitat occurs on the site, but this species has not been observed in previous surveys.
Marin Knotweed ( <i>Polygonum marinense</i> )	CNPS 3	Coastal salt marshes of Marin and surrounding counties.	<b>Possible.</b> Suitable habitat exists at the site, but this species has not been observed in previous surveys.
Lobb's Aquatic Buttercup ( <i>Ranunculus lobbii</i> )	CNPS 4	Aquatic or terrestrial plant of shallow water, vernal pools, and oak woodland.	<b>Present.</b> Observed in seasonal pool on the Silveira Ranch.

Sources: Animals listing adapted from CNDDDB 2001 and USFWS 2001; plants listing adapted from CNDDDB, 2001 and CNPS, 1994.

<sup>a</sup> Status Codes:

- |     |                                       |      |  |
|-----|---------------------------------------|------|--|
| FE  | Federally Endangered                  | CSC  | California Species of Special Concern  |
| FT  | Federally Threatened                  | CNPS | California Native Plant Society:   |
| FPE | Federally Endangered (Proposed)       | 1B   | Plants Rare, Threatened, or Endangered in California and Elsewhere.              |
| FC  | Federal Candidate Listing             | 2    | Plants Rare, Threatened or Endangered, in California, but More Common Elsewhere. |
| FSC | Federal Species of Concern            | 3    | Plants About Which We Need More Info.  |
| FSS | U.S. Forest Service Sensitive Species | 4    | Plants of Limited Distribution.  |
| CE  | California Endangered                 |      |  |
| CT  | California Threatened                 |      |  |
| CR  | California Rare                       |      |  |
| D   | Delisted                              |      |  |

<sup>b</sup> Occurrence:

- Present: Species observed on the site at time of field surveys or during recent past.
- Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
- Possible: Species not observed on the site, but it could occur there from time to time.
- Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
- Absent: Species not observed on the site, and precluded from occurring there because habitat requirements not met.

***APPENDIX VIII.5  
MARIN MUNICIPAL WATER DISTRICT RESPONSE LETTER***



November 14, 2003

Linda Jackson, Principal Planner  
San Rafael Community Development Dept.  
P.O. Box 151560  
San Rafael, CA 94915-1560

Dear Linda;

With regard to your recent request for additional information relative to Marin Municipal Water District for the City's new general plan, the following is offered. The responses correspond to the original outline in your letter.

- a. Please refer to the MMWD document, "Urban Water Management Plan 2000" (UWMP 2000), adopted by our Board on February 19, 2003.
- b. Please refer to the document, "Long Range Capital Program (1992-2010)", June 1992, and "1994 Supplement to the Long Range Capital Program (1992-2010), July 1994. Note that MMWD is presently in the process of updating its Long Range Capital Improvement Program.
- c. The District presently has two sources of potable water; 1) its watershed, which is effectively defined by the capacity of its reservoirs and the operational yield they supply. Refer to page 15 of the UWMP 2000 for a description of how this yield is managed, and 2) Sonoma County Water Agency water. Refer to page 8 of the UWMP 2000 for a description of this supply, and Table 9 of the "Report on Water Production and Related Statistics, August 29, 2002" (RWPRS).
- d. For potable water purveyed for the last five years refer to Table 1 of the RWPRS. This table includes only watershed and Sonoma County contracted water. It does not include recycled water, which is shown on Table 14.
- e. MMWD does not use ground water. Refer to page 13 of the UWMP 2000 for a description of MMWD's groundwater status.
- f. Additional supplies currently available to MMWD should include recycled water, which provides a "substitute" for some potable water uses, as in irrigation and toilet flushing. Refer to Page 9 of the UWMP 2000 for a description of this resource.

The District is presently in the process of CEQA review for construction of a desalination plant that would provide an initial increase of up to 10 million gallons per day (mgd) of potable water with a potential ultimate supply of 15 mgd. The EIR process is expected to be completed by the end of 2004, and production could be available by 2008.

- g. The total number of customers currently served by MMWD are identified by use categories on page 28 of the UWMP 2000. Note that MMWD has no agricultural service accounts.
- h. Out of an obvious need to retrofit less efficient toilets the District has initiated a number of programs to achieve this goal regardless of the percentage of savings. The District's tiered pricing structure has been a primary conservation measure for a number of years now. While this concept is relatively effective for most users there remains a certain number of users in all classes that use an amount of water that is generally considered excessive by the District. The District has targeted the highest 20% in each use category and focused on working with them to reduce their use. The actual overall water savings from conservation activities since 1989 has been estimated to be in the range of 12 % to 15%, and savings since the first conservation programs in the early 1970's is estimated at more than 20%.
- i. Additional relevant information relating to MMWD's water supply and meeting future growth obligations is presently being developed. As noted above, we are in the EIR process for a proposed desalination plant that is expected to satisfy current deficit conditions and provide new water into the foreseeable future. Desalinated water also provides a reliability factor as it is not tied to the concerns of traditional drought scenarios that are dictated by the variability of local rainfall. It is essentially a supply that can be called upon on demand and as needed. MMWD continues to require and incent water efficient use through programs and its rate structure.
- j. The District's most recent water supply assessment is contained in its UWMP 2000. Please refer to page 29. Note, however, that the District has already reached a deficit amount that had been forecast for year 2005. Based on the assessment, MMWD is actively pursuing both additional supplies as well as demand reductions to address the imbalance.
- k. Using the assumption that the proposed desalination plant will be constructed, that project would necessitate new infrastructure to accommodate an additional water supply in eastern Marin County. As part of the proposed project, a new tank of approximately 3 million gallons in capacity would be located on San Quentin Ridge just east of Highway 101. Associated water mains and a pumping station will also be required. Depending on where future growth will occur in the San Rafael Planning Area, this new tank is the only new infrastructure item that would be needed to serve the area in general. Another similar tank is proposed within the area of northeastern Mill Valley. These infrastructure items are



currently under review in the desalination project EIR. This new supply is expected to satisfy growth within the entire MMWD service area at least through the year 2025.

You have already received an updated version of your summary description of MMWD and if you have any questions or comments on any of this response please give me a call at 945-1586.

Sincerely,

Eric McGuire,  
Environmental Services Coordinator

References previously delivered:

1. Urban Water Management Plan 2000, adopted February 19, 2003.
2. Long Range Capital Program (1992-2010), June 1992
3. 1994 Supplement to the Long Range Capital Program (1992-2010), July 1994
4. Report on Water Production and Related Statistics, August 29, 2002.

