

DRAFT ENVIRONMENTAL IMPACT REPORT

The Keystone Project



Prepared for:
City of Santa Clarita

Prepared By:



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July 2005

KEYSTONE PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

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I. INTRODUCTION

PURPOSE

This introduction is intended to provide the reader with general information regarding: (1) project background; (2) the purpose of an Environmental Impact Report; (3) standards for EIR adequacy; (4) an introduction to scope and content of this EIR; and (5) the public participation.

A. PROJECT BACKGROUND

The project applicant, Synergy, proposes to develop The Keystone project on an undeveloped 246-acre project site in the City of Santa Clarita in Los Angeles County. The project site is located west of the westerly extension of Ermine Street, north of the Santa Clara River between Plum Canyon road and Soledad Canyon Road.

The project consists of the subdivision of the site into 132 lots for a mix of residential (single-family and multi-family), recreational, educational, YMCA facility and open space uses. The Proposed Project specifically includes construction of 979 dwelling units that consists of 96 single-family lots, 216 multi-family apartment units and 667 townhouse units and finished (graded) lots for a 1,200-1,600 student and 70-faculty/staff junior high school, and an approximate 30,476 square foot community/fitness YMCA center. The proposal includes a trail system that connects to regional trails as well as on-site trails. The future cross-valley connector road, Newhall Ranch Road, would provide access to the project site. Build out of the project includes the extension of Golden Valley Road to Newhall Ranch Road; however, approximately 1,890-feet of Golden Valley Road is located outside the project boundaries. In order to provide access to the project site, the project applicant proposes to construct this 1,890-foot roadway segment, which is analyzed in this EIR as part of the Proposed Project.

Preliminary review of the Proposed Project was conducted by the City of Santa Clarita, Planning & Economic Development Department. An Initial Study was prepared as part of this review and it was determined by City staff that preparation of an EIR would be required.

B. PURPOSE OF AN ENVIRONMENTAL IMPACT REPORT

The California Environmental Quality Act (CEQA)¹ was enacted in 1970 with the objective to inform the public and decision makers of the potential environmental impacts of a Proposed Project. This environmental impact report (EIR) analyzes the potential impacts that may result from the long-range implementation of The Keystone project. The EIR is intended to provide this information to interested parties, as well as the general public and allow them to comment on relevant issues of concern. Under the provisions of CEQA, an EIR is also required to identify alternatives to the project and to indicate the manner in which significant effects can be mitigated or avoided.² Thus, the EIR is an important document for use by decision makers when considering whether or not to approve, modify or deny a project.

CEQA applies to all discretionary activities proposed to be carried out or approved by California public agencies, including state, regional, county, and local agencies. The Proposed Project requires discretionary approval from the City of Santa Clarita and, therefore, is subject to CEQA. For purposes of CEQA compliance, the City of Santa Clarita is identified as the Lead Agency for this project. The Lead Agency is responsible for preparing this EIR in accordance with CEQA and the CEQA Guidelines.³ As mandated by the CEQA Guidelines, the EIR has been subject to the City's internal review process and reflects the Lead Agency's independent review and judgment and objectivity with regard to the scope, content, and adequacy of analysis.

C. EIR SCOPE AND CONTENT

To determine which environmental topics should be addressed in this EIR, the City of Santa Clarita prepared an Initial Study and circulated it along with the Notice of Preparation (NOP) on August 2, 2004 in order to receive input from interested public agencies and private parties. The NOP was sent to property owners within a 500-foot radius of the project site and was published in The Signal newspaper. Since circulation of the NOP, some changes in the project General Plan and Zone change requests have occurred. The change in General Plan designation and Zoning as Residential Medium High (RMH) and Residential Suburban (RS) have been requested instead of Residential Moderate (RM) as indicated in the NOP. A copy of this preliminary planning document is presented in Appendix 1 of

¹ *Public Resources Code (P.R.C.) Division 13 § 21000 et seq.*

² *Public Resources Code (P.R.C.) Division 13 § 21002.1 et seq*

³ *Title 14 California Code of Regulations Section 15000 et. seq*

this EIR. Input from interested public agencies and private parties were received in written form, copies of which are also presented in Appendix 1 of this EIR. One public scoping meeting was held for this project on August 26, 2004 at the City of Santa Clarita City Hall, Council Chambers. Based on the Initial Study, the comments received in response to the NOP, and the comments received during the public scoping meetings, the following environmental issues were identified for detailed analysis in the EIR:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards
- Hydrology and Water Quality
- Land Use
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Utilities
- Transportation

The environmental analysis for each issue area identified above is contained in Section V. of this EIR. For each environmental issue area, the EIR identifies the environmental setting (i.e., baseline environmental conditions – a more comprehensive Existing Conditions discussion is provided in Section III.), defines the methodologies and significance thresholds utilized to determine significant environmental impacts, identifies significant environmental impacts that may occur as a result of the project, and provides recommended mitigation measures that would reduce or avoid potential significant impacts. This Section also provides under each environmental topic a cumulative impact analysis of the project when combined with other known projects that have been recently proposed or approved within a two mile radius area of the Proposed Project site.

Section VI includes additional impact categories as mandated by CEQA. This Chapter provides a discussion of significant irreversible environmental changes which would be involved in the Proposed Project should it be implemented and addresses the project's potential for growth-inducing impacts (population, housing and employment impacts) (CEQA Guidelines 15126).

Section VII of this EIR provides an analysis of project alternatives. As required by CEQA, this Chapter evaluates a No Project Alternative, which evaluates the environmental consequences if this project does not go forward. This Section also analyzes the following alternatives: Current General Plan Land Use and Zoning Alternative; Compliance with Noise Setbacks and Preservation of Northern Secondary Ridgeline; Reduced Density Alternative: RM Zone; and Density Alternative: RM Zone with and Detached Condominiums.

References, Organizations and Persons Consulted and Preparers of the EIR are identified in Section VIII. of this EIR.

D. PUBLIC PARTICIPATION

Public participation is an essential part of the CEQA process. To provide full public disclosure of potential environmental impacts that may occur as a result of a Proposed Project, CEQA requires the Draft EIR be circulated during the public review period to all responsible agencies, trustee agencies, and to the general public. The Draft EIR for The Keystone project will be circulated for a period of 45 days (in accordance with State CEQA Guidelines § 21091 (a)). During this review period, all public agencies and interested individuals and organizations are encouraged to provide written comments addressing their concerns with the adequacy and completeness of the EIR.

When providing written comments on the subject matter of the EIR, the readers are referred to State CEQA Guidelines, 151204(a), which state:

“In reviewing Draft EIRs, persons and public agencies should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. At the same time reviewers should be aware that adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors. When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR.”

All comments on the Draft EIR should be submitted in writing to the City of Santa Clarita, Planning and Economic Development Department, at the following address:

Planning & Economic Development Department
Attention: Heather Waldstein, Associate Planner
23920 Valencia Boulevard, Suite 302
Santa Clarita, CA 91355

A copy of the Draft EIR will be made available to the general public at the City of Santa Clarita Planning & Economic Development Department at the address listed above and at the following libraries:

Valencia Library
23743 Valencia Boulevard
Valencia, CA 91355

Canyon Country Jo Anne Darcy Library
18601 Soledad Canyon Road
Canyon Country, CA 91351

Following the public review period and receipt of all public and agency comments, the Lead Agency will prepare a Final EIR. The Final EIR will include additions and corrections to the Draft EIR as applicable, written responses addressing the comments and recommendations received during the public review period, and a final mitigation monitoring and reporting program.

II. SUMMARY

PURPOSE

It is the intent of the Summary to provide the reader with a clear and simple description of the Proposed Project and potential environmental impacts. Section 15123 of the CEQA Guidelines requires that the Summary identify each significant effect, recommended mitigation measures, and alternatives that would reduce or avoid potential significant impacts. The Summary must also identify areas of controversy known to the lead agency, including issues raised by agencies and the public and issues to be resolved including the choice among alternatives and whether or how to mitigate significant effects. This section focuses on the major areas of importance to decision-makers and utilizes non-technical language to promote understanding.

A. INTRODUCTION

The purpose of this Draft Environmental Impact Report (“Draft EIR”) is to inform decision-makers and the general public of the potential environmental impacts resulting from the construction and operation of the proposed Keystone project (“Proposed Project”). The project applicant is Synergy-Brookfield, LLC, 19200 Von Karman, 6th Floor, Irvine, California, 92612. A detailed description of the Proposed Project is contained in Section IV (Project Description) of this Draft EIR.

The Proposed Project will require approval of certain discretionary actions by the City of Santa Clarita (the “City”) and other governmental agencies. Therefore, the Proposed Project is subject to environmental review requirements under the California Environmental Quality Act (CEQA).¹ For purposes of complying with CEQA, the City of Santa Clarita is identified as the Lead Agency for the Proposed Project.

As described in Section 15121(a) and 15362 of the Guidelines for California Environmental Quality Act (“CEQA Guidelines”),² an EIR is an informational document which will inform public agency decision-makers and the public of the significant environmental effects of a project, identify possible ways to minimize any significant effects, and describe reasonable alternatives to the project. Therefore, the purpose of this Draft EIR is to focus the discussion on those potential effects on the environment of the Proposed Project which the lead agency has determined are or may be significant. In addition, feasible mitigation measures are recommended, when applicable, that could reduce or avoid significant environmental impacts.

¹ *Public Resources Code Sections 21000-21178.*

² *California Code of Regulations Title 14, Chapter 3, Sections 15000-15387.*

This Draft EIR was prepared in accordance with Section 15151 of the CEQA Guidelines, which defines the standards for EIR adequacy:

An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a Proposed Project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR would summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

Notice of Preparation

In compliance with Section 15082 of the CEQA Guidelines, and to determine which environmental topics should be addressed in this EIR, the City of Santa Clarita prepared an Initial Study and circulated it along with the Notice of Preparation (NOP) on August 2, 2004 to the State Clearinghouse, Office of Planning and Research, responsible agencies and other interested parties on August 02, 2004. The NOP was sent to property owners within a 500-foot radius of the project site and was published in The Signal newspaper. Since circulation of the NOP, some changes in the project General Plan and Zone change requests have occurred. The change in General Plan designation and Zoning as Residential Medium High (RMN) and Residential Suburban (RS) have been requested instead of Residential Moderate (RM) as indicated in the NOP. A copy of this preliminary planning document (NOP) is presented in Appendix 1 of this EIR. Input from interested public agencies and private parties were received in written form, copies of which are also presented in Appendix 1 of this EIR. One public scoping meeting was held for this project on August 26, 2004. Based on the Initial Study, the comments received in response to the NOP, and the comments received during the public scoping meetings, the following environmental issues were identified for detailed analysis in the EIR:

The NOP for the Draft EIR was circulated for 30 days, until August 31, 2004. Appendix 1, Sections A and B to this Draft EIR contain a copy of the NOP and written responses to the NOP, respectively.

Environmental Issues to be Analyzed in the Draft EIR

Based on a review of environmental issues by the City of Santa Clarita Planning & Economic Development Department, this Draft EIR analyzes the following environmental issues:

- Aesthetics
- Land Use
- Agricultural Resources
- Mineral Resources

- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards
- Hydrology and Water Quality
- Noise
- Population and Housing
- Public Services
- Utilities
- Transportation

Environmental Review Process

This Draft EIR will be circulated for review and comment by the public and other interested parties, agencies and organizations for 45 days in accordance with CEQA. Public hearings on the Proposed Project will be held both during and after the review period and the preparation of the Final EIR. Notice of the time and location will be published prior to the public hearing date. All comments or questions about the Draft EIR should be addressed to:

Planning & Economic Development Department
Attention: Heather Waldstein, Associate Planner
23920 Valencia Boulevard, Suite 302
Santa Clarita, CA 91355

Following public circulation of the Draft EIR, a Final EIR will be prepared in response to comments received during the public circulation period. The Final EIR will be available for public review prior to its certification by the City. Notice of the availability of the Final EIR will be sent to all commenters who respond to the NOP and Draft EIR and owners and occupants within a 500-foot radius of the project site.

Organization of the Draft EIR

This Draft EIR is organized into ten sections.

Section I (Introduction): This section provides general information regarding: the subject of this Environmental Impact Report (EIR); purpose for an EIR; standards for EIR adequacy; an introduction to scope and content of this EIR; and provides information concerning opportunities for public participation.

Section II (Summary): This section provides a summary of the project description, alternatives to the Proposed Project, environmental impacts and mitigation measures.

Section III (Environmental and Regulatory Setting): This section provides an overview of the project site and surrounding area, including a description of existing and surrounding land uses and a list of related projects proposed or under construction in the project area.

Section IV (Project Description): This section includes a detailed description of the Proposed Project, including project location, project characteristics, project objectives and required discretionary actions.

Section V (Environmental Impact Analysis): This section presents an analysis of each environmental impact issue. Each environmental issue contains a discussion of existing conditions in the project area, an assessment and discussion of the significance of impacts resulting from the Proposed Project, recommended mitigation measures, cumulative impacts and level of significance after mitigation.

Section VI (General Impact Categories): This section provides a summary of significant unavoidable impacts and a discussion of potential growth inducing impacts resulting from the Proposed Project.

Section VII (Alternatives to the Proposed Project): This section includes an analysis of a range of reasonable alternatives to the Proposed Project.

Section VIII (Preparers of the EIR and Persons Consulted): This section includes a list of City and other agencies and consultants that contributed to the preparation of this Draft EIR.

Section IX (References): This section includes a list of written materials used in the preparation of this Draft EIR.

Section X (List of Acronyms and Abbreviations): This section provides definitions for all of the acronyms and abbreviations used in this Draft EIR.

B. PROPOSED PROJECT

The applicant is requesting approval to develop the approximately 246-acre project site based on the Vesting Tentative Tract Map No. 060258 illustrated in Figures IV-2 and an illustrative site plan is provided in Figure IV-3. The project consists of the subdivision of the site into 132 lots for a mix of residential (single-family and multi-family), recreational, educational, YMCA facility and open space uses. The Proposed Project specifically includes construction of 979 dwelling units that consists of 96 single-family lots, 216 multi-family apartment units and 667 townhouse units and finished (graded) lots for a 1,200-1,600 student and 70-faculty/staff junior high school, an approximate 30,476 square foot community/fitness YMCA center. The proposal includes a trail system that connects to regional trails as well as on-site trails. The future cross-valley connector road, Newhall Ranch Road, would provide access to the project site. Build out of the project includes the extension of Golden Valley Road to

Newhall Ranch Road; however, approximately 1,890-feet of Golden Valley Road is located outside the project boundaries. In order to provide access to the project site, the project applicant proposes to construct this 1,890-foot roadway segment, which is analyzed in this EIR as part of the Proposed Project. Also, the project applicant would provide an extension of the multi-use trail that is proposed along the southern portion of the site from the project's western boundary to Newhall Ranch Road. This trail extension is analyzed in this EIR as part of the Proposed Project.

The proposed residential uses provided would support projected regional population growth. The proposed recreational use would provide a trail system linking to the Santa Clara River Trail and a finished graded lot for a YMCA facility, which would be constructed by the YMCA. Each multi-family development would include recreational facilities such as swimming pools and landscaped open space areas. The project applicant would be providing a finished graded lot for proposed junior high school that would provide additional educational facilities for the existing and proposed residential development. The junior high school, once constructed by the William S. Hart School District, would include approximately 6 acres of outdoor recreational uses available to the public, which would include basketball courts, tennis courts, ball fields and a jogging trail. Additional trails would be provided including a Class 1 bike trail on Golden Valley Road and a multi-use trail along the Santa Clara River. Open space uses would serve to protect significant natural resources of the area.

The project site is currently vacant of buildings and no demolition activity would be required to remove structures. Site development would consist of (1) grading for building pad sites, access and other necessary improvements, (2) construction of homes, apartments, townhomes, trails, , storm drainage and water quality facilities and access improvements, (3) installation of utilities (e.g., water lines, fire hydrants, and sewers), and (4) the landscaping of common areas.

The developed site would include preservation of the primary ridgeline and the eastern portion of the existing southern canyon. Approximately 5.4 million cubic yards of dirt would be moved and balanced on-site with an additional approximately 1.8 million cubic yards of remedial grading. Grading techniques would be employed to simulate ridgelines with undulating slopes and berms, which would re-create two existing on-site secondary ridgelines. Project grading would result in the creation of 6 super development pads, one for the single-family development, four for the multi-family development and one for the YMCA and junior high school site.

C. TOPICS OF KNOWN CONCERN

Issues were identified by the City of Santa Clarita Department of Planning (and Economic Development via Initial Study/Environmental Checklist), by State and local agencies and private organizations (via responses to the Notice of Preparation). The environmental factors addressed in this EIR are listed below:

- Aesthetics
- Mineral Resources

- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards
- Hydrology and Water Quality
- Land Use
- Noise
- Population/Housing
- Public Services (Fire, Police, Schools, Parks and Libraries)
- Utilities (Water, Sewer and Solid Waste)
- Transportation
- Energy Conservation

A summary matrix of the issues raised in the letters submitted in response to the NOP, and the response letters themselves, are attached as Appendix 1, Section B to this Draft EIR.

D. ISSUES TO BE RESOLVED

Issues to be resolved include whether or how to mitigate potentially significant environmental impacts from the Proposed Project, and whether one of the alternatives should be approved rather than the Proposed Project.

E. ALTERNATIVES

This Draft EIR considers a range of alternatives to the Proposed Project to provide informed decision-making in accordance with Section 15126.6 of the CEQA Guidelines. The alternatives analyzed in this Draft EIR include:

Alternative A: No Project Alternative: Under Alternative A, the Proposed Project would not be developed and the site would remain in its current condition.

Alternative B: Current General Plan Land Use and Zoning: The Current General Plan Land Use and Zoning Alternative (Alternative B), the buildout under Alternative B would consider the potential subdivision of the project site within the Vesting Tentative Tract Map Number 60258 consistent with the current City of Santa Clarita General Plan Land Use and Zoning classification. According to the General Plan, the Proposed Project site is designated and zoned Residential Very Low (RVL) with a maximum land use intensity of 1 dwelling unit (du) per acre. Currently, approximately 242.1-acres of the project site (245.8-acres) is designated RVL and approximately 3.7-acres as Industrial Commercial (IC). Approximately 130,680 square feet of development could be developed in the IC lot. However, given that the IC lot is located within the Santa Clara River SEA and is within the floodway of the River, development would be constrained in addition to other physical conditions. Therefore, development in the IC lot would not be feasible and further the project applicant has not proposed development in this lot. Grading on the project site is subject to the standards outlined in the Ridgeline Preservation and Hillside Development Ordinance (Ordinance), Chapter 17.80 of the Unified Development Code. The maximum allowable density for

slopes greater than 10 percent correspond to the mid-range density of each General Plan residential land use designation. Since the project site has slopes greater than 10 percent, the Ridgeline Preservation and Hillside Development Ordinance maximum density provisions apply. Alternative B would result in the creation of a total of 78 single-family residential units. The permitted density is in accordance to the City of Santa Clarita General Plan and the City's Ridgeline Preservation and Hillside Development Ordinance (Section 17.80.040 UDC). As with the Proposed Project, this alternative would be developed by creating a development pad for the single-family units. The alternative would alter the existing eastern secondary ridgeline with the proposed development and roadway and re-create it with a faux ridgeline. The primary ridgeline and the western secondary ridgeline would be preserved under this alternative. (See Section V.B. Aesthetics of this EIR for greater discussion on site design). Alternative B does not include a finished development pad for the YMCA and junior high school, and these project components are not part of this alternative. Golden Valley Road is currently under construction north of the project site from Plum Canyon to the northern project site boundary. Golden Valley Road would be constructed between the proposed Newhall Ranch Road and the terminus of the roadway north of the project site. To construct Golden Valley Road between these two points, a series of "mesas" or development pads, would be created which preserve natural open space and provide graded open space slopes in between. Figure VII-1 illustrates the conceptual site plan for Alternative B. As shown, Alternative B would include development of all 78 single-family units on the project site land east of the LA DWP right-of-way Proposed Project". No development would occur west of the LA DWP right-of-way within the Proposed Project's single-family home development pad area.. Grading of the western secondary ridgeline would be avoided under this alternative and like the Proposed Project the primary ridgeline would be preserved. Further, since no grading would occur south of Golden Valley Road, the canyon that runs parallel to the Santa Clara River would be preserved. The project site access, via Golden Valley Road, would remain the same as the Proposed Project. This access would include a 1,890-foot extension of this roadway from the project western boundary to an intersection with Newhall Ranch Road. Also, Alternative B would include connection of Ermine Street to Golden Valley Road. Grading associated with Alternative B would be reduced from that associated with the Proposed Project with avoidance of the area west of the DWP right-of-way and the western secondary ridgeline as well as the southern canyon that runs parallel to the Santa Clara River. Alternative B consists of an overall reduced project density consisting of 78 single-family residential units, which is a 19 percent decrease when compared to the 96 single-family units associated with the Proposed Project. Alternative B would eliminate the 883 multi-family townhouse/condominium units associated with the Proposed Project, representing a 100 percent decrease.

Alternative C: Compliance With Noise Setbacks and Preservation of Northern Secondary Ridgeline: No single-family development west of the LA DWP right-of-way would occur under Alternative C. The area to the west of the right-of-way would remain as natural open space land. The multi-family units would be constructed on the four development pads "A" through "D" as

under the Proposed Project in the area east of the LA DWP right-of-way. The Zoning and General Plan land use designation for this alternative in the area east of the LA DWP right-of-way would be the same as the Proposed Project with a request to change the land use designation to Residential Medium High (RMH) and the approximately 0.5 acre industrial lot south of the Santa Clara River would remain as IC with no development proposed. Under the Proposed Project, future exterior noise levels at several of the buildings proposed along Golden Valley Road could exceed City standards. These locations would not have much topographic variation and, therefore, natural barrier attenuation from Golden Valley Road. Future residents of the project site could be exposed to exterior noise levels that exceed City standards resulting in a potentially significant noise impact. Under Alternative C, two of the pads would incorporate noise setbacks from proposed Golden Valley Road. In pad "C", a 100-foot setback would be implemented and a 105-foot setback would be incorporated in the layout of pad "D". Inclusion of these noise setbacks would reduce the number of multi-family units in these development pads by 18 (pad "C") and 32 (pad "D") units, or a total of 50 units compared with the Proposed Project. Thus, a total of 833 multi-family units would be developed under this alternative. Like the Proposed Project, approximately 76 percent (or 633 units) of the total multi-family units would be condominiums and the remaining 24 percent (or 200 units) would be apartments. The position of the multi-family structures on the development pads would be different from the Proposed Project, with the northern secondary ridgeline on the site being preserved under this alternative. Thus, residential structures, parking, driveways, landscaping, and outdoor recreation space (e.g., common swimming pools, etc.) would be configured to avoid the northern secondary ridgeline. An Innovative Hillside Development Application would still be required, however, to develop the southern secondary ridgeline for construction of Golden Valley Road on the site under this alternative. The site design of the project would also apply to Alternative C with the grading concept of re-creating the southern secondary ridgeline implemented as well. As with the Proposed Project, this alternative would include four multi-family residential pads that "step-up" providing flat development areas, or mesas. This alternative would provide finished graded pads for a junior high school and YMCA facility, which would be identical to the Proposed Project. Development pads for a YMCA building and junior high school would be provided on the lowest development pad area, south of Golden Valley Road. Parking for these uses would be provided in the same location in between the uses with access from Golden Valley Road. Golden Valley Road would be the primary access to The Keystone project under this alternative. As with the Proposed Project, Alternative C would include a 1,890-foot extension of Golden Valley Road to Newhall Ranch Road to the south. Also, Alternative C would include connection of Ermine Street to Golden Valley Road. Grading for the project would be less than the project as no movement of earth materials would be required west of the LA DWP right-of-way and no grading of the western Secondary Ridgeline would occur and like the Proposed Project the Primary Ridgeline would be preserved. Grading of the remainder of the project area would be a balance of cut and fill operations. Alternative C consists of an overall reduced project density consisting of no single-family residential units, representing a 100 percent decrease when compared to the 96 single-family units associated with the Proposed Project. Additionally, Alternative C

would reduce the number of multi-family units by 6 percent, resulting in 833 units compared to the 883 units associated with the Proposed Project. As with the Proposed Project, the on-site school and YMCA facilities would serve the general public in addition to site residents. The trails (bike and multi-use) included in the Proposed Project would also be part of Alternative C, as would the open space areas. However, Alternative C would also feature an additional 18.6 acres of natural open space west of the DWP right-of-way. Under the Proposed Project, this area would be developed with single-family dwellings.

Alternative D: Reduced Density Alternative: Under Alternative D, the approximate 183-acre area east of the LA DWP right-of-way would be developed with fewer multi-family residential units than the Proposed Project. Alternative D consists of an overall reduced project density consisting of 752 multi-family residential units, representing a 15 percent decrease when compared to the 883 multi-family units associated with the Proposed Project. The General Plan Amendment and Zone change requested under the Proposed Project would be the same under Alternative D with Residential Suburban (RS) for the area west of the DWP right-of-way and Residential Medium High (RMH) for the area east of the DWP right-of-way. This alternative would allow development of the multi-family units on the same four development pads (or mesas) as under the Proposed Project, but would be built equivalent to the Residential Moderate (RM) density. The number of units permitted under Alternative D would be capped at 752 multi-family residential units and 96 single-family units. Like the Proposed Project, approximately 76 percent (or 572 units) of the total multi-family units would be condominiums and the remaining 24 percent (or 180 units) would be apartments. The approximately 0.5 acre industrial lot south of the Santa Clara River would remain as IC with no development proposed. The other development areas would remain the same as the Proposed Project with 96 single-family homes west of the LA DWP right-of-way and the finished graded lots for the YMCA building and junior high school site south of Golden Valley Road. A total of 848 residential units would be developed on the project site under Alternative D. Finished graded lots to accommodate the construction of the same size YMCA and junior high school facilities would be provided like Proposed Project and the location would be the same with the access driveway from Golden Valley Road at the proposed "I" Street intersection. As with the Proposed Project, the site design would apply to Alternative D with the re-creation of the Secondary Ridgelines and development pad areas (or mesas) to construct Golden Valley Road. Grading for Alternative D would involve approximately the same amount of cut and fill as the Proposed Project, which includes creation of development pads, or mesas. Golden Valley Road would be the primary access to The Keystone project under this alternative. As with the Proposed Project, Alternative D would include a 1,890-foot extension of Golden Valley Road to Newhall Ranch Road to the south. Also, Alternative D would include connection of Ermine Street to Golden Valley Road. The single-family residential, school, and YMCA facility components of Alternative D would be identical to the Proposed Project.

Alternative E: Single-Family Detached Condos Density Alternative: Alternative E would include the proposed 96 unit single-family development west of the DWP right-of-way. Under Alternative E, four development pads would be created north and west of Golden Valley Road to accommodate 596 multi-family units in the form of detached single-family condominiums, which represents a reduction in multi-family density by approximately 33 percent. This alternative would include a total of 692 units, which compared to the project total of 979 would be an approximate 30 percent reduction in the overall density. The General Plan Amendment and Zone change requested under the Proposed Project would be the same under Alternative E with RS for the area west of the DWP right-of-way and RMH for the area east of the DWP right-of-way. This alternative would allow development of the multi-family units on the same four development pads (or mesas) as under the Proposed Project, but would be built equivalent to the RM density. The number of units permitted under Alternative E would be capped at 596 multi-family (single-family detached condominiums) residential units and 96 single-family units. Like the Proposed Project, approximately 76 percent (or 453 units) of the total multi-family units would be condominiums and the remaining 24 percent (or 143 units) would be apartments. The approximately 0.5 acre industrial lot south of the Santa Clara River would remain as IC with no development proposed. Provision of finished graded lots for a YMCA and junior high school facilities would be the same as under the Proposed Project and located in the same area, south of Golden Valley Road. Like under the Proposed Project, the YMCA and junior high school facilities would be constructed by the YMCA and the William S. Hart School District, respectively. This alternative would employ the site design techniques of the Proposed Project and would re-create the secondary ridgelines and four development pads or mesas. The lot design for the multi-family structures would differ from the Proposed Project in that detached condominiums would be built in place of attached apartment and condominium units. As with the Proposed Project, the site design would apply to Alternative E with the re-creation of the Secondary Ridgelines and development pad areas (or mesas). Grading for Alternative E would involve approximately the same amount of cut and fill as the Proposed Project, which includes creation of development pads, or mesas. Golden Valley Road would be the primary access road with Ermine Street as a secondary access to the east. In addition, Alternative E would also require the 1,890-foot extension of Golden Valley Road to Newhall Ranch Road to the south. The trails (bike and multi-use) included in the Proposed Project would also be part of Alternative E, as would the open space areas. This alternative would also include extension of the multi-use trail from the project western boundary to Newhall Ranch Road. The project monument/water feature would also be included in this alternative

Alternative F: Single-Family Alternative: This alternative would substitute the Proposed Project's 883 multi-family units on four development pads with 287 single-family units. The 96 single-family units proposed west of the DWP right-of-way would be included under this alternative, resulting in a total of 383 single-family units. Compared to the Proposed Project, this alternative would reduce project density by approximately 39 percent. The General Plan Amendment and Zone change requested under the Proposed Project would be the same under

Alternative F with RS for the area west of the DWP right-of-way and RMH for the area east of the DWP right-of-way. This alternative would allow development of the 287 single-family units on the Proposed Project's four multi-family development pads (or mesas), but would be built equivalent to the RS density. The number of units permitted under Alternative F would be capped at 383 single-family units (96 units west of the DWP right-of-way and 287 units east of the right-of-way). The approximately 0.5 acre industrial lot south of the Santa Clara River would remain as IC with no development proposed. Provision of finished graded lots for a YMCA and junior high school facilities would be the same as under the Proposed Project and located in the same area, south of Golden Valley Road. Like under the Proposed Project, the YMCA and junior high school facilities would be constructed by the YMCA and the William S. Hart School District, respectively. Parking would be provided in between the uses and would include a shared use agreement. This alternative would employ the site design techniques of the Proposed Project and would re-create the secondary ridgelines and four development pads or mesas in order to construct Golden Valley Road. The overall site plan for Alternative F would be the same as under the Proposed Project, but the four super development pads proposed to accommodate multi-family development under the Proposed Project would accommodate single-family home development under this Alternative. The lot design for the multi-family structures would differ from the Proposed Project in that single-family units would be built in place of multi-family attached apartment and condominium units. The trails (bike and multi-use) included in the Proposed Project would also be part of Alternative E, as would the open space areas. This alternative would also include extension of the multi-use trail along the Santa Clara River to the western boundary of the Riverpark project. The project monument/water feature would also be included in this alternative.

Alternative G: Re-Aligned Golden Valley Road Alternative: Development of 96 single-family homes, 667 multi-family condominiums, and 216 multi-family apartments would occur under Alternative G, same as under the Proposed Project. However, Golden Valley Road would be re-aligned to follow a straighter southwest to northeast line with the main portion of this road segment located further north than under the Proposed Project design. In addition, the multi-family units would be constructed on five super development pads (pads "A" through "E") rather than on four super development pads (pads "A" through "D") as under the Proposed Project. Further, three of these development pads would be constructed south of the proposed re-aligned Golden Valley Road. The Zoning and General Plan land use designation for this alternative would be the same as the Proposed Project. The site design of the Proposed Project would also apply to Alternative G with the grading concept of re-creating the southern secondary ridgeline implemented as well. As with the Proposed Project, this alternative would include multi-family residential pads (or super development pads) that "step-up" providing flat development areas, or mesas. This alternative would provide finished graded pads for a junior high school and YMCA facility, which would be identical to the Proposed Project. Development pads for a YMCA building and junior high school would be provided on the lowest development pad area, also south of the proposed re-aligned Golden Valley Road. Parking for these uses would be provided in the same location in between the

uses with access from Golden Valley Road. Golden Valley Road would continue to be the primary access to The Keystone project under this alternative. As with the Proposed Project, Alternative G would include a 1,890-foot extension of Golden Valley Road to Newhall Ranch Road to the south. Also, Alternative G would include connection of Ermine Street to Golden Valley Road. Grading for the project would be the same as the Proposed Project. Alternative G consists of an overall similar project density consisting of the same combination and numbers of single-family and multi-family residential units as under the Proposed Project. As with the Proposed Project, the on-site school and YMCA facilities would serve the general public in addition to site residents. The trails (bike and multi-use) included in the Proposed Project would also be part of Alternative G, as would the open space areas.

F. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The following table summarizes the various environmental impacts associated with the construction and operation of the Proposed Project. Mitigation measures are recommended for significant environmental impacts, and the level of impact significance after mitigation is also identified.

Table II.1
Summary of Significant Environmental Impacts and Mitigation Measures

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
AESTHETICS		
<p>Scenic Vistas</p> <p>The Proposed Project would introduce a residential development project with a junior high school site and YMCA site into the scenic vistas of the Santa Clarita Valley. The Proposed Project would provide an innovative and effective strategy for reducing the visual effects of the development. The strategy includes re-created ridgelines include manufactured berms that have the appearance of natural ridgelines with elevation peaks higher than the development pad areas. Manufactured (or super) slopes would be provided on the project site as previously described. These slopes create the sides to the development pads that include various gradients and curvature, emulating the existing topography. These slopes include peak elevations similar in height to the existing ridgelines, provide the base or side to the development pads, and include berms to camouflage portions of the development. As discussed above, the project site is not visible from the north or west and, therefore, would have no visual impact with respect to land uses in those directions. As shown in the view simulations, the site design and grading techniques would be effective in reducing the project's visual impact as seen from locations south of the project site and would minimize the effects of grading to insure that the natural character of ridgelines are preserved.</p>	None required.	Less Than Significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>In balance, given the effectiveness with which the project minimizes its visual impacts to the larger community of the Santa Clarita Valley, it is concluded the project would not have a substantial adverse effect on a scenic vista. Therefore, the Proposed Project's impacts on scenic vistas would be less than significant.</p>		
<p>Scenic Resources The major scenic resources on the project site are the Primary and two Secondary Ridgelines and the open space. There are no outstanding scenic trees, rock outcroppings or historic building on the project site. The project would not affect the Primary Ridgeline and although portions of the secondary ridgelines would be altered, they would be recreated in essentially the same locations, would retain their basic forms and elevations, and would be contour graded to blend back into the natural adjoining hillsides. Large areas of open space would be retained by the Proposed Project, natural areas would be incorporated into the development areas, and much of the proposed development areas would be screened from view by constructed perimeter ridgelines. Project impacts with respect to scenic resources would be less than significant.</p>	None required.	Less Than Significant
<p>Visual Character The project site is not visible from Bouquet and Plum Canyons and, therefore, would have no visual impact to those areas. The Proposed Project would be visible from adjacent residential development to the east and the west, as well as from the existing development located south of the Santa Clara River. From these</p>	None feasible.	Significant and Unavoidable

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>areas, the project would be sent to convert undeveloped hillsides into a developed environment of housing, landscaping and institutional uses. Views of existing topography and native vegetation would be reduced or eliminated.</p> <p>For the Alta Knoll Drive community located to the northwest, the most visually prominent change would be the construction of an adjacent single-family residential community. Although the project's land uses would be consistent with the type and character of development for the Alta Knoll Drive community, the loss of their visual open space would be an adverse significant impact.</p> <p>The introduction of adjacent multiple-family housing would constitute a substantial change in the existing visual character of the project site for residents on the edge of the adjacent residential community on the east, the Ermine Street community. Even though the multiple-family housing would be situated at a substantially lower elevation than the existing homes and there would be substantial setbacks and landscaping to soften their visual effect, the site would be transformed largely from vacant mostly undeveloped property to a more urban environment. Implementation of the Proposed Project would constitute an adverse significant visual impact for these homes as it would substantially degrade the existing visual character or the quality of the site and its surroundings.</p>		

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p><i>Light and Glare</i></p> <p>New lighting associated with the Proposed Project would not be directly visible from either Plum Canyon or Bouquet Canyon, although an increase in sky “glow” may be detectible from these areas, particularly on cloudy nights. The new lighting could be perceptible from residential areas to the south; however, there is substantial distance (approximately one mile or more) between the project site and the more light sensitive residential areas in the hillsides south of the Santa Clara River wash. The mitigating effect of this distance would be expected to render this lighting impact less than significant.</p> <p>The existing residential communities adjacent to the east and west sides of the project site would experience the greatest night lighting impact: the conversion of dark nighttime hillsides into an illuminated community. For residents in these areas, the Proposed Project would create new sources of substantial light. Therefore, this impact would be considered potentially significant and mitigation is required.</p> <p>Glare is typically a daytime problem associated with commercial buildings constructed with highly reflective building materials. As a hillside residential development buffered by berms and substantial landscaping, the Proposed Project would not be expected to generate substantial glare. Therefore, glare impacts are expected to be less than significant.</p>	<p>B-1 The Project Applicant shall prepare and implement a Lighting Mitigation Plan. The Plan shall be submitted to the City of Santa Clarita Department of Planning and Economic Development for reviewed and approval prior to issuance of grading permits.</p> <p>B-2 Project street lighting shall be the lowest intensity necessary for security and safety purposes, while still adhering to the recommended levels of the Illuminating Engineering Society of North America.</p> <p>B-3 In order to minimize illumination wash onto adjacent areas, street lighting shall utilize non-glare fixtures directed downward onto the project site and aimed away from the off-site viewers.</p> <p>B-4 Atmospheric light pollution shall be minimized by utilizing street lighting fixtures that cut-off light directed to the sky.</p> <p>B-5 The project developer shall distribute information to prospective home buyers recommending the use of motion detectors for private security, rather than continuous lighting systems.</p> <p>B-6 Project CC&Rs shall include the following restrictions on outdoor lighting for private residences:</p> <ul style="list-style-type: none"> • The use of exterior up lighting fixtures for building facades and trees shall be prohibited. • Only down lighting for exterior-building mounted fixtures shall be permitted. • Use of "glowing" fixtures that would be visible from existing communities or public 	<p>Less Than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	roads shall be prohibited. A glowing fixture is a lantern style fixture, or any fixture that allows light through its vertical components.	
<p>Cumulative Impacts: The Proposed Project represents infill development in an established urban area. There are existing residential communities to the northwest and east of the project site and residential communities under construction to the north (SunCal development) Related Project No. 4, Riverpark, combined with the Proposed Project would have the most significant visual changes to the immediate area with respect to scenic vistas, scenic resources and visual character due to proximity to the Proposed Project. The other related projects may not be as prominent visually when considered with the Proposed Project due to intervening topography. Both projects would alter, to varying degrees, Secondary Ridgelines, however, both incorporate site design and grading techniques that would minimize the disruption of the existing view corridors and scenic vistas. However, the change in visual character of the sites combined would represent a material change from an undeveloped to a developed environment that would result in a significant cumulative impact the other 11 Related Projects, significant cumulative impacts would also occur as all of these properties would involve conversion of vacant land to suburban uses. There would be a cumulative loss of vacant land as viewed from public roadways and the amount of natural vegetation and landforms would decrease overall. Therefore, an overall change in visual character with all 12 Related Project sites</p>	<p>None feasible for Visual Character</p> <p>For Light and Glare, project mitigation would reduce project's contribution to light and glare and the increase would not be considerable and thus less than significant.</p>	<p>Significant and Unavoidable for Visual Character</p> <p>Less than Significant for Scenic Vistas, Scenic Resources and Light and Glare</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>and the Related Project site would occur and is considered cumulatively significant. The Proposed Project's incremental contribution to the significant impact with respect to change in visual character would be cumulatively considerable and significant.</p> <p>With respect to light and glare, mitigation measures proposed would result in less than significant impacts.</p>		

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
AIR QUALITY		
<p>AQMP Consistency Projects that are consistent with the projections of employment and population forecasts identified in the Growth Management Chapter of the RCPG are considered consistent with the AQMP growth projections, since the Growth Management Chapter forms the basis of the land use and transportation control portions of the AQMP. As discussed in Section V.L. Population and Housing, implementation of the Proposed Project would not directly or indirectly induce substantial population or employment growth beyond current growth projections established by SCAG and would be consistent with the AQMP employment forecasts for the City of Santa Clarita and the Santa Clarita Valley. Therefore it would not jeopardize attainment of State and national ambient air quality standards in Los Angeles County and impacts would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant</p>
<p>Construction Emissions Construction related daily emissions would exceed SCAQMD significance thresholds for NOx and PM₁₀ during the site grading phase, VOC and NOx during the peak construction phase when the school, YMCA, and first two residential phases are constructed, and NOx during the third residential development phase. Therefore, this impact would be significant regarding a substantial contribution to an existing or projected air quality violation.</p>	<p>C-1 The Applicant shall implement measures to reduce the emissions of pollutants generated by heavy-duty diesel-powered equipment operating at the project site throughout the project construction phases. The Applicant shall include in construction contracts the control measures required and recommended by the SCAQMD at the time of development. Examples of the types of measures currently required and recommended include the following:</p> <ul style="list-style-type: none"> • Keep all construction equipment in proper tune in 	<p>Significant and Unavoidable</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>accordance with manufacturer’s specifications;</p> <ul style="list-style-type: none"> • Use late model heavy-duty diesel-powered equipment at the project site to the extent that it is readily available in the South Coast Air Basin; • Use diesel-powered equipment that has been retrofitted with after-treatment products (e.g., engine catalysts or cooled exhaust gas recirculation technology) to the extent that it is readily available in the South Coast Air Basin; • Use low-emission diesel fuel for all heavy-duty diesel-powered equipment operating and refueling at the project site to the extent that it is readily available and cost effective in the South Coast Air Basin (this does not apply to diesel-powered trucks traveling to and from the site); • Utilize alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, and unleaded gasoline) to the extent that the equipment is readily available and cost effective in the South Coast Air Basin; • Limit truck and equipment idling time to five minutes or less; • Rely on the electricity infrastructure surrounding the construction sites rather than electrical generators powered by internal combustion engines to the extent feasible. • The following measures are recommended to reduce the potential emissions associated with 	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	operational activities to the maximum extent feasible.	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>Daily Operational Emissions The Proposed Project would generate daily emissions that exceed the thresholds of significance for VOC, NOx, and CO recommended by the SCAQMD during both the summertime smog season and wintertime non-smog season. This is a significant impact regarding a substantial contribution to an existing or projected air quality violation.</p>	<p>C-2 The Applicant shall include in construction contracts the following requirements or measures shown to be equally effective:</p> <ul style="list-style-type: none"> • Use solar or low-emission water heaters in the residential, school, and YMCA buildings. • Provide energy-efficient heating, cooling, and other appliances, such as cooking equipment, refrigerators, and dishwashers. • Provide energy-efficient and automated controls for air conditioning units. • Install ozone destruction catalyst on air conditioning systems, in consultation with the SCAQMD. • Use light colored roof materials to reflect heat. • Install only gas-burning fireplaces in the residential units. Wood-burning fireplaces shall not be constructed. • Require that commercial landscapers providing services at the project site use electric or battery-powered equipment, or other internal combustion equipment that is either certified by the California Air Resources Board or is three years old or less at the time of use, to the extent that such equipment is reasonably available and competitively priced in Los Angeles County. 	<p>Significant and Unavoidable</p>
<p>Localized CO Concentrations Future CO concentrations near the studied intersections would not</p>	<p>None required.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
exceed the national and State ambient air quality standards for CO. Therefore, implementation of the Proposed Project and cumulative development would not expose any sensitive receptors located in close proximity to these intersections to substantial pollutant concentrations. This would be a less-than-significant impact regarding the exposure sensitive receptors to substantial pollutant concentrations.		

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>Toxic Air Contaminants</p> <p>Toxic or carcinogenic air pollutants are not expected to occur in any meaningful amounts in conjunction with operation of the proposed land uses at the project site. Only small quantities of common forms of hazardous or toxic substances, such as cleaning agents, which are typically used or stored in conjunction with residential and educational uses, would be present. Most uses of such substances would occur indoors. Based on the common uses expected on the site, any emission would be minor. Impacts would be a less-than-significant impact regarding the exposure sensitive receptors to substantial pollutant concentrations.</p>	None required.	Less than Significant
<p>Airborne Odors</p> <p>Potential operational airborne odors could result from cooking activities associated with the new residential units and school. These odors would be similar to existing residential uses in the local vicinity and would be confined to the immediate vicinity of the new buildings. Therefore, implementation of the Proposed Project is not expected to create objectionable odors affecting a substantial number of people. This is a less-than-significant impact.</p>	None required.	No Impact

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>Cumulative Impacts</p> <p>As long as growth in the Basin is within the projections for growth identified in the Growth Management Chapter of the RCPG, implementation of the 2003 AQMP will not be obstructed by such growth. As growth in the City of Santa Clarita and Santa Clarita Valley has not exceeded these projections, this impact would not be significant.</p> <p>Because the Basin is currently in nonattainment for ozone, CO, and PM₁₀, related projects could exceed an air quality standard or contribute a substantial increase to an existing or projected air quality exceedance. Construction related daily emissions associated with project development would exceed SCAQMD significance thresholds for NO_x and PM₁₀ during the site grading phase, VOC and NO_x during the peak construction phase when the school, YMCA, and first two residential phases are constructed, and NO_x during the third residential development phase. Therefore, the emissions generated by project construction would be cumulatively considerable regarding a substantial contribution to an existing or projected air quality violation. Operation of the Proposed Project would also generate operational emissions of VOC, NO_x, and CO that exceed the SCAQMD's recommended thresholds. These emissions would, therefore, also be cumulatively considerable and significant.</p> <p>Cumulative development would not have a significant impact in terms of exposure of sensitive receptors to substantial toxic pollutant concentrations or the creation of objectionable odors</p>	<p>None feasible.</p>	<p>Significant and Unavoidable</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>affecting a substantial number of people. Projects projected to be built in the vicinity of the Proposed Project site include residential and commercial developments. The odors would be similar to existing residential uses in the vicinity and would be confined to the immediate vicinity of the new buildings. As analyzed above in this section, the project's contribution to odor impacts would not be cumulatively considerable.</p>		
BIOLOGICAL RESOURCES		
<p><i>Native Plant Communities</i> <u>Coastal Sage Scrub</u></p> <p>The Proposed Project site includes a total of approximately 100.07 acres of Coastal Sage Scrub (CSS). Grading for the Proposed Project would permanently impact 86.00 acres of CSS, which includes 0.70 acres of fuel modification impacts. The remaining 14.07 acres will be retained within Natural Open Space. The total loss represents about 86 percent of this habitat type on the site and would be considered a significant impact prior to mitigation. In addition, The Keystone site is within an area designated as critical habitat for the federally listed threatened coastal California gnatcatcher and CSS is considered to be a Primary Constituent Element (PCE) that could provide for breeding, foraging and dispersal for this species. The loss of CSS, because it is within designated critical habitat and would be considered to be a PCE, and the loss would be a significant impact</p>	<p>D-1 The project will impact 85.3 acres of coastal sage scrub, a special-status vegetation community and which is also within a designated critical habitat unit for the coastal California gnatcatcher. The loss of 85.3 acres of coastal sage scrub is considered a significant impact before mitigation. Mitigation would consist of restoration or purchase of 85.3 acres to replace the lost habitat or mitigation as determined by USFWS in conjunction with Mitigation Measure D-10.</p>	<p>Less than Significant</p>
<p><u>Chaparral</u></p>	<p>D-2 The project will impact 53.13 acres of chaparral, which is</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>The Proposed Project site includes a total of approximately 85.18 acres of Chaparral. Grading for the Proposed Project would permanently impact 57.85 acres of chaparral, which includes approximately 4.72 acres of fuel modification impacts. The remaining 27.33 acres will be retained within Natural Open Space. The total loss represents about 67.9 percent of this habitat type on the site. While chaparral is widespread and common and has no designation in the California Natural Diversity Database as a special-status habitat. The project site is within an areas designated as critical habitat for the federally listed threatened California Gnatcatcher and chaparral is considered to be a Primary Constituent Element (PCE) that could provide for breeding, foraging and dispersal for this species. The loss of chaparral because its within the designated critical habitat and would be considered to be a PCE, would be considered a significant impact.</p>	<p>also within a designated critical habitat unit for the coastal California gnatcatcher. The loss of 53.13 acres of chaparral is considered a significant impact before mitigation. Mitigation would consist of restoration or purchase of 53.13 acres to replace the lost functions of the Critical Habitat or mitigation as determined by USFWS in conjunction with Mitigation Measure D-10.</p>	
<p><u>Non-Native Grassland</u></p> <p>The Proposed Project site totals approximately 18.42 acres of non-native grassland (NNG). Grading for the Proposed Project would permanently impact 10.81 acres of NNG, which includes approximately 1.03 acres for fuel modification. The remaining 7.61 acres will be retained within Natural Open Space. The total loss represents about 58.6 percent of this habitat type on the site. NNG is not considered a PCE of the gnatcatcher Critical Habitat and the loss of NNG would not be considered a significant impact.</p>	<p>None Required.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p><u>Southern Cottonwood-Willow Riparian Habitat</u> The Proposed Project site totals approximately 3.09 acres of southern cottonwood-willow riparian forest. Grading for the Proposed Project would permanently impact 2.44 acres of riparian forest. The remaining 0.65 acres will be retained within Natural Open Space. The loss represents about 78.9 percent of this habitat on the site and would be a significant impact.</p>	<p>D-3 The project will impact 2.44 acres of Southern Cottonwood-Willow Riparian Habitat, a habitat designated as sensitive in the CNDDDB and that is also regulated by CDFG. The impact is therefore considered significant. The applicant shall develop a mitigation and monitoring plan to be prepared in accordance with the most Corps recent guidelines and shall receive approval of the plan by CDFG prior to impacts to jurisdictional waters on the site. A five-year monitoring plan shall be implemented as set forth in the mitigation and monitoring plan prepared for the project.</p>	<p>Less than Significant</p>
<p><u>Residential/Urban/Exotic Non-Habitat Vegetation Association</u> The Proposed Project site totals approximately 34.11 acres of residential/urban/exotic/non-habitat vegetation association. Grading for the Proposed Project would permanently impact 26.64 acres of exotic vegetation, which includes approximately 0.03 acres of fuel modification impacts. The remaining 7.47 acres will be retained within Natural Open Space. The loss represents about 78.1 percent of this habitat type on the site. Residential/Urban/Exotic vegetation is not considered a PCE of the gnatcatcher Critical Habitat and the loss of this type of land cover would not be considered significant.</p>	<p>None required.</p>	<p>Not Significant.</p>
<p><u>Actively Scoured Santa Clara River Bottom</u> There are no impacts to Santa Clara River wash resulting from development. This entire area will be preserved as Natural Open</p>	<p>None required.</p>	<p>Not Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
Space.		
<p><i>Common Wildlife</i></p> <p>Construction activity and grading operations, associated with development of the Proposed Project would temporarily disturb common wildlife species on that occupy the site. Many mobile species (e.g., avifauna) would be expected to relocate to other areas of similar habitat within the vicinity of the site. Because of the relatively common character and widespread distribution of many or most of the wildlife species that would be displaced or lost as a result of construction activities, such impacts are not considered significant.</p> <p>It should be noted that in the absence of mitigation, a number of bird species could be adversely affected as a result of implementation of the Proposed Project. The Proposed Project includes removal of mature trees and shrubs from the property. Construction-related activities could result in the direct loss of active nests or the abandonment of active nests by adult birds during the nesting season. The Migratory Bird Treaty and the California Fish and Game Code prohibit the take — defined as destroy, harm, harass, etc. — bird nest with eggs or young.</p>	(See Measures D-5 and D-6)	Less than Significant
<p><i>Special Status Plant and Wildlife Resources</i></p> <p>Special-Status Plant Species</p> <p>Oak Trees</p> <p>Of the eight oak trees found within the project study area, five oaks are located within the project site boundaries, east of the LA DWP</p>	D-4 While the majority of oak trees on the site will be retained in place, three oak trees (designated O-1, O-2, and O-8 in the TLC report) would be removed during grading; one (O-8) would be removed due to project construction and two would be removed due to construction of the Golden	Less than Significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>right-of-way. Oak tree number 0-8, within the project site boundaries, would be removed during grading of a slope in Lot 115. The remaining four oak trees (O-3, O-4, O-5 and O-7) that are clustered together immediately adjacent to the right-of-way would be preserved in situ in an open space area not proposed for development.</p> <p>The remaining three oak trees are situated outside the project site boundaries. Two of these trees (O-2 and O-6) are located in close proximity to the future alignment of the Golden Valley Road extension to Newhall Ranch Road. The project applicant would construct the road as its necessary to provide project site access. One of these trees (O-1) would be preserved in situ as it would not be within the roadway right-of-way.</p> <p>Three oak trees (O-2, O-6 and O-8) would be removed by construction of the Proposed Project and the Golden Valley Road extension.</p>	<p>Valley Road extension from the project site boundary to Newhall Ranch Road. Appropriate approvals shall be obtained prior to oak trees being removed, subject to the Oak Tree Preservation Ordinance (Ordinance 89-1) and the City of Santa Clarita Oak Tree Preservation and maintenance Guidelines. The applicant shall develop a detailed mitigation program for approval by the City in accordance with the Ordinance. In addition, and prior to grading, oak trees near construction/grading area that will not be removed and will be protected during the grading and construction phases of the project by appropriate fencing that extends 5 feet beyond the tree canopy's dripline, or 15 feet from the trunk, whichever is greater.</p> <p>Equipment damage to the limbs, trunks and roots must be avoided. Even slight trunk injuries can result in long-term, life threatening pathogenic maladies. No storage of equipment or debris within the Protective Zone (drip line plus 5 feet) will be allowed. No dumping of construction wastewater i.e., paint, stucco, concrete, clean-up, etc. Within Protective Zones, Generally, fencing shall be placed at the Protective Zone of any oak or groups of oaks within 50 feet of proposed construction activity. Protective Fencing must remain in place during construction projects and shall not be moved or removed without prior written approval from the Department of Planning and Economic Development under the direct supervision of the Project Consulting Arborist.</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>Protective Fencing shall be a least 4 feet in height with a visible sign attached a 50 feet intervals which reads: (WARNING- THIS FENCE IS FOR THE PROTECTION OF THIS TREE AND SHALL NOT BE REMOVED OR RELOCATED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF SANTA CLARITA PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT)</p> <p>Care should be taken to avoid placing any sprinklers within watering distance to the trunk of an oak tree. Generally, sprinklers should not reach within 15 feet of a mature oak trunk. Grass or ground covers must never be planted next to the trunks. Too much moisture near the base of an oak is generally believed to be their leading cause of death in residential settings. Oak Root Fungus is the result of over-watering. Oak trees survive and thrive on annual rainfall alone and generally do not need supplemental irrigation except during periods of drought. Watering should take place at or near the drip line. Landscape plans should leave the area within the drip line of an oak tree in a native or natural setting.</p> <p>Care must be taken to limit grade changes near the trunk areas. The grade should not be lowered or raised around the trunks of trees. This can lead to plant stress from oxygen deprivation or Oak Root Fungus at the root collar.</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>Protective fencing shall be installed around all oaks not listed for removal. Place protective fencing at the Protected Zone (PZ) as shown on the TLM. The fencing can be repositioned as needed to allow for grading near the oaks listed as “impacted”. The project arborist must be present during the fence placement. Final fencing locations shall be inspected by the City prior to the commencement of development activities. Regular inspections of this fencing shall occur during site development.</p> <p>An Oak Tree Information Packet including the City of Santa Clarita Oak Tree Protection and Preservation Guidelines must be available on site during construction. The property owner and contractor should be familiar with the contents of these documents.</p> <p>Vehicle travel along dirt roadways to and from the site may create a heavy coating of dust on the foliage of nearby oaks. These oaks should be hosed off periodically during construction activities.</p> <p>All work performed within the Protective Zone (drip line plus 5 feet) of any oak shall be accomplished by utilizing hand tools only and must be ‘monitored’ by the projects Oak Tree Consultant.</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>All roots over 1.5-inch diameter will be clean cut at a 45-degree angle and treated by the Consulting Arborist.</p> <p>No oaks outside the property line (except for two oaks to be removed for construction of Golden Valley Road) are to be impacted by this construction project.</p> <p>The leaf-litter build-up under the canopies of the oaks on this site is ideal for healthy tree growth and root development. Do not alter or remove if possible. A 3-inch layer of mulch may be advisable in settings where leaf-litter has been lost.</p> <p>Do not remove the aluminum tags numbering each oak on this site.</p> <p>No construction materials are to be stored or discarded within the PZ of any oak. Rinse water, concrete residue, liquid contaminants (paint, thinners, gasoline, oils, etc.) of any type shall not be deposited in any form at the base of an oak.</p> <p>No vehicles shall be parked within the PZ of an oak. No construction vehicles are to be parked under the shade (within the PZ) of an oak.</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p><i>Special-Status Wildlife</i> Species Observed in the Site</p> <p>The Western spadefoot toad is a California Species of Special Concern and Federal Species of Concern and a single individual was observed on the project site during the 2003-focused survey. The area where the single individual was detected is located in an area proposed for development. However, because only a single individual was detected, the potential loss would not be considered a significant impact.</p> <p>The Cooper's hawk is California Species of Special Concern that was occasionally observed foraging or flying over the site. No nesting was detected and potential breeding areas on the site are very limited. Development of the site would not result in significant impacts to the Cooper's hawk.</p> <p>Bell's sage sparrow is a Federal Species of Concern and is still common throughout the region. One location for this species was observed during a number of survey visits. Breeding was not detected. Because this species is still common and only one occurrence would be affected by the project, the potential impact would not be considered significant.</p> <p>The yellow warbler is a California Species of Special Concern that was observed on the site on two occasions. This species is still widespread and common in the region. No breeding was detected. Development of the site would not result in significant impacts to the</p>	<p>None required.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>yellow warbler.</p> <p>The yellow-breasted chat is a California Species of Special Concern that was observed on the site on six occasions. This species is still widespread and common in the region. No breeding was detected. Development of the site would not result in significant impacts to the yellow-breasted chat.</p> <p>The loggerhead shrike is California Species of Special Concern and Federal Species of Concern that was observed onsite on multiple occasions and constitutes a single occurrence. This species is still widespread and common in the region. No breeding was detected. Development of the site would not result in significant impacts to the loggerhead shrike.</p>		
<p><i>Migratory Bird Treaty Act Compliance</i></p> <p>Pursuant to the federal Migratory Bird Treaty Act, it is unlawful to “take” (i.e., capture, kill, pursue, or possess) migratory birds or their nests. Removal of vegetation associated with project implementation should not take place during the nesting season for most birds (January 31 to August 1) and for migratory birds (March 15 – August 15). The loss of an active nest of a migratory bird would be significant. With implementation of the recommended mitigation, this potential impact would be reduced to less-than-significant.</p>	<p>D-5 If grubbing or clearing of vegetation is scheduled to occur during the nesting season (January 31 to August 1), then prior to issuance of grading permits the project applicant shall have a qualified biologist survey the project site for the presence of any occupied raptor nests. If such a nest is found, then no construction work shall occur within a 300-foot radius from the nest until the nestlings have fledged, or as directed by the biological monitor to ensure compliance with Section 3503.5 of the California Fish and Game Code.</p> <p>D-6 If grubbing or clearing of vegetation is scheduled to take place during the nesting season for migratory birds (March</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>15-August 15), then three days prior to issuance of grading permits, the Project Applicant shall have a qualified biologist survey impact areas for the presence of occupied migratory bird nests. If active nests of migratory birds are located, then no construction work shall occur within a 300-foot radius from the nest until the nestlings have fledged, or as directed by the biological monitor.</p>	
<p><i>Jurisdictional Resources</i> Impacts to Corps Jurisdiction Grading of the project would result in impacts to 1.22 acres of Waters of the United States which less than 0.01 acre consists of jurisdictional wetlands. The loss of 1.22 acres of Waters of the United States is considered a significant impact.</p>	<p>D-7 The applicant shall obtain a Section 404 Permit from the Corps prior to discharging fill into waters of the United States. The loss of 1.22 acres of waters of the United States shall be mitigated at a minimum replacement of 1:1 on the project site or in the vicinity of the site in the Santa Clara River watershed as determined through processing of the Section 404 Permit. The applicant shall develop a mitigation and monitoring plan prepared in accordance with the most recent guidelines prepared by the Corps and shall receive approval of the plan prior to impacts to jurisdictional waters on the site. A five-year monitoring plan shall be implemented as set forth in the mitigation and monitoring plan prepared for the project.</p>	<p>Less than Significant</p>
<p>Impacts to CDFG Jurisdiction Grading for the project would result in impacts to 4.26 acres of CDFG jurisdictional streambeds is considered a significant impact.</p>	<p>D-8 The applicant shall obtain a Section 1602 Streambed Alteration Agreement from CDFG prior to impacting waters of the State. The loss of 4.26 acres of CDFG jurisdictional streambeds shall be mitigated at a minimum</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>replacement of 1:1 on the project site or in the vicinity of the site in the Santa Clara River watershed or as determined in the Streambed Alteration Agreement. The applicant shall develop a mitigation and monitoring plan prepared in accordance with the most recent guidelines prepared by the Corps and shall receive approval of the plan by CDFG prior to impacts to jurisdictional waters on the site. A five-year monitoring plan shall be implemented as set forth in the mitigation and monitoring plan prepared for the project.</p>	
<p><i>Impacts on Habitat Adjacent to Santa Clara River Riparian Area</i></p> <p>Upland habitat within 100 feet from riparian wildlife species is necessary to maintain species diversity within the riparian ecosystem and adequately buffer this ecosystem from adjacent incompatible land uses. Temporary grading would be allowed in the 100-foot buffer if the area is revegetated with native habitats following completion of grading. With incorporation of native habitat into the 100-foot buffer area, any impacts to the Santa Clara River would be reduced to less than significant.</p>	<p>D-9 Temporary project grading shall be allowed within a 100 foot buffer area adjacent to the Santa Clara River Riparian Area. Upon completion of grading, the project applicant shall re-vegetate the 100-foot buffer area with native habitat. The applicant shall delineate the 100-foot buffer prior to issuance of grading permits. A palette of site-appropriate native plant species shall be submitted to the Director of Planning & Economic Development for approval prior to issuance of grading permits.</p>	<p>Less than Significant</p>
<p><i>Significant Ecological Areas</i></p> <p>No habitat within Santa Clara River SEA will be disturbed or converted to urban uses as result of project implementation resulting in permanent impact. Grading will be occurring in</p>	<p>None required</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>adjacent buffer areas; however, these areas will be planted with native species and will function as buffer areas upon completion of the project.</p>		
<p><i>Coastal California Gnatcatcher Critical Habitat Unit 13</i> Essentially, the entire Keystone site is located within Critical Habitat Unit 13 for the federally listed threatened coastal California gnatcatcher, which was not identified on the site during focused protocol surveys. Nevertheless, the 85.3 acres of CSS and 53.13 acres of chaparral on the site, totaling approximately 138.43 acres, are considered to comprise Primary Constituent Elements (PCEs) that could potentially provide for breeding, foraging and dispersal for this species. As noted under plant communities above, the loss of CSS and chaparral, totaling 138.43 acres combined within Critical Habitat Unit 13 would be a significant impact.</p>	<p>D-10 The project shall require federal permits (i.e., a Section 404 Permit from the Corps) that would further require that impacts to designated critical habitat be addressed through a Section 7 Consultation with USFWS. Specific mitigation to compensate for impacts to designated gnatcatcher critical habitat will be addressed and developed in consultation with USFWS during the Section 7 Consultation.</p>	<p>Less than Significant</p>
	<p>Additional Construction-Related Mitigation Measures D-11 The following measures shall be implemented to minimize impacts on remaining biological resources on the site as a result of construction and grading activities and to ensure that potential impacts on these resources will remain less than significant.</p> <p>A qualified biologist shall be retained, as determined by the City of Santa Clarita, as a construction monitor to ensure that incidental construction impacts on biological resources are avoided, or minimized, and to conduct pre-</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>grading field surveys for special-status plant and wildlife species that may be destroyed as a result of construction and/or site preparation activities. Responsibilities of the construction monitor include the following:</p> <ul style="list-style-type: none"> a) The construction monitor shall attend pre-grade meetings to ensure that timing/location of construction activities do not conflict with mitigation requirements (e.g. seasonal surveys for plants and wildlife). b) Mark/flag the construction area in the field with contractor in accordance with the final approved grading plan. Haul roads and access roads shall only be sited within the grading areas analyzed in the project EIR. c) Supervise cordoning of preserved natural areas that lie outside grading areas identified in the project EIR (e.g., with temporary fence posts and colored rope). d) Conduct a field review of the staking (to be set by the surveyor) designating the limits of all construction activity. Any construction activity areas immediately adjacent to riparian areas or other special-status resources should be flagged or temporarily fenced by the monitor, at his/ her discretion. e) Conduct meetings with the contractor and other key construction personnel describing the importance of restricting work to designated areas. The monitor should also discuss procedures for minimizing harm/harassment of wildlife encountered during 	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>construction.</p> <p>f) Periodically visit the site during construction to coordinate and monitor compliance with the above provisions.</p> <p>g) Construction personnel shall be prohibited from entry into areas outside the designated construction area, except for necessary construction related activities, such as surveying. All such construction activities shall be coordinated with the construction monitor.</p> <p>h) Standard dust control measures shall be implemented to reduce impacts on nearby plants and wildlife. This includes replacing ground cover in disturbed areas as quickly as possible; water active sites at least twice daily; suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph; and restricting traffic speeds on all unpaved roads to 15 mph or less in areas within 200 feet of vegetation.</p> <p>i) Upon completion of construction, the contractor shall be held responsible to restore any haul roads and access roads that are outside of approved grading limits. This restoration shall be done in consultation with the construction monitor.</p>	
<p>Operational Impacts Increased Human and Domestic Animal Presence Implementation of the Proposed Project would increase human and</p>	<p>D-12 Pets and other domestic animals shall be prohibited with fencing and signage from the open space areas and in any revegetation areas on the project site unless restrained by</p>	<p>Less than Significant</p>

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<p>domestic animal presence in the area. The River already receives a certain amount of equestrian and off-road vehicle use, as well as domestic animal use, an increase in these uses as a result of project implementation, taken together, could substantially effect the quality of these areas as wildlife habitat, would potentially interfere with movement of wildlife, and would potentially reduce the population of wildlife species, including special-status bird and fish species. Therefore, the increased use of the river areas by humans and domestic animals is considered a significant impact.</p>	<p>leash and only in designated areas.</p> <p>D-13 Fencing of sufficient height and design (i.e., ranch-rail) shall be constructed between the edge of the fuel modification zone and the river corridor to deter humans and domestic animals from entering open space habitat areas.</p> <p>D-14 Native shrubs such as laurel sumac, California coffeeberry, toyon, and coast prickly-pear shall be planted along the fence to further deter access. Final fence design shall be approved by and the City Planning and Building Services Department.</p> <p>D-15 Human access into the open space areas shall only occur in designated locations (i.e., existing and future trails). All motorized vehicles are prohibited from entering the preserved natural open space areas with the exception of emergency or maintenance vehicles. Applicant shall post signage reflecting the above requirement.</p> <p>D-16 Prohibitions against human, domestic animal, and motorized vehicle use in preserved natural open space areas shall be established by the covenants conditions and restrictions (CC & Rs) recorded with the City Planning and Building Services Department.</p> <p>D-17 Interpretative signs shall be constructed and placed in</p>	

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	<p>appropriate areas, as determined by the City Planning and Building Services Department that explain the sensitivity of natural habitats and the need to minimize impacts on these natural areas. The signs will state that they are entering a protected natural area and that all pedestrians must remain on designated trails, all pets are to be restrained on leash, and that it is illegal to harm, remove, and/or collect native plants and animals. The project applicant shall be responsible for installation of interpretive signs and fencing.</p>	
<p>Lighting and Glare The development of a residential community and YMCA and junior high school would increase the number of nighttime light and glare sources on the site over current levels, which are relatively low. Because of the potential disruption to breeding and foraging behavior of wildlife species remaining on, and adjacent to, and in proximity to the project site, increased nighttime lighting and glare is considered a potentially significant impact.</p>	<p>D-18 All street, residential, and parking lot lighting shall be downcast luminaries or directional lighting with light patterns directed away from natural areas. Covenants, Codes and restrictions (CC&Rs) shall require the exterior lighting within the residential area be limited to low voltage unless such lights are shielded and pointed downward.</p>	<p>Less than Significant</p>
<p>Increase in Population of Non-Native Species Non-native plant and wildlife species are typically attracted to developed and urban environments and potentially displace native species because of their ability to compete more effectively for resources. However, because various levels of development essentially surround the project site, non-native and urban-adapted</p>	<p>D-19 The only potential impacts associated with an increase in non-native are along the interface of the Santa Clara River. Implementation of Mitigation Measures D-9 and D-17 above, would mitigate these potential impacts to a level that is less than significant.</p>	<p>Less than Significant</p>

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<p>plant species already occur on the project site and surrounding area. Consequently, the project is not exposed. Therefore, impacts on the remaining natural areas as result of potential increases in non-native plants and wildlife resulting from project implementation are not expected to be significant. However, incorporation of native planting into buffer areas along the Santa Clara River would ensure that impacts to the river are less than significant.</p> <p>Cumulative Impacts</p> <p>Because of the overall low value of the biological resources on the site, the proposed Keystone project's contribution to the regional loss would not be substantial. However, significant impacts to Coastal Sage Scrub, Chaparral, Southern Cottonwood-Willow Riparian Forest and individual oak trees have been determined and the loss of these habitats with project and related project implementation would add to the cumulative loss in the regions. With implementation of the mitigation for direct habitat loss would be fully compensated and the cumulative impacts would also be reduced to a less-than significant level as set forth mitigation measures D-1, D-2, D-3, and D-5.</p> <p>Cumulative impacts to Gnatcatcher Critical Habitat Unit 13 would be mitigated to a less than significant level as set forth in mitigation measure D-1, D-2, and D-4. The cumulative loss of aquatic resources subject to the jurisdiction of the Corps and CDFG would be mitigated with the project mitigation measure D-8. All potential</p>	<p>None required</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>cumulative impacts to biological resources would be mitigated to a less-than-significant level with implementation of the mitigation measures set forth above.</p>		
CULTURAL RESOURCES		
<p>Historical: According to the Phase I that was prepared for the project, although no evidence of historical resources was found on the project site, the project site is moderately sensitive for historical resources and unknown resources could be uncovered during project construction. If proper care is not taken during grading and excavation activities, these unknown resources could be damaged or destroyed. Therefore, project impacts on unknown historical resources would be significant.</p>	<p>E.1-1 Prior to excavation and construction on the Proposed Project site, the prime construction contractor and any subcontractor(s) shall be cautioned on the legal and/or regulatory implications of knowingly destroying cultural resources or removing artifacts, human remains, bottles, and other cultural materials from the project site.</p> <p>E.1-2 If during any phase of project construction, any cultural materials are encountered, construction activities within a fifty-meter radius shall be halted immediately, and the project applicant shall notify the City. A qualified historic archaeologist (as approved by the City) shall be retained by the project applicant and shall be allowed to conduct a more detailed inspection and examination of the exposed cultural materials. During this time, excavation and construction would not be allowed in the immediate vicinity of the find. However, those activities could continue in other areas of the project site.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>E.1-3 If any find were determined to be significant by the qualified historic archaeologist, the City, and the qualified historic archaeologist would meet to determine the appropriate course of action.</p> <p>E.1-4 All cultural materials recovered from the site would be subject to scientific analysis, professional museum curation, and a report prepared according to current professional standards.</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p><i>Prehistoric Archaeological Resources</i> One prehistoric archaeological site (CA-LAN-0295) and two prehistoric isolates have been recorded within a one mile radius of the project site. According to the Phase I that was prepared for the project, the site appears to be clear of any known, potentially significant resources and not likely to yield buried deposits. Given the archaeological-sensitivity of the area, it is possible that during the project's construction phase, unknown prehistoric archaeological resources could be encountered. Without proper care during grading and excavation, unknown resources could be damaged or destroyed. Therefore, project impacts on unknown prehistoric archaeological resources would be significant.</p>	<p>Mitigation measures E.1-1 through E.1-4, listed under Cultural Resources, Historical Resources above, for the impacts to unknown resources would also be applicable to unknown prehistoric archaeological historic archaeological resources.</p>	<p>Less than Significant</p>
<p><i>Human Remains</i> No evidence has been uncovered that the project would disturb any human remains. Contact with the Native American Heritage Commission resulted in no written comments and no specific concerns with respect to potential resources on the site. However, it is possible during the project's construction phase that human remains could be uncovered. Therefore, project impacts on unknown human remains would be significant.</p>	<p>E.2-1 If human remains are discovered at the project site during construction, work at the specific construction site at which the remains have been uncovered shall be suspended, and the City of Santa Clarita Department of Planning and Economic Development and County coroner shall be immediately notified. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains.</p>	<p>Less than Significant</p>
<p><i>Paleontological resources:</i> Although earth-moving activities would be relatively short term, some fossil remains, unrecorded fossil sites, associated specimen</p>	<p>E.3-1 Prior to construction, the project applicant shall retain the services of a qualified vertebrate paleontologist approved by the City of Santa Clarita and the Los Angeles County</p>	<p>Less than Significant</p>

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<p>data, and corresponding geologic and geographic site data, and the fossil-bearing strata could be lost. The potential loss of these paleontological resources would be significant. Therefore, project impacts on paleontological resources would be significant.</p>	<p>Vertebrate Paleontology Department (LACMVP) to implement the mitigation program during earth-moving activities in the parcel.</p> <p>E.3-2 The paleontologist shall develop a formal agreement with a recognized museum repository, such as the LACMVP, regarding final disposition and permanent storage and maintenance of any fossil remains and associated specimen data and corresponding geologic and geographic site data that might be recovered as a result of the mitigation program, and the level of treatment (preparation, identification, curation, cataloguing) of the remains that would be required before the entire mitigation program fossil collection would be accepted by the repository for storage.</p> <p>E.3-3 Prior to the start of any earth-moving activity associated with development of the parcel, the paleontologist and/or monitor shall conduct an intensive survey of the parcel, including those areas that would be buried but not otherwise disturbed by these activities. The survey, particularly with regard to areas of the parcel underlain by the Saugus Formation, shall allow for the discovery of any unrecorded fossil site and the recovery the fossil remains, the recording of associated specimen data and corresponding geologic and geographic site data, and the recognition of fine-grained strata suitable for containing smaller vertebrate fossil remains. The recovery of fossil</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>remains during the survey might reduce the potential for a delay in earth-moving activities.</p> <p>E.3-4 The paleontologist or monitor shall coordinate with the appropriate grading contractor personnel to provide information regarding lead agency requirements for the protection of paleontological resources. Contractor personnel also shall be briefed on procedures to be followed in the event that a fossil site or remains are encountered by earth-moving activities, particularly when the monitor is not on site. The briefing shall be presented to new contractor personnel as necessary. Names and telephone numbers of the monitor and other appropriate mitigation program personnel shall be provided to the appropriate contractor personnel.</p> <p>E.3-5 Earth-moving activities shall be monitored by the monitor only in those areas of the parcel where these activities would disturb previously undisturbed strata. Monitoring shall be conducted on a full-time basis in areas underlain by Saugus Formation, half time where underlain by the low terrace remnants, and quarter time where underlain by the high terrace deposits, younger alluvium, and stream channel deposits (monitoring would not be conducted in areas underlain by younger alluvium or stream channel deposits, unless and until these activities have reached a depth at least 5 feet below grade, or in areas where exposed strata would be buried,</p>	

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	<p>but not otherwise disturbed). If fossil remains are encountered by these activities, monitoring shall be increased to full or half time, as appropriate, at least in the vicinity of the fossil site where the area is underlain by the fossil-bearing rock unit. With City of Santa Clarita approval, if no fossil remains are found once 50 percent of earth-moving activities have been completed in an area underlain by a particular rock unit, monitoring may be reduced or suspended in that area.</p> <p>Monitoring shall consist of visually inspecting debris piles and freshly exposed strata for larger fossil remains, and periodically dry test screening sediment, rock, and debris for smaller fossil remains. As soon as practicable, the monitor shall recover all vertebrate fossil specimens, a representative sample of invertebrate or plant fossils, or any fossiliferous rock sample that can be recovered easily. If recovery of a large or unusually productive fossil occurrence is warranted, earth-moving activities shall be diverted temporarily around the fossil site and a recovery crew shall be mobilized as necessary to remove the occurrence as quickly as possible. If not on site when a fossil occurrence is uncovered by these activities, the activities shall be diverted temporarily around the fossil site and the monitor called to the site to evaluate and, if warranted, remove the occurrence. If the fossil site is determined too unproductive or the fossil remains not worthy of recovery, no further action shall be taken to preserve the fossil site or remains, and earth-moving</p>	

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	<p>activities would be allowed to proceed through the site immediately. The location and proper geologic context of any fossil occurrence shall be documented, as appropriate. Any recovered rock sample shall be processed to allow for the recovery of smaller fossil remains.</p> <p>Rock samples shall be processed to allow for the recovery of smaller fossil remains that normally are too small to be observed by the monitor. No more than 6,000 pounds (12,000 pounds total) of rock shall be processed from either the Saugus Formation or the low terrace remnants.</p> <p>E.3-6 All fossil specimens recovered from the parcel as a result of the mitigation program, including those recovered as the result of processing fossiliferous rock samples, shall be treated (prepared, identified, curated, catalogued) in accordance with designated museum repository requirements. Rock samples from the Saugus Formation and older alluvium shall be submitted to commercial laboratories for microfossil, pollen, or radiometric dating analysis.</p> <p>E.3-7 The monitor shall maintain daily monitoring logs that include the particular tasks accomplished, the earth-moving activity monitored, the location where monitoring was conducted, the rock unit encountered, fossil specimens recovered, and associated specimen data</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	and corresponding geologic and geographic site data. A final technical report of results and findings shall be prepared by the paleontologist in accordance with any City of Santa Clarita requirement.	
<p>Cumulative Impacts:</p> <p>There are no historical resources located on the project site. One prehistoric archaeological site (CA-LAN-0295), two prehistoric isolates, and seven historical archaeological sites (CA-LAN-2105, CA-LAN-2132, and CA-LAN-2040 through -2044) have been recorded within one mile of the project area and there is further potential that one or more of the related projects might encounter archaeological resources during the course of development. It is anticipated that historic, archeological or paleontological resources that are potentially affected would be subject to the requirements of CEQA. It is further anticipated that the effects of cumulative development on such resources would be mitigated to the extent feasible in accordance with CEQA and other applicable legal requirements. Consequently, cumulative impacts are expected to be less than significant and thus, when considered in conjunction with the Proposed Project would not be cumulatively considerable.</p>	None required.	Less than Significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
GEOLOGY AND SOILS		
<p><i>Earthquakes, Landslides, Mudslides, Ground Failure, or Similar Hazards</i></p> <p>The Geologic and Geotechnical Report prepared for the project site determined that impacts exposing people or property to geologic hazards related to earthquakes, landslides/mudslides, ground failure associated with liquefaction, transition lots, groundwater and soil corrosivity would be less than significant with incorporation of the required mitigation measures.</p>	<p>The Proposed Project may result in potential impacts associated with geotechnical resources prior to mitigation. Therefore, the Project Applicant has committed to implementing the following mitigation measures for the Proposed Project to ensure that future development of the project site is safe from geotechnical hazards (earthquakes, landslides, mudslides, ground failure or similar hazards), wind or water erosion of soils, unstable earth conditions in geologic substructure and that it would not adversely affect adjacent properties.</p> <p>General</p> <p>F-1 All project site development shall be performed according to the recommendations identified in the referenced report, (Allan E. Seward Engineering Geology, 2004).</p> <p>F-2 Mitigation measures for geotechnical resources shall be implemented so as not to conflict with mitigation measures as section set forth in Section V.D, Biological Resources, of this EIR.</p>	<p>Less than Significant</p>
<p><i>Wind or Water Erosion of Soils</i></p> <p>Wind and water erosion of the project site would increase during construction activities unless mitigated, and this would result in a significant construction-related impact. With proposed mitigation, impacts would be less than significant.</p> <p>Once developed, site erosion and sedimentation would decrease</p>	<p><i>Drainage Control</i></p> <p>F-25 Wherever groundwater seepage is observed, the condition shall be evaluated by the Engineering Geologist and Geotechnical Engineer prior to covering with fill material.</p> <p>F-26 Surface drainage control design shall include provisions for positive surface gradients to ensure that surface runoff</p>	<p>Less than Significant</p>

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<p>substantially compared to existing conditions because the project site would be covered with non-erosive surfaces, including pavement, structures, and permanent vegetation, all which would reduce the amount of exposed soil subject to wind and water erosion. Also, implementation of the existing provisions in the City's grading requirements for planting and irrigation of constructed slopes in conjunction with drainage recommendations would provide sufficient mitigation against potential erosion within the project site. As a result, long-term project impacts would be less than significant.</p>	<p>is not permitted to pond, particularly above slopes or adjacent to building foundations or slabs. Surface runoff shall be directed away from slopes and foundations and collected in lined ditches or drainage swales via non-erodible drainage devices, which shall discharge to paved roadways or existing watercourses. If these facilities discharge onto natural ground, means shall be provided, as directed by the project Civil Engineer, to control erosion and to create sheet flow.</p> <p>F-27 It should be expected that, even with the construction of carefully planned and designed erosion control measures, some erosion may occur during the first few wet seasons after the project is completed. Site grading should be inspected, particularly after heavy, prolonged rainfall, to identify erosion areas at an early stage. Maintenance work shall be done as soon as practical to repair these areas and prevent their enlargement.</p> <p>F-28 Planting and irrigation standards within the City of Santa Clarita Grading Code shall be adhered to in order to prevent soil erosion.</p> <p>F-29 Fill slopes and stability fills, as applicable, shall be provided with subsurface drainage as necessary for stability as determined by the project Geologist/Geotechnical Consultant. A typical backdrain detail is shown on Figure E7, Appendix E of the</p>	

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	<p>referenced report (Allan E. Seward Engineering Geology, Inc, 2004). Also, subdrains along the bottom of canyon fills shall be constructed. A typical canyon subdrain detail is presented on Figure E9 of the referenced report.</p> <p>F-30 All final grades shall be sloped away from the building foundations to allow rapid removal of surface water runoff. No ponding of water shall be allowed adjacent to the foundations. Plants and other landscaped vegetation requiring excessive watering shall be avoided adjacent to the building foundations. Should landscaping be constructed, an effective water-tight barrier shall be provided to prevent water from affecting the building foundations.</p> <p>Corrosivity and Chemical Attack Considerations</p> <p>F-41 On-site soils classify as severely corrosive to corrosive to buried metals per County of Los Angeles classification. Sulfate concentrations are negligible per UBC (1997) classification, and pH was near-neutral (reported as 7.2 in the referenced report, Allan E. Seward Engineering Geology, Inc., 2004). Pending additional testing, either Type I or II cement may be considered for use in concrete placed in contact with the ground. Mitigating measures for soil corrosivity shall be finalized by the Project Engineer based on additional confirmatory tests that shall be performed at the Grading Plan stage. Final recommendations for concrete shall be in accordance with</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>the latest UBC requirements, and a corrosion specialist shall provide mitigating recommendations for potential corrosion of metals in contact with on-site soils prior to issuance of a Grading Permit.</p>	
<p><i>Unstable Earth Condition or Changes in Geologic Substructure</i> Development over the existing undocumented fill would result in a significant geotechnical impact unless mitigated. With proposed mitigation, impacts would be less than significant.</p>	<p><i>Landslides</i></p> <p>F-18 Three landslides are located within or in the vicinity of the proposed development area of the project. These landslides shall be mitigated as recommended in Table 1 of Geologic and Geotechnical Report – Addendum No. 1 Revised Tentative Tract Map of the referenced report, (Allan E. Seward Engineering Geology, 2004).</p> <p>F-19 Landslides Qls-1, Qls-2 and Qls-3 shown in figure 4.1-1 should be included on the Final Map as Restricted Use Areas.</p> <p><i>Proposed Cut-Slopes</i></p> <p>F-20 Eighteen proposed cut-slopes ranging in height from 25 feet to 120 feet are proposed on the project site and are designated as CS-1 through CS-18. Recommended mitigation, if necessary, for each slope as presented in Cut-Slope Summary (Table 2.1 of the referenced report, Allan E. Seward Engineering Geology, Inc., 2004), shall be followed. This determination shall be made by the Geologist/Geotechnical Consultant prior to grading activities. It has been conservatively assumed for the purposes of stability analysis that weak bedding planes</p>	<p>Less than Significant</p>

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	<p>may occur anywhere in the proposed cut-slopes. If any of the smaller proposed cut-slopes (less than 25± feet in height) have adverse geologic grading configurations (fill over cut), they shall be mitigated, if necessary, with a standard 15- to 20-foot wide key (depending on the proposed cut-slope height) and benching similar to a Stability Fill. A “Typical Fill above Cut-Slope” detail is shown on Figure E8 within Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004). This determination shall be made by the project Geologist/Geotechnical Consultant prior to grading activities.</p> <p>F-21 All permanent cut-slopes shall be constructed at a slope ratio not steeper than 2:1 (h:v). All permanent cut-slopes exposing Terrace Deposits or Alluvium shall be constructed as a stability fill. Temporary cut slopes in competent rock may be constructed as steep as 1.5:1 (h:v). Potential unstable subsurface conditions exposed during construction, such as adverse bedding, joint planes, zones of weakness or exposed seepage, may require either flatter slopes than specified above or construction of benches. An Engineering Geologist shall observe all backcuts during the grading operations and provide appropriate recommendations, if necessary.</p> <p>Natural Slopes</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>F-22 Natural slopes within the proposed Tentative Tract 60258 have gradients ranging from 5:1 (h:v) to 1.1:1 (h:v). A 75-foot high approximately 1:1 (h:v) gradient slope located westerly of Lot 99 within the DWP easement was identified by the referenced report, (Allan E. Seward Engineering Geology, 2004) as the most critical slope. The referenced report illustrates the geologic conditions of this slope on Section 13 – 13’ and provides slope stability analysis indicating that this natural slope satisfies the City of Santa Clarita factor of Safety requirements. All natural slopes that are relatively steep and have accumulations of soil and slopewash are prone to debris flow hazard.</p> <p>F-23 A fill over natural condition is proposed along the southern edge of the proposed school site (Lot 102) above the Santa Clara River. The natural slope is approximately 90-feet in height with gradients up to 1.1:1 (h:v). A fill slope up to 40 feet in height is proposed to ascend above the natural slope. The referenced report, (Allan E. Seward Engineering Geology, Inc., 2004), recommends a twenty foot horizontal bench to set back the fill slope from the descending natural slope. The horizontal bench is recommended to extend laterally a distance of approximately 450 feet. The recommended bench is color coded yellow on the Geologic/Geotechnical Map as well as on Cross Section 3-3’ Plate II within the referenced report, (Allan E. Seward Engineering Geology, Inc., 2004).</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p><i>Exploratory Trench and Boring Backfill</i></p> <p>F-24 All of the exploratory trenches and borings previously excavated for this project shall be overexcavated and backfilled with compacted fill in accordance with the earthworks recommendations of the referenced report, (Allan E. Seward Engineering Geology, Inc., 2004).</p>	
	<p><i>Earthwork</i></p> <p>F-3 All grading shall be accomplished under the observation and testing of the Project Soils Engineer, Engineering Geologist and/or their authorized representatives in accordance with the recommendations contained herein, the current Uniform Building Code requirements and “Recommended Earthwork Specifications” as presented in Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004).</p> <p><i>Site Preparation</i></p> <p>F-4 During site preparation, the site shall be cleared and stripped of organics (vegetation), topsoil, roots, undocumented artificial fill, rubble, construction debris and other unsuitable materials, as applicable, and the site shall be graded to provide a firm base for compacted fill. All organics shall be removed from the site for proper disposal. The Geotechnical Engineer and/or his representatives shall observe the excavated areas prior to placing compacted fill.</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p><i>Removal and Benching</i></p> <p>F-5 In order to provide a uniform firm bottom prior to placing fill, all unconsolidated alluvium, slopewash, colluvial soils and severely weathered terrace deposits and bedrock shall be removed from areas to receive fill. The estimated depths of removals (excluding landslides) range from 3 to 36 feet as shown on Figure V.F-1. The exact depth and extent of necessary removals will be determined in the field during the grading operations when observations and more location specific evaluations can be performed.</p> <p>F-6 All existing artificial fill (af) shall be removed and replaced with compacted fill. Removals at the locations of exploratory trenches shall be extended to the bottom of the trench backfill if the adjacent removal depths are shallower than the trench.</p> <p>F-7 In areas to receive compacted fill where the surface gradient is steeper than 5:1 (h:v), the soil mantle, colluvium and unsuitable material shall be removed and such areas benched horizontally into competent material prior to or in conjunction with fill placement (see Appendix E, Fill Over Natural Slope, Figure E2 of the referenced report, Allan E. Seward Engineering Geology, 2004).</p> <p><i>Preparation of Bottom Areas</i></p> <p>F-8 After the ground surface to receive fill has been exposed,</p>	

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	<p>it shall be ripped to a minimum depth of 6 inches, brought to optimum moisture content or above, thoroughly mixed to obtain a near uniform moisture condition and uniform blend of materials, and then compacted to the required relative compaction per the ASTM D 1557 laboratory maximum density.</p> <p>Dewatering During Removals</p> <p>F-9 Where recommended removals encounter groundwater, water levels shall be controlled by providing an adequate excavation bottom slope and sumps for pumping water out as the excavation proceeds, or groundwater may be lowered by installing shallow dewatering well points prior to grading. Partial removals of soils above the water table and soil improvement below the water table (e.g., shallow compaction grouting) may be another option. The determination as to which measures are to be used shall be made by the project Civil Engineer. Dewatering may be needed depending on the season when the removals are performed. All discharges from dewatering operations, if any, shall comply with the National Pollutant Discharge Elimination System Permit (NPDES) requirements of project construction.</p> <p>Over-Excavation</p> <p>F-10 A minimum five-foot thick over-excavation shall be performed on all cut-lots, transitional lots (transitions between bedrock, fill, terrace deposits and alluvium), and</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>streets. This overexcavation will result in reduction of potential differential settlements or differential material response to seismic events and provide a uniform base for structural support of buildings. If the maximum depth of fill exceeds 15 feet on a cut/fill transition lot, then the thickness of the fill cap shall be one-third of the deepest fill thickness below any proposed structure (see Appendix E, Cut Lot and Cut Fill Lot (Transitional), Figure E3, of the referenced report, Allan E. Seward Engineering Geology, 2004). If excavation of the native soils (i.e., bedrock) exposes expansive materials, then the lot over-excavation shall be deepened to at least eight feet.</p> <p>Fill Materials</p> <p>F-11 On-site soils that are free of debris, over-size rocks, topsoil and organic matter may be used as sources for compacted fills. Rock or similar irreducible material with a maximum dimension greater than eight inches may not be placed in the fill. Rocks or hard fragments larger than four inches shall not compose more than 25 percent of the fill and/or lift. Any large rock fragments over eight inches in size, may be incorporated into the fill as rockfill in windrows after being reduced to the specific maximum rock fill size, see Figure E4, Rock Disposal, in Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004). Where fill depths are too shallow to allow large rock disposal, special handling or removal may be required depending upon on-site field decisions</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>made during grading operations by the project Geologist/Geotechnical Consultant see “Recommended Earthwork Specifications” in Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004).</p> <p>Fill Compaction</p> <p>F-12 All fill material shall be placed in uniform lifts not exceeding eight inches in its loose state and compacted to a minimum of 90 percent relative compaction as determined based on the latest ASTM Test Designation D-1557. Additional field compaction requirements are presented in Appendix E, “Recommended Earthwork Specifications” of the referenced report (Allan E. Seward Engineering Geology, 2004). Appendix E also includes recommended specifications for placement of trench backfill.</p> <p>F-13 For fills deeper than 40 feet, the portion of fill below 40 feet depth shall be compacted to a minimum of 93 percent relative compaction. These areas shall be delineated at the Grading Plan stage.</p> <p>Proposed Fill Slopes</p> <p>F-14 Fill slope inclinations shall not be steeper than 2:1 (h:v). The fill material within approximately one equipment width (typically 15 feet) of the slope face shall be constructed with cohesive material obtained from on-site</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>soils. The finished fill-slope face shall be constructed by over-building the slope and cutting back to the compacted fill material. Stability fills are recommended where cut-slope faces will expose fill-over bedrock, alluvium over bedrock or Quaternary terrace deposits over bedrock conditions. These fills shall be constructed with a keyway at the toe of the fill slope with a minimum equipment width, but not less than 15 feet, and a minimum depth of 3 feet into the firm undisturbed earth. Following completion of the keyway excavations, the Project Engineering Geologist shall observe and approve the keyway bottom prior to backfilling with certified engineered fill.</p> <p>F-15 Where fill slopes are constructed above natural ground with a gradient of 5:1 (h:v) or steeper, all topsoil, colluvium, and unsuitable material shall be removed and a keyway shall be constructed at the toe of the fill slope with a minimum width of 15 feet, and a minimum depth of 3 feet into firm undisturbed earth (see Appendix E, Fill Slope Over Natural Slope diagram, Figure E5 of the referenced report, Allan E. Seward Engineering Geology, 2004). Following completion of the keyway excavations, the project Engineering Geologist/Geotechnical Engineer or designated representative shall observe and approve the keyway bottom prior to backfilling with compacted fill.</p> <p>F-16 Where fill slopes toe out on relatively level natural ground, the removals shall be performed to a minimum</p>	

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	<p>1:1 (h:v) projection from the toe of slope to the recommended removal depth, (see Appendix E, Fill Slope Toeing Out on Flat Alluviated Canyon, Figure E6 of the referenced report, Allan E. Seward Engineering Geology, 2004).</p> <p>F-17 Where sliver fill-slopes are proposed, the slope shall be constructed with a minimum 15-foot width Stability Fill throughout, which is keyed in at the toe of slope (see Appendix E, Stability/Buttress Fill and Backdrains Detail, Figure E7 the referenced report, Allan E. Seward Engineering Geology, 2004).</p> <p>Proposed Cut-Slopes</p> <p>F-20 Eighteen proposed cut-slopes ranging in height from 25 feet to 120 feet are proposed on the project site and are designated as CS-1 through CS-18. Recommended mitigation, if necessary, for each slope as presented in Cut-Slope Summary (Table 2.1 of the referenced report, Allan E. Seward Engineering Geology, Inc., 2004), shall be followed. This determination shall be made by the Geologist/Geotechnical Consultant prior to grading activities. It has been conservatively assumed for the purposes of stability analysis that weak bedding planes may occur anywhere in the proposed cut-slopes. If any of the smaller proposed cut-slopes (less than 25± feet in height) have adverse geologic grading configurations (fill over cut), they shall be mitigated, if necessary, with a</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>standard 15- to 20-foot wide key (depending on the proposed cut-slope height) and benching similar to a Stability Fill. A "Typical Fill above Cut-Slope" detail is shown on Figure E8 within Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004). This determination shall be made by the project Geologist/Geotechnical Consultant prior to grading activities.</p> <p>F-21 All permanent cut-slopes shall be constructed at a slope ratio not steeper than 2:1 (h:v). All permanent cut-slopes exposing Terrace Deposits or Alluvium shall be constructed as a stability fill. Temporary cut slopes in competent rock may be constructed as steep as 1.5:1 (h:v). Potential unstable subsurface conditions exposed during construction, such as adverse bedding, joint planes, zones of weakness or exposed seepage, may require either flatter slopes than specified above or construction of benches. An Engineering Geologist shall observe all backcuts during the grading operations and provide appropriate recommendations, if necessary.</p> <p>Natural Slopes</p> <p>F-22 Natural slopes within the proposed Tentative Tract 60258 have gradients ranging from 5:1 (h:v) to 1.1:1 (h:v). A 75-foot high approximately 1:1 (h:v) gradient slope</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>located westerly of Lot 99 within the DWP easement was identified by the referenced report, (Allan E. Seward Engineering Geology, 2004) as the most critical slope. The referenced report illustrates the geologic conditions of this slope on Section 13 – 13’ and provides slope stability analysis indicating that this natural slope satisfies the City of Santa Clarita factor of Safety requirements. All natural slopes that are relatively steep and have accumulations of soil and slopewash are prone to debris flow hazard.</p> <p>F-23 A fill over natural condition is proposed along the southern edge of the proposed school site (Lot 102) above the Santa Clara River. The natural slope is approximately 90-feet in height with gradients up to 1.1:1 (h:v). A fill slope up to 40 feet in height is proposed to ascend above the natural slope. The referenced report, (Allan E. Seward Engineering Geology, Inc., 2004), recommends a twenty foot horizontal bench to set back the fill slope from the descending natural slope. The horizontal bench is recommended to extend laterally a distance of approximately 450 feet. The recommended bench is color coded yellow on the Geologic/Geotechnical Map as well as on Cross Section 3-3’ Plate II within the referenced report, (Allan E. Seward Engineering Geology, Inc., 2004).</p> <p>Exploratory Trench and Boring Backfill</p> <p>F-24 All of the exploratory trenches and borings previously excavated for this project shall be overexcavated and backfilled with compacted fill in accordance with the</p>	

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	<p>earthworks recommendations of the referenced report, (Allan E. Seward Engineering Geology, Inc., 2004).</p> <p><i>Shrinkage, Bulking and Subsidence</i></p> <p>F-31 The Project Engineer shall design pad grades with sufficient flexibility to accommodate a possible shortage of fill of up to 10 percent of the total yardage graded due to potential shrinkage of fill and potential subsidence due to dewatering.</p> <p><i>Foundation Settlement Consideration</i></p> <p>F-32 The structural design shall include seismic geotechnical parameters in accordance with UBC requirements for Seismic Zone 4. These parameters will be provided at the Grading Plan stage.</p> <p>F-33 Shallow spread footings for foundation support of residential structures can adequately be placed on compacted engineered fill as stated in Mitigation Measures V.F-13 and V.F-14. Support for heavier structures, if applicable, shall be addressed at the Grading Plan stage. Minimum specifications for continuous (wall) foundation dimensions are 12 inches wide and 12 inches deep below lowest adjacent grade for single-story residential structures. Tentatively, an allowable bearing capacity of 1,500 pounds per square-foot can be used for (minimum-sized) shallow foundations constructed in certified compacted fill. This tentative allowable bearing value</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>shall be confirmed by further field and laboratory testing by the Project Geologist of the site soils before use in design plans. Lateral resistance of footing walls shall be provided at the Grading Plan stage.</p> <p>F-34 If, during grading operations, the resulting cut-fill transition is steep, as determined by the project Geologist/Geotechnical Consultant, at depth below the building area, the geometry of the transition shall be reviewed during grading operations by the Soils Engineer on a site-specific basis to evaluate the need for additional over excavation removals and/or additional foundation reinforcement. As a general guideline, steep cut/fill transitions would include slope gradients steeper than 4:1 (h:v) and overall variations in fill thickness of greater than 15 feet, which occur within 20 feet of final pad grade. The determination of need for over excavation of materials shall be guided by Figure E3 (Appendix E), "Cut Lot (Transitional)" and "Cut-Fill Lot (Transitional)" of the referenced report, (Allan E. Seward Engineering Geology, Inc., 2004), which provides a foundation grading detail for locations where foundations will straddle transition zones between cut and fill materials.</p> <p>F-35 To minimize significant settlements, the upper soils in areas to receive fills shall be removed and replaced with compacted fill. Some minor settlements will be expected due to loads from high fills (e.g., thicker than 30 feet).</p>	

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	<p>Currently, locations of proposed high fills are in the vicinity of Lots 10-21, 30-34, 38, 39, 42-56, 77, 97, 99, 102, and 102A. Most of the settlements due to the load of added fill will occur during and shortly after rough grading is complete. However, since lenses of relatively compressible clayey soils exist below recommended removal depths, some of the fill settlements will not occur until the ground water table is lowered below the compressible clay lenses. Ground water table lowering is usually the result of pumping from water wells. (Note: the Proposed Project would not directly withdraw groundwater.) Alternatively, the project site may be temporarily surcharged with earth fill sufficient to simulate the load increase on the compressible clay lenses due to lowering of the ground water table, as determined by the project Geologist/Geotechnical Consultant.</p> <p>F-36 At other alluvial removal areas, potential settlements in Alluvium shall be minimized by the removals and recompaction recommended in the referenced report, (Allan E. Seward Engineering Geology, Inc., 2004). Also, potential effects from localized seismically induced settlements will be attenuated by the recompacted upper layers and proposed additional fills, see Appendix C in the referenced report, (Allan E. Seward Engineering Geology, 2004).</p> <p>Excavation, Shoring and Backfill Recommendations</p>	

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	<p>F-37 Excavations deeper than 3.5 feet shall conform to safety requirements for excavations as set forth in the State Construction Safety Orders enforced by the State Division of Industrial Safety, CAL OSHA. Temporary excavations 12 feet or lower shall be no steeper than 3/4:1 (h:v). For excavations to 20 feet in height, the bottom 3.5 feet may be vertical and the upper portion between 3.5 and 20 feet shall be no steeper than 1.5:1 (h:v). Excavations not complying with these requirements shall be shored. Excavation walls in sands and dry soils shall be kept moist, but not saturated at all times.</p> <p>F-38 Parameters for design of cantilever and braced shoring shall be provided at the Grading Plan stage.</p> <p>F-39 The bases of excavations or trenches shall be firm and unyielding prior to foundations or utility construction. On-site materials other than topsoil or soils with roots or deleterious materials may be used for backfilling excavations. Densification (compaction) by jetting may be used for on-site clean sands or imported equivalent of coarser sand provided they have a Sand Equivalent greater than or equal to 30 as determined by ASTM D2419 test method. Specifications for placement of trench backfill shall be adhered to and are presented in Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004).</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p><i>Expansive Soils Considerations</i></p> <p>F-40 The measures presented in Table E1, Minimum Foundation and Slab Recommendations for Expansive Soils, in Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004), shall be implemented to minimize the effects of soil expansion potential. It is anticipated that compacted fill from the on-site materials will have a very low to medium expansion potential. The expansion potential of the site soils exposed at rough grade shall be tested again after site grading is complete and the final foundation design shall be based on those expansion test results.</p>	
<p><i>Cumulative Impacts :</i></p> <p>Geotechnical impacts are site specific in nature and each development site is subject to, at minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the locality and/or region. Therefore, impacts of cumulative development would be less than significant given known geologic considerations of the cumulative projects.</p>	None required.	Less than Significant
HAZARDS		
<p><i>Routine Transport, Use or Disposal of Hazardous Materials/Risk of Upset</i></p> <p><i>Construction</i></p> <p>The services of properly trained and qualified hazardous waste</p>	<p>G-1 The services of properly trained and qualified hazardous waste handlers shall be used to perform hazardous waste cleanup or abatement, transportation and disposal prior to construction and appropriate protocol shall be followed to</p>	Less than Significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>handlers shall be used to perform hazardous waste cleanup or abatement, transportation and disposal prior to construction and appropriate protocol will be followed to ensure that construction workers are not exposed to toxic substances. Therefore, hazardous materials impacts relative to exposure to hazardous substances during disposal would be less than significant with mitigation.</p> <p><u>Oil Production Operations</u> The site assessment report indicated that the former oil well and drill site had been abandoned in 1964 in accordance with applicable regulations. However, the Phase 1 Environmental Site Assessment report did not map the exact location of the oil well and referred to the area as the “southwest” portion of the site. It is recommended as mitigation that additional environmental assessment be provided documenting the exact location of the oil well. Since the oil well was abandoned in 1964 it is recommended that the well be re-abandoned to current standards. With this mitigation, impacts would be less than significant with regards to the oil well.</p> <p><u>Previous Agricultural Operations</u> Based on aerial photography review, farming activity occurred in the late 1920s and continued sometime between the 1950s and 1960s on the southern plateau area east of the LADWP easement. Mining activities for aggregate resources also occurred on the same southern plateau during the 1960s. Approximate cuts appear to have been in excess of 30 feet, but less than 50 feet. There are some fill soils remaining from the mining activities in the southern</p>	<p>ensure that construction workers are not exposed to toxic substances.</p> <p>G-2 Prior to recordation of the Final Tract Map, initiation of rough grading or issuance of any subsequent permits, the applicant shall prepare a subsequent environmental assessment to document the exact location of the oil well. Re-abandonment of the oil well shall be performed to meet the current requirements of the State of California, Department of Conservation, Division of Oil, Gas & Geothermal Resources (DOGGR). Once re-abandoned, the oil well will not provide a significant impact to the Proposed Project.</p>	

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<p>portion of the southern plateau. Based upon exploration performed by AES, artificial fill up to 14 feet was encountered. No traces of pesticides were identified in the Phase 1 Environmental Site Assessments for the project site. Therefore, impacts would be less than significant.</p> <p><i>Operation</i> The Proposed Project is not anticipated to result in an accidental release of hazardous materials into the environment. The proposed YMCA building, the junior high school and the residential dwelling units would utilize limited quantities of common cleaning and maintenance materials, which would be shipped, stored, used and disposed of in accordance with applicable statutes. Based on the amount expected to be stored, nature of packaging, materials involved, and the Proposed Project's required compliance with applicable regulations, the risk from use of these materials is considered to be low and impacts would be less than significant.</p>		
<p>Hazardous Materials Sites The Phase I Environmental Site Assessments prepared for the Proposed Project reviewed a database of government-regulated properties having known and/or recognized environmental conditions that have potential environmental concerns in the vicinity of the project. There is a low probability that listed off-site properties in the search vicinity have impacted or are currently impacting the project site. As a result of the low probability of these properties impacting the project site, development of the Proposed Project would result in impacts less than significant.</p>	<p>None required.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>Exposure of People to Potential Health Hazards Transmission Line Exposure Typical maximum EMF levels at the edge of a 200-foot right-of-way for 230 kV transmission lines would be approximately 1.8-3.6 mG. This level is less than the background levels of 0.5 mG to 4.0 mG, which are typically found in the average home. Because there is no established threshold of significance for exposure to EMFs, there would be no significant impact associated with development of the Proposed Project adjacent to SCE transmission easements. The Proposed Project would not expose people, animal, or plant life populations to known health hazards from SCE transmission lines. No significant impacts from EMFs would occur.</p>	<p>None required.</p>	<p>Less than Significant</p>
<p>Other Past Usage: A Phase 1 Site Assessment revealed that a water well was found on the project site, in the area east of the LA DWP easement in the southwestern portion of that area. The presence of the well does not represent a recognized environmental hazardous condition. However, an uncapped or un-abandoned well can serve as a conduit for contaminants to groundwater. The Phase 1 Environmental Site Assessment recommends that the well be plugged and abandoned in accordance with applicable regulatory requirements. With implementation of this mitigation measure, impacts would be less than significant.</p>	<p>G-3 Prior to recordation of the Final Tract Map, initiation of rough grading or issuance of any subsequent permits, the applicant shall prepare a subsequent environmental assessment to document the exact location of the water well. Abandonment of the of the water well shall be performed to meet the current requirements regulatory requirements.</p>	<p>Less than Significant</p>
<p>Cumulative Impacts: Development of the 12 related projects, in conjunction with the Proposed Project, would increase the potential for the transport or</p>	<p>None required.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>accidental release of hazardous materials. The one industrial related project, No. 5, is located south of the project site on Soledad Canyon Road. The residential projects are unlikely to use, store, or transport hazardous materials in any material quantities and most likely would be using household cleaning fluids and materials. Hence, there is a very low probability that one or more of the related projects might release hazardous materials into the environment that, in turn, might combine with a release of hazardous materials from the project site to cause cumulative impacts. Therefore, the Proposed Project in combination with the 12 Related Projects would not be expected to result in significant cumulative impacts associated with hazardous materials.</p>		
HYDROLOGY AND WATER QUALITY		
<p>Water Quality Standards/Waste Discharge The Proposed Project includes a mix of uses all having the potential to directly and indirectly impact water quality through point and nonpoint sources given their proximity to the Santa Clara River. In addition, short-term construction activities also have the potential to cause a variety of water quality impacts. Therefore, project impacts are considered potentially significant and mitigation is required.</p>	<p>H-1 The Proposed Project shall comply with the RWQCB Municipal Permit (General MS4 Permit) Order No. 01-182, NPDES No. CAS004001 (adopted December 13, 2001) to reduce the discharge of pollutants to the maximum extent practicable.</p> <p>H-2 The project applicant shall obtain authorization through the Regional Water Quality Control Board (RWQCB) for a National Pollution Discharge Elimination System (NPDES) permit for general construction activity. The applicant shall avoid and minimize potential temporary water quality impacts by including provisions in the final engineering plans and specifications of each project</p>	<p>Less than Significant</p>

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	<p>component together with associated instructions to the contractors, assuring compliance with applicable RWQCB and City of Santa Clarita requirements. The project engineer shall file a notice of intent to discharge stormwater, and an application for the NPDES stormwater permit for general construction activity with the RWQCB before starting construction. All construction activities shall be subject to this requirement.</p> <p>H-3 The project's Drainage Concept Study and Hydrologic Analysis shall be reviewed and approved by the Los Angeles County Public Works Department prior to the issuance of any building permits. This analysis shall demonstrate that site drainage can adequately be collected and conveyed via the proposed drainage facilities without significantly impacting downstream hydrology, wetland functions, and/or water quality.</p>	
<p>Groundwater Supplies and Groundwater Recharge</p> <p>The Proposed Project would not be supplied with water drawn from either regional or local groundwater sources. Thus, the Proposed Project would not substantially deplete groundwater supplies such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. As a result, impacts to groundwater supplies would be</p>	<p>None required</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>less than significant.</p> <p>According to the Basin Plan, the project site is not located directly over a regional groundwater basin. Thus, the Proposed Project would not 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. As a result, impacts to groundwater recharge would be less than significant.</p>		
<p>Alteration of Existing Drainage and Erosion:</p> <p>Two detention basins will be provided on site to offset increases in two year storm flows as a result of project implementation. A reduction in sedimentation and debris production (15,948 cubic yards to 8,401 cubic yards) is a result of reduced erosion of the site due to coverage of much of the development area with pavement, roofs, vegetation, and other non-erosive surfaces. It is also a result of the proposed debris basins that would capture sediment and debris in upstream runoff. With these improvements in place, the project would reduce post-construction impacts on- and off-site erosion, downstream sedimentation, and debris production and transport and, therefore, a less than significant impact.</p>	<p>H-4 The project applicant shall prepare an Erosion and Sediment Control Plan to address construction impacts and long-term operational effects on downstream environments and watersheds. This plan shall be prepared by a qualified Civil Engineer. Proposed management efforts may include (but not be limited to) provisions for the use of vegetative filtering, preparation of detailed erosion control plans, appropriate use of</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>temporary debris basins, silt fences, sediment traps and other erosion control practices. The proposed plan shall also address all relevant NPDES requirements and recommendations for the use of best available technology. The erosion control plan shall be reviewed and approved by the City Engineer prior to issuance of grading permits.</p> <p>H-15 By October 1st of each year, a separate erosion control plan for construction activities shall be submitted to the local municipality describing the erosion control measures that will be implemented during the rainy season (October 1 through April 15).</p> <p>H-17 Ultimate project hydrology and debris production calculations shall be prepared by a project engineer to verify the requirements for debris basins and/or desilting debris.</p> <p>H-18 To reduce debris being discharged from the site, debris basins shall be designed and constructed pursuant to LACDPW Flood Control to intercept flows from undeveloped areas entering into the developed portions of the site.</p>	
<p><i>Alteration of Existing Drainage and Flooding</i> The Proposed Project would make alterations to the existing drainage pattern on the project Site by placing fill in canyons and</p>		

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<p>directing surface runoff into storm drainage facilities. However, all site runoff would continue to flow in approximately the same location as it does currently and would be discharged to the Santa Clara River. Compared to existing site conditions during a 50-year storm, both burned and burned and bulked volumes would be reduced by approximately 14 percent. Therefore, the Proposed Project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.</p>	<p>H-5 The project applicant shall submit a final drainage report including an evaluation of adequacy of all on-site drainage improvements. The final drainage report shall be based on final project plans and shall provide engineering detail on all proposed drainage improvements demonstrating that such improvements meet all County of Los Angeles requirements and design standards for stormwater infrastructure. The final drainage report shall be submitted to the City of Santa Clarita and County of Los Angeles Public Works Department for review and approval prior to issuance of any project permits.</p>	<p>Less than Significant</p>
<p><i>Project Runoff Water and Stormwater Drainage Systems/Additional Sources of Polluted Runoff</i></p> <p>The Proposed Project would increase the amount of runoff from those areas of the site that would be covered by roads, buildings, paved parking areas, and other relatively impermeable or impervious features. Burned and bulked flows would be reduced as a result of the proposed upstream debris basins that would capture upstream bulk flows and allow debris to settle out from the runoff before it enters the storm system through the developed portion of the site. As a result, there would be a net decrease in runoff and the project would not result in downstream flooding. Since storm flows from upstream areas would be channeled through</p>	<p>H-7 The on-site storm drain (pipes and reinforced concrete boxes) and open channels shall be designed and constructed for either the 25-year or 50-year capital storm.</p> <p>H-8 Debris basins shall be constructed pursuant to Los Angeles County Department of Public Works requirements to intercept flows from undeveloped areas entering into the developed portions of the site.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>the site in facilities designed for the 50-year capital storm, and since on-site runoff would be accommodated in facilities designed for the 25-year Urban Design Storm pursuant to LACDPW requirements, no-site or upstream flooding inadequately designed storm drainage facilities would occur. Also, the inclusion of BMPs in the project design can be expected to prevent substantial additional sources of polluted runoff. Therefore, impacts associated would be less than significant.</p>	<p>H-9 Energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters shall be installed as required by LACDPW at outlet locations to reduce velocities of runoff into the channel where necessary to prevent erosion.</p> <p>H-10 All on- and off-site flood control improvements necessary to serve the project are to be constructed to the satisfaction of the City of Santa Clarita and/or County of Los Angeles Department of Public Works Flood Control Division.</p>	
<p><i>Project Degradation of Water Quality</i></p> <p>Other than those issues already discussed above, the Proposed Project also has the potential to degrade water quality as a result of onsite sewage generation. The Proposed Project would connect to public sewers and its sewage would be treated by the Santa Clarita Valley Joint Sewerage System. There would be no onsite sewage disposal and the Proposed Project is not expected to otherwise substantially degrade water quality.</p>	<p>H-6 All Best Management Practices (BMPs) proposed in the project's Storm Water Pollution Prevention Plan (SWPPP) shall be implemented prior to and during construction activities. The project contractor shall implement all Best Management Practices as described in the SWPPP to reduce potential water quality impacts. Final review and approval of this plan shall be completed by the City of Santa Clarita prior to issuance of grading permits. At a minimum, the BMPs shall address soil stabilization, sediment control, wind erosion control, tracking control, non-stormwater control, waste management and materials pollution control practices,</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>and emergency spill control and response measures. Typical BMPs that shall be considered for inclusion in the SWPPP include:</p> <ul style="list-style-type: none"> • temporary sediment control: silt fencing, sandbagging, strawbale ground-covering, fiber roll barriers, and desilting basins; • temporary soil stabilization: hydroseed straw or mulch, seeding, soil binders, erosion control mats or blankets; • preservation of existing vegetation outside construction areas; • construction scheduling outside of the rainy season; • stockpile management: size restriction, runoff control, covers; • sediment tracking control: street sweeping, cover hauling trailers; and • waste management: spill prevention, concrete wash management, material delivery and storage, vehicle fueling and cleaning. <p>H-11 Per the April 26, 2001 modification to the General Construction Permit, a contingency “Sampling and Analysis Plan” shall be developed in the event that the BMPs implemented at the construction site fail to prevent non-visible pollutants from discharging from the site. BMPs shall be inspected prior to storm events, every 24 hours during extended events, and after the storm events</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>to ensure proper function of the BMPs and to identify necessary repairs in a timely manner. A record of the inspections and repairs shall be documented in the SWPPP.</p> <p>H-12 Following the completion of the construction project and when the site has been stabilized, a Notice of Termination shall be filed with the RWCQB.</p> <p>H-13 During all construction phases, temporary erosion control retain soil and sediment on the site shall be implemented, including:</p> <ul style="list-style-type: none"> • re-vegetating exposed areas as quickly as possible; • minimizing disturbed areas; • diverting runoff from downstream drainages with earth dikes, temporary drains, slope drains, etc.; • velocity reduction through outlet protection, check dams, and slope roughening/terracing; • dust control measures, such as sand fences, watering, etc.; • stabilizing all disturbed areas with blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, and/or other erosion resistant soil coverings or treatments; • stabilizing the construction entrance/exist with aggregate underdrain with filter cloth or other comparable method; • placing sediment control BMPs at appropriate locations along the site perimeter and all operational internal inlets to the storm drain system at all times during the rainy season (sediment control BMPs may include filtration 	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>devices and barriers, such as fiber rolls, silt fence, straw bale barriers, and gravel inlet filters, and/or with setting devices, such as sediment traps or basins; and/or</p> <ul style="list-style-type: none"> eliminating or reducing, to the extent feasible, non-storm water discharges (e.g., pipe flushing, and fire hydrant flushing, over-watering during dust control, vehicle and equipment wash down) from the construction site through the use of appropriate sediment control BMPS. <p>See also Mitigation Measures H-1 and H-2.</p>	
<p><i>Housing Within a 100-year Flood Hazard Area</i></p> <p>The project encroaches upon the existing FEMA flood hazard area, but the area that encroaches include only open space areas with no proposed housing.</p>	<p>None required.</p>	<p>Less than Significant</p>
<p><i>Structures Within a 100-year Flood Hazard Area Impeding or Redirecting Flood Flows</i></p> <p>The project encroaches upon the existing FEMA flood hazard area, but the area that encroaches include only open space areas with no proposed housing.</p>	<p>None required.</p>	<p>Less than Significant</p>
<p><i>Exposure of People or Structures to a Significant Risk of Loss, Injury or Death Involving Flooding</i></p>		

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>The project site is located inland from the Pacific Ocean and not in proximity to any large, continuously filled bodies of surface water; therefore, it is not subject to seiche or tsunamis. The site is subject to some debris flows; however, adequate building setbacks from natural slopes and debris control facilities proposed in upstream areas of the site would protect the project development from mudflow hazard. Therefore, project impacts relating to exposure of people or structures to a significant risk of loss, injury, or death involving flooding would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant</p>
<p><i>Exposure of People or Structures to a Risk of Levee or Dam Failure</i></p> <p>As discussed above, the project site is not in the potential inundation area of an upstream levee or dam. Therefore, the Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.</p>	<p>H-14 All necessary permits, agreements, letters of exemption or a Verification Request Letter from the Army Corps of Engineers and/or the California Department of Fish and Game for Project related development are to be obtained prior to issuance of grading permits.</p> <p>H-16 A final developed condition hydrology analysis shall be prepared in conjunction with final project design when precise engineering occurs. This final analysis will be done to confirm that the final project design is consistent with the analysis. Those final calculations shall establish design features for the project that satisfy the criterion that post development peak storm water runoff discharge rates, velocities, and duration in natural drainage systems mimic</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	pre-development conditions. All elements of the storm drain system shall conform to the policies and standards of the Los Angeles County Department of Public Works, Flood Control Division, as applicable.	
<p>Cumulative Impacts:</p> <p>The Proposed Project and any future projects in the Santa Clara River watershed must include project PDFs (site design, source control, and treatment control BMPs) in compliance with the requirements of the Los Angeles County NPDES Permit (Order No. 01-182) and the Los Angeles County SUSMP. In addition, the Proposed Project, as well as any future projects in the watershed must comply with the Construction General Permit and General Waste Discharge Requirements. Each of these regulatory requirements is intended to be protective of water quality and beneficial uses in the project receiving waters. Therefore, compliance of the Project with the MS4 Permit, the LA County SUSMP, and the Construction General Permit and General Waste Discharge Requirements constitutes compliance with regulatory requirements that address cumulative water quality impacts and to assure mitigation of those impacts to a less-than-significant level.</p>	None required.	Less than Significant
LAND USE		
<p>Community Division:</p> <p>The project site is currently undeveloped and bounded to the north by a residential development currently under construction and to</p>	None required.	Less than Significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>the northwest by an existing residential neighborhood. The City has recently approved a residential and commercial development project to the west. Further, the land to the east is currently developed with single-family homes. Therefore, the Proposed Project would not physically divide any established community or uses and impacts would be less than significant.</p>		
<p><i>Conflict with any Applicable Conservation Plan or Natural Community Conservation Plan:</i> The project site boundary includes portions of the Santa Clara River (Lot 123) which is designated as a Significant Ecological Area (SEA)(No. 23). The project applicant does not proposed development within the SEA. Further, there are no habitat conservation plans or natural community conservation plans that are applicable to the Proposed Project. Therefore, the Proposed Project would not conflict with any habitat conservation plan or community conservation plan and impacts would be less than significant.</p>	None required.	Less than Significant
<p><i>Consistency with Land Use Plans:</i> <i>City of Santa Clarita – General Plan</i> The proposed Keystone project may be consistent with the RS, RMH and IC development standards pertaining to these land use designations subject to approval of the General Plan Amendment (GPA) by City Council</p>	None required	Less than Significant
<p><i>Consistency with City of Santa Clarita General Plan Element Goals and Polices</i></p>	None required.	Less than Significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>The City of Santa Clarita General Plan contains goals and numerous policies to guide development and uses planned within the City. Existence of an inconsistency between a Proposed Project and an applicable general plan is a legal determination, vested in the City Council and subject to court review if challenged. Inconsistency is not an impact under CEQA – plan inconsistencies in and of themselves are not significant impacts on the environment under CEQA. The City of Santa Clarita General Plan Element Goals and Policies and their applicability to the Proposed Project are discussed in Table V.I-4, which is found in Section V.I, Land Use.</p>		
<p><i>Consistency with the Unified Development Code</i></p> <p>The proposed Keystone project may be consistent with the RS and RMH zones that correspond to the City’s General Plan land use designations and the proposed uses are permitted under these districts subject to approval of the Zone Change by City Council. The project would be subject to the general requirements for development and grading under the UDC.</p>	<p>None required.</p>	<p>Less than Significant</p>
<p>Cumulative Impacts:</p> <p>Cumulative land use impacts could occur if other related projects in the vicinity of the project site would result in land use impacts in conjunction with the Proposed Project. Twelve proposed or approved projects were identified that could potentially contribute to the cumulative effects of the Proposed Project (see Figure III-X</p>	<p>None required.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>in Section III (Related Projects)). Development of the Proposed Project in conjunction with the related projects would result in an intensification of existing prevailing land uses in the project vicinity.</p> <p>The Proposed Project would not physically divide an established community and subject to approval by City Council of the GPA and Zone Change would conflict with any applicable land use plan, regulation, habitat conservation plan or natural community conservation plan. Therefore, the Proposed Project's incremental increase is not considerable and impacts are less than significant.</p>		
MINERAL RESOURCES		
<p><i>Loss of Availability of a Known Mineral Resource that would be of Value to the Region:</i></p> <p>A small portion of the project site adjacent to the southern site margin is contained within a Mineral Resources Zone-2 (MRZ-2) classification, which includes a project designated approximately 15-acre open space lot and a 0.55-acre industrial lot. Neither lot is proposed for development. Given that no development is proposed within the project site land classified as MRZ-2, implementation of the project would not preclude or impede mineral resource extraction from MRZ-2 classified land. Thus, there would be no impact to the availability of known mineral resources.</p> <p>Conversion of the majority of the project site to urban uses would not result in a loss of availability of a known mineral resource that would be of value to the region and the residents of the state.</p>	<p>None required.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
Thus, impacts would be less than significant.		
<p>Impacts Related to 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:</p> <p>Though a small portion of the site (approximately 15.5-acres) is within a mineral resource classification of MRZ-2, the City's General Plan does not envision the site suitable as conservation for resource recovery. Therefore, project implementation would not result in the loss of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan; thus, no impact would occur.</p>	None required.	Less than Significant
<p>Cumulative Impacts:</p> <p>Cumulative mineral resource impacts could occur if other related projects in the vicinity of the project site in conjunction with the Proposed Project would result in the loss of recoverable mineral resources. Twelve proposed or approved projects were identified that could potentially contribute to the cumulative effects of the Proposed Project within a two mile radius of the project site. Related Project Nos. 3, 4, 5 and 6 are within MRZ-3 mineral resource category and border MRZ-2. Related Project Nos. 1, 7, 8, 9 and 10 are within MRZ-3 while Related Projects Nos. 11 and 12 are also within MRZ-3 but border MRZ-1. Development of the Proposed Project in conjunction with the related projects would result in urbanization of existing undeveloped land in the project vicinity.</p>	None required.	Less than Significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>The Proposed Project and related projects have proposed development on land classified as MRZ-3. The closest related project that has land on the Santa Clara River (which is classified as MRZ-2) is Related Project No. 4, Riverpark. Like the Proposed Project, Riverpark does not propose development within the Santa Clara River which is an SEA. Though mineral and aggregate resource extraction could occur, it would not be likely as the Santa Clara River in the project site vicinity does not have a MOCA overlay which would permit such activity. Therefore, no development would occur in MRZ-2 and impacts would not be cumulatively considerable.</p>		

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
NOISE		
<p>Construction-Related Noise: Project development would require the use of heavy equipment for ground clearing, site grading, roadway construction, and building construction. Construction activities would primarily affect the existing residences located immediately east and west of the Proposed Project site. Assuming that average daytime noise levels average around 45 dBA L_{eq} at these homes (based on the noise levels monitored at the project site), noise levels associated with project implementation would represent a substantial periodic increase in ambient noise levels in the project vicinity above levels existing without the project. These daytime noise levels would exceed City standards for residential uses and would continue to constitute a substantial increase in ambient noise levels in the project vicinity above levels existing without the project. This is a significant noise impact.</p>	<p>K-1 The Applicant should implement measures to reduce the noise levels generated by construction equipment operating at the project site during project grading and construction phases. The Applicant should include in construction contracts the following requirements or measures shown to be equally effective:</p> <ul style="list-style-type: none"> • All construction equipment shall be equipped with improved noise muffling, and have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine isolators in good working condition. • Stationary construction equipment that generates noise levels in excess of 65 dBA L_{eq} shall be located as far away from existing residential areas as possible. If required to minimize potential noise conflicts, the equipment shall be shielded from noise sensitive receptors by using temporary walls, sound curtains, or other similar devices. • Heavy-duty vehicle storage and start-up areas shall be located a minimum of 150 feet from occupied residences where feasible. • All equipment shall be turned off if not in use for more than five minutes. • An information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a 	<p>Significant and Unavoidable</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	telephone number to call and receive information about the construction project or to report complaints regarding excessive noise levels.	
<p>Construction-Related Groundborne Vibration: Groundborne vibrations levels would not approach the 80 VdB threshold at residences near the project site. This would be a less-than-significant impact regarding the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.</p>	None required.	Less than Significant
<p>Operational Noise Levels - On-site: Future exterior noise levels at most of the proposed land use locations, as well as interior noise levels throughout the project area would not exceed City standards. However, the future exterior noise levels at several of the buildings proposed along Golden valley Road could exceed City standards. Heating, ventilation, and air conditioning (HVAC) systems would be installed for the new buildings within the Proposed Project site. Residential HVAC systems result in noise levels that average between 40 and 50 dBA L_{eq} at 50 feet from the equipment. These noise levels would not exceed the City's exterior noise standards. Future residents of the project site could be exposed to exterior noise levels that exceed City standards. This would be a potentially significant noise impact.</p>	<p>K-2 Lot 97: Prior to the issuance of building permits for the multi family units of Lot 97 located along Golden valley Road (only those units that front Golden valley Road), the project developer shall submit environmental noise analyses that demonstrate that future exterior noise levels at ground floor porches and upper floor balconies will not exceed 65 dBA CNEL. Buildings that could be exposed to future exterior noise levels above 65 dBA CNEL shall either (1) have increased setbacks from Golden Valley Road (estimated to be approximately 145 feet from the centerline of Golden Valley Road) or (2) barriers shall be designed and constructed between the buildings and roadway (estimated to have a height of one foot above the roadway grade). The barriers could be in the form of earthen berms or solid masonry walls.</p> <p>K-2 Lot 97: Prior to the issuance of building permits for the multi family units of Lot 97 located along Golden Valley</p>	Less than Significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>Road (only those units that front Golden Valley Road), the project developer shall submit environmental noise analyses that demonstrate that future exterior noise levels at ground floor porches and upper floor balconies will not exceed 65 dBA CNEL. Buildings that could be exposed to future exterior noise levels above 65 dBA CNEL shall either (1) have increased setbacks of the exterior porches or balconies from Golden Valley Road (estimated to be approximately 145 feet from the centerline of Golden Valley Road) or (2) barriers shall be designed and constructed between the buildings and roadway (estimated to have a height of one foot above the roadway grade). The barriers could be in the form of earthen berms or solid masonry walls.</p> <p>K-3 Lot 98: Prior to the issuance of building permits for the multi family units of Lot 98 located along Golden Valley Road (only those units that front Golden Valley Road), the project developer shall submit environmental noise analyses that demonstrate that future exterior noise levels at ground floor porches and upper floor balconies will not exceed 65 dBA CNEL. Buildings that could be exposed to future exterior noise levels above 65 dBA CNEL shall either (1) have increased setbacks of the exterior porches or balconies from Golden Valley Road (estimated to be approximately 145 feet from the centerline of Golden Valley Road); (2) have barriers designed and constructed around the balconies; or (3) not provide balconies that face Golden Valley Road in the affected residential units. The</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>barriers could be in the form of 3/8inch glass or 5/8-inch plexiglass to a height of six feet above the floor elevation. It is not expected that earthen berms or solid masonry wall built to a standard height of six feet along the edge of the property could reduce noise levels at the second and third floor balconies.</p> <p>K-4 Lot 100: Prior to the issuance of building permits for the multi family units of Lot 100 located along Golden Valley Road (only those units that front Golden Valley Road), the project developer shall submit environmental noise analyses that demonstrate that future exterior noise levels at ground floor porches and upper floor balconies will not exceed 65 dBA CNEL. Buildings that could be exposed to future exterior noise levels above 65 dBA CNEL shall either (1) have increased setbacks of the exterior porches or balconies from Golden Valley Road (estimated to be approximately 150 feet from the centerline of Golden Valley Road); (2) have barriers designed and constructed around the balconies; or (3) not provide balconies that face Golden Valley Road in the affected residential units. The barriers could be in the form of 3/8inch glass or 5/8-inch plexiglass to a height of six feet above the floor elevation. It is not expected that earthen berms or solid masonry wall built to a standard height of six feet along the edge of the property could reduce noise levels at the second and third floor balconies.</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>Operational Noise Levels –Locations Off Site: Locations in the vicinity of the Proposed Project site could experience slight changes in noise levels as a result of an increase in the on-site population and resulting increase in motor vehicle trips. The Proposed Project would increase local noise levels by a maximum of 0.2 dBA CNEL, which is inaudible/imperceptible to most people and would not exceed the identified thresholds of significance.</p>	None required.	Less than Significant
<p>Operational Groundborne Vibration: When the Proposed Project is completed and operational, background vibration levels would be expected to average around 50 VdB, which is substantially less than the 80 VdB threshold for residential buildings. Impacts would be less than significant.</p>	None required.	Less than Significant
<p>Cumulative Impacts: With the proposed extension of Ermine Street to Golden Valley Road, residents of the residential area east of the Proposed Project site are expected to use Ermine street as an alternate route for traveling to the western area of Santa Clarita. The combined noise levels of Ermine Street and Golden Valley Road would result in average noise levels of approximately 54.0 dBA CNEL at the homes located at the western end of Ermine Street. Approximately 52.3 dBA CNEL is associated with the increased traffic along Ermine Street. Although the resulting noise levels at these homes would be well below the City's 65.0 dBA CNEL standard for residential uses, the existing noise levels in this area is estimated to be approximately 45.0 dBA CNEL. The increase of approximately</p>		Cumulatively considerable.

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>9.0 dBA CNEL above the existing noise level at this location would be considered substantial and, therefore, a significant cumulative impact. Although few of the residents of the Proposed Project are expected to use this roadway to travel east of the project site, the roadway extension would not occur without the Proposed Project. Therefore, the contribution of the Proposed Project to the cumulative impact would be considerable.</p>		
<p>POPULATION AND HOUSING</p>		
<p>Population and Housing: As the project site is currently undeveloped, the increase in residential population represents a 100% population and housing increase on the project site. This population growth and the addition of dwelling units to the City's housing inventory are not anticipated to be substantial compared to citywide growth projections. The increase in population is considered minimal, as it would represent 1.6% of the City's projected 2010 (the year closest to project build-out) population of 187,795, and 7.9% of the City's in-migration for the period between 2000 and 2010 (32,707 new residents). The Proposed Project would add 96 single-family and 883 multi-family residences to the City's housing inventory. This increase represents 1.6% of projected housing units within the City for 2010 (61,101 units) and 9.6% of the new housing units projected to be added for the period between 2000 and 2010 (10,214 new units). Further, the addition of 979 dwelling units to the City's housing inventory would not exceed the projected growth rates for the City. Impacts relating to population and housing</p>	<p>None required.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>would be less than significant.</p>		
<p>Employment: <i>Construction Impacts</i> Construction of the Proposed Project would result in increased employment opportunities during the project's construction period. However, construction workers would likely be drawn from the construction employment labor force already resident in the surrounding communities and it is not likely that construction workers would relocate their place of residence as a consequence of working on the Proposed Project.</p> <p><i>Long-Term Operation Impacts</i> The Junior High School is expected to have an enrollment of approximately 1,200 students and would be expected to generate 132 net new jobs (though the Hart District anticipates approximately 70 faculty). The YMCA Community / Fitness Center will be housed in an approximately 30,476 square foot facility and would be expected to generate 72 net new jobs. Thus the Proposed Project would generate a total of 204 new jobs. This increase represents 0.36% of projected jobs with in the City for 2010 (57,248 jobs) and 2.67% of the new jobs projected to be added for the period between 2000 and 2010 (7,636 new jobs). Because the Proposed Project would represent only a 0.36% increase in employment opportunities within the City, this increase is not considered to be substantial in terms of employment growth.</p>	<p>None required.</p>	<p>Less than Significant</p>
<p>Indirect Growth:</p>		

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>The proposed roadways and other infrastructure associated with the project would not induce growth because they would only serve project residents and would not extend into previously undeveloped areas that would then be made available for future development. As a result, development of the Proposed Project would not indirectly induce substantial population growth and impacts relating to population and housing would be less than significant.</p>	None required.	Less than Significant
<p>Housing or Population Displacement: The Proposed Project site is currently undeveloped and does not contain any housing or people. Therefore, implementation of the Proposed Project would not displace substantial numbers of existing housing or substantial numbers of people necessitating the construction of replacement housing or replacement of affordable housing. No significant impacts would occur.</p>	None required.	Less than Significant
<p>Cumulative Impacts: The dwelling units that would be developed with implementation of the Proposed Project in combination with the related projects would concurrently increase the resident population in the area. The 5,273 dwelling units that would be developed with the related projects in combination with the Proposed Project's 979 dwelling units would yield a total of approximately 19,106 new residents. The total number of employees generated by the Proposed Project and related projects would be approximately 878. The residential population would increase by approximately 2,683 people and 878 households. This would result in a cumulative population increase</p>	None required.	Less than Significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>of 21,789 people. The addition of 21,789 new people would be within the City of Santa Clarita's forecasted increase of 36,707 people between 2000 and 2010. The Proposed Project in combination with the related projects would not result in a significant impact on population or housing because the number of people and homes that would be generated by the Proposed Project in combination with the related projects is within current Santa Clarita Valley population and housing forecasts; roadways and other infrastructure are not anticipated to be extended into previously undeveloped areas that would be available for future development; and the Proposed Project would not result in or contribute to the displacement of housing or people. Therefore, cumulative impacts on population and housing would be less than significant. Thus, the project's incremental increase is not considerable and impacts would be less than significant.</p>		

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
PUBLIC SERVICES		
<p>Police Protection: <i>Short-Term Construction Impacts</i> During the construction phase, additional LASD’s services would be required in the project area, as the project site would increase the number of people on-site from existing demand. This increase in daytime population would vary depending on the type of construction activity (i.e. site grading, construction of structures, infrastructure improvements, etc.). Therefore, during the construction phase, private security patrols would be utilized to protect the project site; thereby, reducing potential demands on the existing LASD’s resources. In addition, temporary fencing would also be installed around the construction site to keep out the curious. With implementation of the mitigation measures, no significant short-term construction impacts are anticipated.</p> <p><i>Long-term Operational Related Impacts</i> Assuming a residential density of 3.056 persons per dwelling unit, the Proposed Project would generate a population increase of 2,992 persons. Recreational uses would provide a trail system linking to the Santa Clara River Trail and a YMCA facility and a proposed junior high school would provide additional educational facilities for the existing and proposed residential development. Consequently, an increase in the number of requests for assistance calls for the police services from new homes would be expected. The LASD’s resources are already strained by a chronic shortage of uniformed officers, a situation that may not improve in the</p>	<p>M.1-1 During construction, private security patrols shall be utilized to protect the project site and temporary fencing would also be installed around the construction site to keep out the curious.</p> <p>M.1-2 As final building plans are submitted to the City for approval in the future, Sheriff’s Department design requirements which reduce demands for service and ensure adequate public safety (such as those pertaining to site access, site security lighting), shall be incorporated into building designs.</p> <p>M.1-3 Project design shall provide lighting, to the satisfaction of the Sheriff’s Department, around and throughout the development to enhance crime prevention and enforcement efforts.</p> <p>M.1-4 Project design shall provide clearly visible (during the day and night) address signs and/or building numbers for easy identification during emergencies.</p> <p>M.1-5 Project design shall provide visibility of doors and windows from the street and between buildings.</p> <p>M.1-6 Project site design shall include adequate parking spaces in the parking lots to accommodate residents,</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>foreseeable future.</p> <p>The Proposed Project would include significant crime prevention design features and as the project is developed, tax revenues from property and sales taxes would be generated and deposited in the City of Santa Clarita General Fund. A portion of these revenues would then be allocated, in accordance with the City of Santa Clarita and County of Los Angeles contractual service agreement, to maintain staffing and equipment levels for the Santa Clarita Valley Sheriff's Substation in response to related demands. Although the project would increase demands for Sheriff's services, these service demands can be met through the allocation of revenues collected from the project using existing sources. Though the Proposed Project could increase staffing levels at the Sheriff's substation, the increase in staff and equipment would not result in the need to physically alter the physical plant (Santa Clarita Sheriff's Substation), construction of which could cause significant environmental impacts in order to maintain service ratios and response time. Consequently, impacts on the Santa Clarita Valley Sheriff's Substation would be less than significant.</p>	<p>per the Unified Development Code.</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p><i>City Emergency Response/Evacuation Plans:</i></p> <p>The primary vehicle access to the project site would be via a major arterial, Golden Valley Road, which would run north-south axis through the site. The roadway will be eventually constructed with a flyover Soledad Canyon Road to connect with Newhall Ranch Road. The project would also include approximately 19 acres of other public streets, including the access roadway to the multi-family lots and the access roadway to the single-family neighborhood including cul-de-sacs. These roadways would provide alternative evacuation routes for the site, thus it is not anticipated that the design of the project would preclude implementation of an evacuation plan, which would provide for the safe movement of future residents. Consequently, no significant impacts are expected to occur.</p>	None required	Less than Significant
<p>Fire Protection:</p> <p><i>Short-Term Construction Impacts</i></p> <p>Construction of the Proposed Project would increase the potential for accidental wildfires from such sources as the operation of mechanical equipment in close proximity to fire-prone vegetation, use of flammable construction materials, and from carelessly discarded cigarettes. In most cases, the implementation of “good housekeeping” procedures by the construction contractors and the work crews would minimize these hazards. Nonetheless, as the Proposed Project’s construction-related activities would increase the potential for starting a wildfire, and since LACFD has determined that the development of the Proposed Project would require additional manpower, equipment and facilities, without</p>	<p>M.2-1 The project developer shall contribute funds to the Los Angeles County Fire Department Developer Fee Program. The exact contribution shall be determined by the Los Angeles County Fire Department before a building permit is issued.</p> <p>M.2-2 The project shall prepare a Fuel Modification Plan, landscape plan and irrigation plan as required for projects located with a Very High Fire Hazard Severity Zone. The Fuel Modification Plan shall be submitted and approved by the County Fire Department prior to final map recordation. The Fuel Modification Plan shall depict a fuel modification</p>	Less than Significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>proper mitigation measures a potentially significant impact would occur.</p> <p><i>Long-term Operational Related Impacts</i></p> <p>The intensification of land uses combined with the increase in human activity on the project site and due to the location of the project site in an area designated as VHFHSZ would result in an increase in fire hazards and other associated needs for fire protection services.</p> <p>As such, the Proposed Project would meet all applicable County and City fire codes, including those related to commercial, institutional, and residential uses per the LACFD with respect to street width, turning radius and access for emergency vehicles and location and number of fire hydrants. Specifically, the Proposed Project would implement a fuel modification plan.</p> <p>The Fire Department has stated that no fire station is required for development mitigation for this specific project. Nonetheless, based on a preliminary review of the Proposed Project, the LACFD has determined that additional manpower, equipment, and facilities would be needed to serve the Proposed Project in order to maintain adequate staffing and response times. Therefore, without appropriate mitigation measures a potentially significant impact would occur.</p>	<p>zone in conformance with the Fuel Modification Ordinance in effect at the time of subdivision. The fuel modification plan shall not conflict with any revegetation plans as discussed in Section V.D (Biological Resources).</p> <p>M.2-3 The project shall provide water mains, fire hydrants and fire flows as required by the County of Los Angeles Fire Code.</p> <p>M.2-4 Fire Department access shall be extended to within 150 feet distance of any exterior portion of all structures.</p> <p>M.2-5 Access shall comply with Section 902 of the Fire Code, which requires all weather access. All weather access may require paving.</p> <p>M.2-6 Access roads shall be maintained with a minimum of ten feet of brush clearance on each side. Fire access roads shall have an unobstructed vertical clearance clear-to-sky.</p> <p>M.2-7 All fire lanes must not be less than 26 feet paved width (clear to sky and unobstructed) and posted and red curbed "NO PARKING - FIRE LANE". Any proposed reduction in fire lane shall be subject to written acceptance by the County Fire Department.</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>M.2-8 All private gates shall comply with Regulation 5 of the Fire Code. Prior to the approval of the Tentative Tract Map, the applicant shall receive approval of the gates from the Los Angeles County Fire Department.</p>	
<p>Schools: The development of the Proposed Project would bring new students into the Saugus Unified School District (SUSD) and the William S. Hart School District (HUSD), as 979 new dwelling units would be built. As such, 334 additional students associated with the Proposed Project would be generated as a result of project implementation. The schools in the SUSD, which would serve the project site are currently operating under capacity and could accept additional students generated by the Proposed Project without exceeding capacity. Consequently, the project would not require additional facilities, such as additional classrooms, to accommodate its students. Therefore, implementation of the project would not result in adverse physical impacts associated with the provision of new or physically altered school facilities, the construction of which could cause significant environmental impacts. No project impacts to the SUSD would occur.</p> <p>The junior and high school students, which could possibly be introduced to the HUSD by the Proposed Project would attend schools which are currently over capacity. The School Funding Agreement between the applicant and HUSD would provide a 'Fair Share' mitigation fee to the HUSD that would ensure adequate</p>	<p>M.3-1 Compliance with the provisions of SB 50 is deemed to be complete and adequate mitigation of Proposed Project impacts to school facilities. In addition, project participation in School Facilities Funding Agreements with the SUSD and HUSD would further mitigate project specific impacts on these districts. These agreements would provide for a 'Fair Share' fee to be paid to the SUSD and the HUSD in order to house the additional students generated by the project. No further mitigation is required.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>school capacity to serve this project. In addition, the Proposed Project proposes to sell a portion of the project site to HUSD for the construction of a junior high school. As a result, no project impacts to the William S. Hart School District would occur. The potential environmental impacts of construction of a junior high school on the Proposed Project's school site are analyzed in this environmental impact report.</p>		
<p>Libraries: The Proposed Project would increase the local permanent residential population by 2,992. Using the County Library's planning guidelines of 0.50 square feet of library facilities and 2.75 collection items per capita, the Proposed Project would generate a need for an additional 1,496 square feet of library facilities and 8,228 additional collection items. As discussed above, the Santa Clarita Valley is currently under-served with regard to Library services and development of the Proposed Project would thereby increase the existing need for additional library facilities. If the project generated demand for 1,496 square feet of additional space were translated into new construction of permanent space, this would be the approximate equivalent of three rooms measuring 20' x 20'. The construction of new, permanent space could be considered an adverse impact under the CEQA Guideline threshold. However, CEQA Guidelines, Section 15301, states that construction on an existing use that totals either 2,500 square feet or 50 percent of the floor area of the structure before the addition would have a negligible impact on the environment. Therefore, the additional construction of approximately 1,496 square feet on the</p>	<p>None required.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>Jo Anne Darcy Library would have a physically insignificant effect on the environment. For these reasons, the project's impacts on County Library facilities would be less than significant.</p> <p>Based on the current library mitigation fee of \$677.00 per dwelling unit, the Proposed Project would be required to pay a fee of \$662,783.00 (\$677.00 x 979 dwelling units = \$662,783.00) toward the construction of expanded or new library facilities and the acquisition of additional collection materials. Payment of the library mitigation fee is a requirement of the project by Los Angeles County and the City of Santa Clarita to offset the demand recreated by the project for additional square footage and library collection materials. Impacts would be less than significant.</p>		
<p>Parks: Future residents of the project site would increase the demand for recreational facilities and opportunities in the project area. The Keystone project includes active recreational facilities for public use, including ball fields and courts located at the junior high, and trails and open space uses. In addition, each multi-family community would contain active recreation area including swimming pools, children's play areas, etc. However, the project is required to pay Quimby fees that would satisfy the need for any new or physically altered parks or recreational facilities in order to maintain current service ratios. Therefore, project impacts on parks and recreational facilities would be less than significant.</p>	<p>M.5-1 Developer shall construct all trails (within the Proposed Project site and off-site to the west) and shall be in accordance with the City of Santa Clarita Department of Parks, Recreation and Community Services trail system standards.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>Cumulative Impacts: Police Protection</p> <p>The Sheriff's substation serving the City of Santa Clarita operates at an adequate level of service. This service is expected to be maintained as cumulative development projects would contribute to the City of Santa Clarita's General fund through taxes and fees which in turn would provide funds to mitigate any cumulative impacts to Sheriff's services to a level of non-significance as long as the City of Santa Clarita and the County of Los Angeles maintain service and funding agreements. Therefore, the Proposed Project and related projects impacts cumulatively would not be considerable and impacts to Sheriff's services would not be significant.</p>	None required.	Less than Significant
<p>Fire Protection</p> <p>The project and related projects cumulatively could result in an increase in the average response time for fire protection. However, project specific mitigation measures are required and therefore the impacts resulting from new development would be reduced to less-than-significant by compliance with state, City, and County fire codes, standards and guidelines and the incorporation of project-specific mitigation measures. Moreover, developer fees as determined by the Los Angeles County Fire Department and increased taxes paid by new development would provide revenues to increase staff and purchase new equipment. Therefore,</p>	None required	Less than significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
cumulative project and related project impacts on fire protection services would not be cumulatively considerable and impacts would be less-than-significant.		
<p>Schools</p> <p>Cumulative development would generate 1,853 elementary school students, 656 junior high school students and 992 senior high school students that would need to be accommodated by the SUSD and the HUSD, respectively. Capacity for these students has yet to be fully planned in the subject school districts and unless these additional students can be accommodated, build-out under this scenario could result in a significant impact to schools and educational services. However, compliance as appropriate, with existing School Facilities Funding Agreements and/or other funding mechanisms (e.g., SB 50, the Valley-Wide Joint Fee Resolution, and/or new school facilities funding agreements) would reduce cumulative development impacts on the school districts and project and related project impacts would not be cumulatively considerable and impacts would be less-than-significant level.</p>	None required	Less than Significant
<p>Library</p> <p>Payment of the library mitigation fee is a requirement of the project by Los Angeles County and the City of Santa Clarita to offset the</p>	None required	Less than Significant

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>demand recreated by the project for additional square footage and library collection materials. Therefore, funding would be provided to offset these demands and provide the County Library system the ability to provide library services and facilities. For these reasons, the project and related project cumulative impacts on to the County Library system under the DMS scenario would not be cumulatively considerable and impacts would be less than significant.</p>		
<p>Parks in accordance with CEQA Guidelines Section 13130(a)(3), the Proposed Project's contribution to the cumulative impacts on parks and recreational facilities would not be cumulatively considerable because the project developer would (1) provide onsite recreational facilities and preserved open space and (2) to the extent that such facilities and open space are insufficient to satisfy fully the project developer's Quimby Act obligations, pay Quimby fees. The satisfaction of the Quimby Act requirements would constitute the project's fair share of mitigation designed to alleviate the cumulative impact on parks and recreational facilities. Therefore, cumulative impacts of the Proposed Project in combination with the related projects would not be cumulatively considerable and impacts would be less than significant.</p>	None required	Less than Significant
UTILITIES AND SERVICE SYSTEMS		
<p>Water: Water Supply Assessment</p>		

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>The Water Supply Assessment for the Proposed Project concluded that “there will be sufficient water supply available when The Keystone project is ready for occupancy, in addition to existing and other planned future uses.” Therefore, it is anticipated that the future water supplies will meet the demand of the Proposed Project in addition to the existing demand and the associated impact would be less than significant. Nonetheless, mitigation measures are recommended to further reduce the Proposed Project’s less-than-significant impact on water supplies and to support the water conservation efforts of the CLWA.</p> <p>Water Facilities The number of water connections that would be added to the existing water supply system in the Santa Clarita Valley is within the growth projections in the 2000 UWMP, as amended. As discussed in the Water Supply Assessment for the Proposed Project, the 2000 UWMP assumed an average growth rate of 2,240 connections per year based on the average growth rate that occurred during the 1990s. The Proposed Project would add approximately 331 residential connections, which is less than the annual average anticipated by the 2000 UWMP and is, therefore, considered to be accounted for in the 2000 UWMP, as amended.</p>	<p>N.1-1 The project developer shall ensure that the landscape irrigation system be designed, installed and tested to provide uniform irrigation coverage. Sprinkler head patterns shall be adjusted to minimize over spray onto walkways and streets.</p> <p>N.1-2 The project developer shall install either a “smart sprinkler” system to provide irrigation for the landscaped areas or, at a minimum, set automatic irrigation timers to water landscaping during early morning or late evening hours to reduce water losses from evaporation. Irrigation run times for all zones shall be adjusted seasonally, reducing water times and frequency in the cooler months (fall, winter, spring). Sprinkler timer run times shall be adjusted to avoid water runoff, especially when irrigating sloped property.</p> <p>N.1-3 The project developer shall select and use drought-tolerant, low-water consuming plant varieties to reduce irrigation water consumption.</p> <p>N.1-4 The project developer shall install ultra-low flush water toilets and water-saving showerheads in new construction. Low-flow faucet aerators should be installed on all sink faucets.</p>	<p>Less than Significant</p>
<p>Sewer:</p>	<p>N.2-1 Applicant shall obtain a will-serve letter from the County</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>The amount of construction-related wastewater that would be generated would not have a significant impact on local disposal or treatment facilities due to the expected low volume of waste.</p> <p>Upon completion, the Proposed Project would generate approximately 235,431 gallons of sewage per day. The existing Soledad Canyon trunk line in the project vicinity has a design capacity of 3.9 mgd and currently conveys a peak flow of 2.4 mgd, leaving 1.5 mgd of remaining capacity. Since the Proposed Project would be anticipated to generate 0.24 mgd, the trunk sewer is considered adequate to accommodate flow projections. It is therefore concluded that the project would not have a significant adverse impact on the District's trunk sewer.</p>	<p>Sanitation Districts of Los Angeles County prior to issuance of building permits in order to verify that there is sufficient capacity in the receiving trunk lines and the reclamation plant to serve the project.</p> <p>N.2-2 All local wastewater lines within the project boundaries are to be constructed by the applicant and dedicated to the City of Santa Clarita Transportation and Engineering Services Department.</p> <p>N.2-3 Prior to the issuance of building permits, the applicant shall pay wastewater connection fees.</p>	
<p>Solid Waste: <i>Short Term Construction Impacts</i></p> <p>Construction of the Proposed Project would be expected to generate approximately 7,668 tons of waste over project build-out. Recycling of construction-related waste materials in compliance with AB 939, assuming a 50% diversion rate, means that approximately 3,438 tons of solid waste over project build-out would go to landfills. The total landfill capacity in Los Angeles County is limited, therefore any addition to the overall waste stream flowing to the County's landfills will hasten the day the County eventually runs out of landfill capacity. Therefore and any additional solid waste from any source may be considered adverse.</p>	<p><i>Mitigation Measures Already Incorporated into the Project</i></p> <p>N.3-1 Solid waste collection/recycling areas are to be compatible with nearby structures, secure, protected against adverse environmental conditions, clearly marked, adequate in capacity, number and distribution, and contain a sufficient number of bins to serve the recycling and solid waste needs of the development. (Model Ordinance)</p> <p>N.3-2 Design and construct collection/recycling areas to accommodate front-loader packing trucks, including</p>	<p>Significant and Unavoidable</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>However, since the addition of the Proposed Project's construction related wastes to the local landfills (i.e. the Chiquita Canyon Landfill, the Antelope Valley Public Landfill I and II and The Lancaster Landfill and Recycling Center), estimated to be approximately 4.4 tons per work day³, would not cause those landfills to exceed their permitted daily capacity of an aggregate 9,500 tons per day, this impact would be considered less than significant. Because an adequate amount of landfill space has not been ensured to accommodate long-term solid waste disposal at current generation rates, even with mitigation, the Proposed Project's construction-related solid waste impact would be considered significant.</p>	<p>maneuvering room. (Model Ordinance)</p> <p>N.3-3 Design and construct driveways and/or travel aisles with adequate width and maneuverability space of unobstructed garbage collection, trash container storage and vehicle access and clearance. (Model Ordinance)</p> <p>N.3-4 Post signs at all access points of the recycling areas that clearly identify all recycling and solid waste collection and loading areas and the materials accepted therein. (Model Ordinance)</p> <p>N.3-5 The applicant shall comply with all applicable state and Los Angeles County regulating and procedure for the use, collection and disposal of solid and hazardous wastes.</p> <p><i>Project Mitigation Measures</i></p> <p>Short-term Construction</p> <p>N.3-6 The construction contractor shall only contract for waste disposal services with a company that recycles construction related wastes.</p>	

³ 3,438 tons of solid waste over project build-out / 780 work days (approximately three years) = 4.4 tons per work day.

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>N.3-7 To facilitate the on-site separation and recycling of construction related wastes, the construction contractor shall provide temporary waste separation bins, which shall be prominently placed on each construction site.</p> <p>N.3-8 All construction documents shall specify that building materials shall be made of recycled materials, or materials with the highest content possible of recycled materials, to the extent feasible.</p>	
<p><i>Long-term Operational Impacts</i> Over the long term the project's 979 residences, Junior High School and YMCA Facility would generate approximately 10,839 pounds of solid waste per day, or 1,979 tons per year. Per AB 939 there is a requirement to reduce the solid waste stream by 50%, which means that approximately 5,419.5 pounds of the Proposed Project's total waste stream (798 tons per year) would be diverted elsewhere than to a landfill (e.g. recycled.) Therefore, the Proposed Project is anticipated to produce approximately 5,419.5pounds per day of solid waste (71 tons total landfill capacity in the County is limited and any addition to the overall waste stream would reduce the County's overall landfill capacity, The Chiquita Canyon Landfill, the Antelope Valley Public Landfill I and II and the Lancaster Landfill and Recycling Center have sufficient capacity for</p>	<p><i>Long-term Operational</i> N.3-9 The Project Applicant shall locate recycling / separation areas in close proximity to dumpsters for non-recyclables, elevators, loading docks, and primary internal and external access points. N.3-10 The Project Applicant shall locate recycling / separation areas such that they are not in conflict with any applicable federal, state or local laws. N.3-11 The Project Applicant shall locate recycling / separation areas so they are convenient for those persons who deposit collect, and load the recyclable material.</p>	<p>Significant and Unavoidable</p>

PROJECT IMPACTS	MITIGATION MEASURES		LEVEL OF IMPACT AFTER MITIGATION
<p>their currently projected solid waste intake and the Proposed Project's intake for the foreseeable short-term future. However, because local landfills will eventually reach capacity, the Proposed Project's long-term impact on solid waste facilities would be considered significant.</p>	N.3-12	The Project Applicant shall place recycling containers / bins so that they do not block access to one another.	
	N.3-13	The project shall employ the use of xeriscape techniques and plant drought tolerant and native vegetation in common landscaped areas, wherever possible, to reduce yard waste.	
	N.3-14	For commercial and institutional developments and residential buildings having five or more dwelling units, no refuse collection or recycling areas are to be located between a street and the front of a building.	
	N.3-15	The project shall install on-site trash compactors for non-recyclables in all commercial (YMCA and junior high school) food service areas.	
	N.3-16	If possible, kitchen, garage and garden design shall accommodate trash and recyclable components to assist the City's recycling efforts. This includes a design to accommodate a minimum of three 90-gallon containers in locations allowable under the development's CC&Rs.	
	N.3-17	First time buyers shall receive educational material on the City's waste management efforts, including information concerning curbside recycling, used motor oil recycling, and hazardous waste collection	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>programs. Education material shall be passed on to consecutive buyers using the development's CC&Rs</p>	
<p>Cumulative Impacts: Water</p> <p>The CLWA anticipates that its projected water supplies available during normal, single-dry, and multiple-dry water years, as included in its 2000 UWMP, as amended, would meet the projected water demand associated with the Proposed Project, in addition to the existing and other planned future uses in the CLWA's system.</p> <p>The Water Supply Assessment for the Proposed Project included the Proposed Project and "planned future uses", which includes probable future projects. The Water Supply Assessment clarifies "planned future uses" as within the projections included in the 2000 UWMP, as amended. Therefore, the Proposed Project's incremental increase would not be considerable and impacts on water supplies would be less than significant.</p> <p>The effect of the additional water connections due to the Proposed Project would not incrementally contribute a considerable amount to the cumulative total number of connections. As such, the associated cumulative impact would not be cumulatively</p>	<p>None required.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
considerable and impacts would be less than significant. The project's incremental increase would not be considerable and impacts would be less than significant.		
<p>Sewer</p> <p>The design capacity of the Santa Clarita Valley Joint Sewage System (SCVJSS) is 28.10 mgd and the SCVJSS's current average wastewater flow is 18.4 mgd. Therefore, the SCVJSS has a remaining capacity of approximately 9.7 mgd. The cumulative sewage generation of 1.5 mgd would be well within the design capacity of the SCVJSS, representing about 15.5 percent of the remaining capacity. In addition, it should be noted that connection permits are not issued if there is not sufficient capacity in the system, and all new development projects are required to pay the District's connection fees to assure the continual expansion of district facilities. Therefore no project and related project impacts would be considerable and impacts to the sewerage system would be less than significant. The project's incremental increase is not considerable and impacts would be less than significant.</p>	None required	Less than Significant
<p>Solid Waste</p> <p>The Proposed Project, in combination with the related projects, would generate a cumulative total of approximately 71,739 pounds (35.9 tons) of solid waste per day. As discussed above, new landfill options and additional capacity may become available through the expansion of the Puente Hills Landfill, conversion of waste-to-energy and through waste-by-rail programs to landfills</p>	None required	Significant and Unavoidable

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>outside of Los Angeles County (e.g., the proposed Eagle Mountain Landfill in Riverside County). Because solid waste (including hazardous waste) can be eventually be disposed of outside of Los Angeles County, and the disposal market is driven by the free enterprise system, it is reasonable to assume that as local options are exhausted solid waste generated by cumulative development would be disposed of outside of Los Angeles County and even possibly outside of the state. Given this assumption, the cumulative project area could encompass a geographic area outside the jurisdictional boundaries of the City of Santa Clarita, Los Angeles County and even possibly the state border. However it is beyond the scope of this EIR and too speculative to attempt to quantify the solid waste that could be generated by cumulative development that is proposed in greater Los Angeles County or the region beyond, or to assess the landfill options that might be available or, more importantly, other solid waste disposal options which could become available.</p> <p>It is reasonable to assume that the market forces that drive the waste disposal industry will put pressure on officials and governmental agencies to continually identify new, economically and politically feasible means of waste disposal in the future to accommodate growth. However, because new facilities are not currently available, cumulative project impacts would be considered significant. The project's incremental increase would be considerable and impacts would be significant.</p>		

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
TRANSPORTATION		
<p>The Proposed Project would generate approximately 11,005 total average daily trips (ADT). Approximately 1,468 and 1,009 trips would occur in the AM and PM peak hours, respectively.</p>	<p><i>On-site Mitigation Measures</i></p> <p>O-1 The project applicant shall construct all on-site roadways and intersections to City of Santa Clarita standards.</p> <p>O-2 The Proposed Project shall install a four-lane roadway on Golden Valley Road from the project’s eastern boundary to the northern project boundary.</p> <p>O-3 The project applicant shall install traffic signals at the following project site intersections:</p> <ul style="list-style-type: none"> • Golden Valley Road and “I” Street North (tee int.) • Golden Valley Road and “I” Street South (four-way int.) • Golden Valley Road and Ermine Street <p>On Golden Valley Road, a four-way intersection with “I” Street is planned approximately 0.40 miles north of the future extension of Newhall Ranch Road. This intersection will serve both the project’s residential development located west of Golden Valley Road and the YMCA and junior high school site located on the east. The second intersection with Golden Valley Road at Ermine Street will be configured as a “T” intersection and will be located approximately 0.50 miles north of the four-way intersection at “I” Street. The third intersection with Golden Valley Road (the second connection to “I” street) will be located approximately 0.10 miles</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	north of the Ermine Street intersection.	
<p>The project would generate approximately 513 total daily transit trips and approximately 51 peak hour transit trips. The City of Santa Clarita does not have level of service standards for transit serve that are applicable to future development. Transit service is evaluated and fueled on an as-needed basis. IF additional fixed route service will be needed near the project site in the future, the project should coordinate with the transit provider to identify appropriate bus stop/turnout locations.</p>	<p><i>Congestion Management Program (CMP) – Transit Service</i> O-4 The project applicant shall coordinate with the local transit provider to identify appropriate bus/stop turnout locations on the project site roadways (Golden Valley Road and/or “I” Street).</p>	<p>Less than Significant</p>
<p>Nine intersections experience a significant impact due to the project-generated traffic when compared to the no project scenario, and eight of those intersections forecast to exceed LOS “D”. The following intersections are those significantly impacted:</p> <p>Existing Intersections</p> <ul style="list-style-type: none"> • 57. Valencia Boulevard & Magic Mtn Parkway • 65. Bouquet Canyon Road & Soledad Canyon Road • 66. Bouquet Canyon Road & Newhall Ranch Road • 145. Sierra Highway & Placerita Canyon Road • 162. Sierra Highway & Golden Valley Road • 172. Whites Canyon Road & Soledad Canyon Road <p>Future Intersections</p> <ul style="list-style-type: none"> • 163. Golden Valley Road & Via Princessa • 166. Golden Valley Road & Newhall Ranch Road <p>Freeway On/Off Ramp Intersection</p>	<p><i>Off-Site Mitigation</i> Existing Intersections</p> <p>O-5 <u>(57.) Valencia Boulevard & Magic Mountain Parkway.</u> Add second WBL turn lane. Implementation of this measure would require restriping, median modification and widening of Valencia Boulevard.</p> <p>O-6 <u>(65.) Bouquet Canyon Road and Soledad Canyon Road.</u> Add fourth NBT lane. Implementation of this measure would require widening of Bouquet Canyon Road northbound approach.</p> <p>O-7 <u>(66.) Bouquet Canyon Road & Newhall Ranch Road.</u> - Add second SBL turn lane. Implementation of</p>	<p>Significant and Unavoidable (see Cross Valley Connector discussion below)</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<ul style="list-style-type: none"> • 144. Sierra Highway & SR-14 SB Ramps 	<p>this measure would require restriping with potential median modification.</p> <ul style="list-style-type: none"> - Add second SBR turn lane. Implementation of this measure would require widening of Bouquet Canyon Road southbound approach. - Add third EBT lane. Implementation of this measure would require restriping. <p>O-8 <u>(145.) Sierra Highway & Placerita Canyon Road.</u></p> <ul style="list-style-type: none"> - Restripe one WBT lane to a WBR turn lane. Implementation of this measure would require restriping. - Restripe one WBT lane to a shared thru/right turn lane. Implementation of this measure would require restriping. <p>O-9 <u>(162.) Sierra Highway and Golden Valley Road.</u> Add third WBT lane. Implementation of this measure would require widening of west leg (Golden Valley Road) to accommodate three lanes.</p> <p>O-10 <u>(177.) Whites Canyon Road and Soledad Canyon Road.</u> Restripe separate WBR turn lane to a shared thru/right lane. Implementation of this measure would require restriping. This mitigation measure is only necessary for the “With Golden Valley Road extension to Plum Canyon Road” scenario, with or without the Ermine Street connection to Golden Valley Road.</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
	<p>Future Intersections</p> <p>O-11 <u>(163.) Golden Valley Road & Via Princessa.</u> No requirements of the project applicant. Future intersection to be built out to achieve LOS D.</p> <p>O-12 <u>(166.) Golden Valley Road & Newhall Ranch Road.</u></p> <ul style="list-style-type: none"> - Install traffic signal. - Add second WBR turn lane or construct WBR as a free-flow turn lane. This mitigation measure is only necessary for the “With Golden Valley Road extension to Plum Canyon Road” scenario, with or without the Ermine Street connection to Golden Valley Road. <p>Freeway On/Off Ramp Intersections</p> <p>O-13 <u>(144.) Sierra Highway & SR-14 SB Ramps.</u></p> <ul style="list-style-type: none"> - Add separate NBR turn lane. Implementation of this measure would require restriping. - Add second SBL turn lane. Implementation of this measure would require restriping with potential widening of Sierra Highway. 	
<p>Two scenarios have been analyzed in which the planned Cross</p>	<p>Project Mitigation is not sufficient for either scenario without the</p>	<p>Significant and Unavoidable</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>Valley Connector (CVC) roadway is either not built or is only partially built before the occupancy of the Proposed Project. One scenario examined only construction of the CVC east of Bouquet Canyon road to serve only the neighboring Riverpark project (recently approved by City Council). Keystone traffic would access the site via Golden Valley Road at Plum Canyon Road.</p> <p>The second scenario examined the construction of the CVC to the west of the site for project access (with access as well to Plum Canyon Road on the north) but the bridge over the Santa Clara River is not completed but the Golden Valley Road/Soledad Canyon Road flyover is operational. For both scenarios, the neighboring Riverpark project is built with only 500 residential units.</p> <p>Under the first scenario, eight intersection show significant impacts and under the second scenario four intersections would be significantly impacted. The following are the significantly impacted intersections:</p> <ul style="list-style-type: none"> • 48. McBean Parkway & Newhall Ranch Road (Scenario 2) • 65. Bouquet Canyon Road & Soledad Canyon Road (Scenarios 1 & 2) • 66. Bouquet Canyon Road & Newhall Ranch Road (Scenarios 1 & 2) • 67. Seco Canyon Road & Bouquet Canyon Road (Scenario 1) • 160. Haskell Canyon Road & Bouquet Canyon Road 	<p>completed Cross Valley Connector roadway.</p>	

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>(Scenario 1)</p> <ul style="list-style-type: none"> • 172. Whites Canyon Road & Soledad Canyon Road (Scenario 1 & 2) • 173. Santa Catarina/GVR & Plum Canyon Road (Scenario 1) • 174. Bouquet Canyon Road & Plum Canyon Road (Scenario 1) • 198. Valley Center & Soledad Canyon Road (Scenario 1) <p>Intersections of particular importance to the project for these scenarios are Bouquet Canyon Road at Plum Canyon Road and Bouquet Canyon Road at Newhall Ranch Road. Without the CVC, each of these intersections show deficiencies without project traffic added. Without the relief provided by the CVC, even a small amount of additional traffic added to these locations will result in a significant impact. Even a minimal amount of traffic from the project site results in significant impacts at the identified locations and that implementation of an early phase of The Keystone project is not feasible without the CVC.</p>		
<p>Cumulative Impacts</p> <p>The additional cumulative traffic, without the project, would worsen conditions at eight intersections during one or both of the peak-hour periods. With the addition of the project traffic, nine intersections experience a significant impact, and eight of those intersections forecast to exceed LOS "D". The cumulative significantly impacted intersections include:</p>	<p>Bouquet Canyon Bridge and Thoroughfare District</p> <p>O-14 The project and related projects shall fund its calculated fair share of improvements to the Bouquet Canyon Bridge and Thoroughfare District to augment future improvements that are planned for the SR-14 freeway.</p>	<p>Significant and Unavoidable</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>Freeway On/Off Ramp Intersection</p> <ul style="list-style-type: none"> • 144. Sierra Highway & SR-14 SB Ramps (AM and PM) <p>Existing Intersections</p> <ul style="list-style-type: none"> • 57. Valencia Boulevard & Magic Mtn Parkway (AM and PM) • 65. Bouquet Canyon Road & Soledad Canyon Road (PM) • 66. Bouquet Canyon Road & Newhall Ranch Road • 145. Sierra Highway & Placerita Canyon Road (AM and PM) • 162. Sierra Highway & Golden Valley Road (AM and PM) • 172. Whites Canyon Road & Soledad Canyon Road <p>Future Intersections</p> <ul style="list-style-type: none"> • 163. Golden Valley Road & Via Princessa (AM and PM) • 166. Golden Valley Road & Newhall Ranch Road (PM) <p>Therefore, traffic would worsen at these intersections and the Proposed Project would contribute considerably to the cumulative impact at locations shown to be deficient, therefore cumulative impacts are significant. Like the Proposed Project, the related projects would be dependent upon a completed Cross Valley Connector roadway for impacts to be less than significant.</p>		

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
ENERGY CONSERVATION		
<p>Electricity: Upon full build-out, the Proposed Project is anticipated to consume approximately 17,585 kilowatt hours (kWh) per day. In order to serve the Proposed Project's electricity needs, existing electrical lines in the project area would need to be extended. The SCE has determined that the electrical loads of the Proposed Project are within the parameters of projected load growth for the area and therefore there would be an adequate power supply to serve the Proposed Project.</p> <p>With modern energy efficient construction materials and compliance with Title 24 standards, the Proposed Project would be consistent with the State's energy conservation standards and therefore would not conflict with adopted energy conservation plans.</p>	<p>P.1-1 In the event of full or partial road closures, the project developer shall employ flagmen during the construction of the electrical distribution system to facilitate the flow of traffic.</p> <p>P.1-2 During the design process, the project developer shall consult with the Southern California Edison's, Energy Design Resources program or SCE's Savings by Design program, regarding additional possible energy efficiency measures.</p> <p>None required.</p>	<p>Less than Significant</p> <p>Less than Significant</p>
<p>Cumulative Impacts:</p> <p>Development of the Proposed Project in conjunction with the 12 related projects would increase the demand for electricity. The estimated electricity consumption by the related projects in combination with the Proposed Project would be approximately 111,915 kWh per day. However, cumulative impacts are not expected to be significant as the SCE has an obligation to serve the citizens of the City and projects would be required to comply with Title 24 of the California Code which establishes energy</p>		

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>conservation standards for new construction. Therefore, the combined effects of the Proposed Project and the related projects are expected not to be cumulatively considerable and impacts would be less-than-significant.</p>		
<p>Natural Gas: Upon full build-out, the Proposed Project is anticipated to consume approximately 153,943 cubic feet of natural gas per day. SCG has stated that it can accommodate the natural gas needs of the Proposed Project from existing medium pressure mains and current supply. Natural gas would likely be provided to the project site by providing service extensions from the four-inch medium pressure main in Ermine Street and an additional extension from either Newhall Ranch Road and/or Golden Valley Road. While the extension of natural gas service to the Proposed Project would include expansion of distribution infrastructure and capacity-enhancing alterations to existing facilities, these requirements are not expected to create significant impacts to the physical environment as there would be no disruption in service to existing customers; extension of natural gas mains would be within public right-of-ways and any required road closures would be for a short period of time; and the full cost of the proposed service extensions and the fair share costs of the expansion of the natural gas distribution systems would be borne by the project developer.</p> <p>In addition, the Proposed Project would comply with the standards in Title 24 as they relate to the conservation of natural gas and would use modern energy-efficient construction materials and</p>	<p>P.2-1 Prior to the start of construction, the Proposed Project's energy engineer shall consult with SCG for an energy analysis regarding efficiency and conservation measures.</p> <p>P.2-2 The project developer shall hire flagmen to facilitate traffic flow during installation of the natural gas main extensions.</p>	<p>Less than Significant</p>

PROJECT IMPACTS	MITIGATION MEASURES	LEVEL OF IMPACT AFTER MITIGATION
<p>otherwise comply with the State’s energy conservation standards. Therefore, the Proposed Project would not conflict with adopted energy conservation plans.</p>		
<p><i>Cumulative Impacts:</i></p> <p>Development of the Proposed Project in conjunction with the 12 related projects would increase the demand for natural gas. The estimated natural gas consumption by the related projects in combination with the Proposed Project would be approximately 1,161,805 cubic feet per day. However, cumulative impacts are not expected to be significant because SCG has stated that “[d]emand projections by the Gas Company have allowed for additional load/demand of this project, as well as, the cumulative impact of future proposals in this area.” As SCG has indicated that natural gas is available for the Proposed Project in combination with the related projects, cumulative impacts to natural gas services would not be cumulatively considerable and impacts would be less than significant</p>	<p>None required</p>	<p>Less than Significant</p>

III. ENVIRONMENTAL AND REGULATORY SETTING

PURPOSE

This section provides a brief overview of the Project Site's regional and local setting. Additional descriptions of the environmental setting as it relates to each of the environmental issues analyzed in this EIR are included in the environmental setting discussions contained within Sections IV.A through IV.N. Also, provided below is a list of related projects, which is used as the basis for the discussion of cumulative impacts in Section V (Environmental Impact Analysis).

A. OVERVIEW OF ENVIRONMENTAL SETTING

Regional Setting

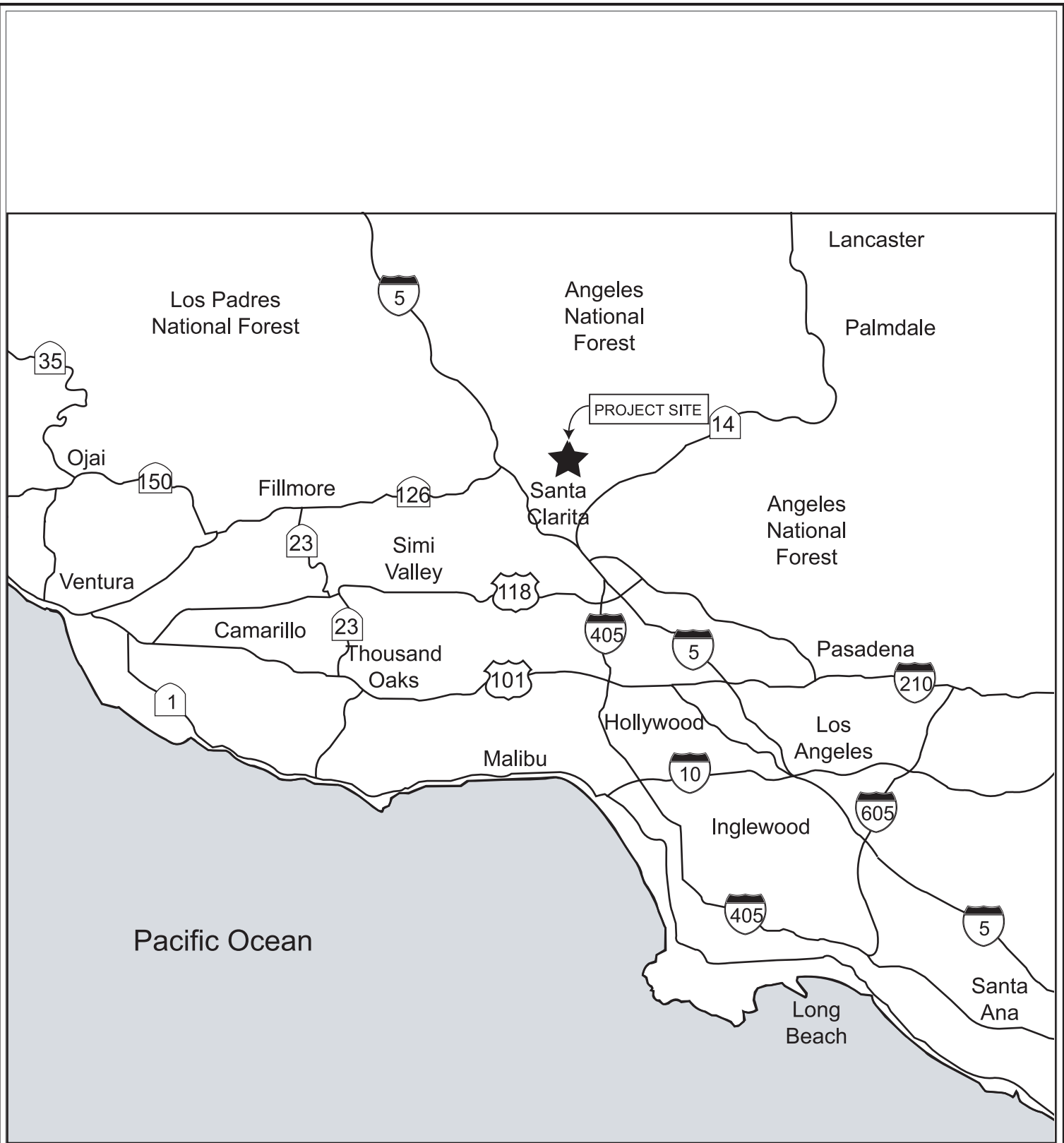
The project site is located in the central portion of the City of Santa Clarita, in Los Angeles County. The general area is composed of the neighborhoods of Valencia, Newhall, Saugus and Canyon Country. Located in the Santa Clarita Valley, the City is approximately 35 miles northwest of Los Angeles and approximately 30 miles southwest of the City of Palmdale. The Interstate 5 (I-5) and State Route 14 (SR-14) freeways primarily provide regional access to the City of Santa Clarita. Figure III-1 presents a regional map providing perspective of the City's location within the County and region.

The Santa Clarita Valley is one of the fastest growing regions in Los Angeles County. In particular, from 1990 to 2000, the City of Santa Clarita grew from 110,690 to 151,088, representing a 27 percent increase over that time period. Currently, the City has a population of 164,900 residents.¹ The City anticipates high growth rates to continue until the year 2020, when the City is expected to reach full "build out." However, the highest growth rate (2.2%) is expected to occur from 2000-2005, and thereafter growth will occur at a slower rate.

The Santa Clarita Valley planning area is served by one wholesale water agency, the Castaic Lake Water Agency (CLWA), which serves four local retail water purveyors: Santa Clarita Water Division, Valencia Water Company, Newhall Water District, and Los Angeles County Water District No. 36 (Val Verde Water District).² The County Sanitation Districts of Los Angeles County operate

¹ California State Department of Finance, *Population Statistics as of January 2004*.

² CLWA acquired the Santa Clarita Water Company, an investor-owned company serving the eastern part of the Santa Clarita Valley. The former Santa Clarita Water Company was incorporated into CLWA's Santa Clarita Water Division, which continues to serve the same area with Santa Clarita's Water Company's facilities.



Source: Christopher A. Joseph & Associates.



CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure III-1
Regional Map

two water reclamation plants (WRPs) that provide wastewater treatment services for the Santa Clarita Valley area: District No. 26 which operates and maintains the Saugus WRP and District No. 32, which operates and maintains the Valencia WRP. The two districts jointly operate a regional system known as the Santa Clarita Valley Joint Sewerage System (SCVJSS). This system consists of an interconnected network of trunk sewer lines and appurtenant facilities that link the treatment plants. Refer to Section V.N.2 Utilities, Sewer for further information and discussion regarding wastewater.

The County of Los Angeles Sheriff's Department through a contract with the City of Santa Clarita provides primary police protection service. In addition, the California Highway Patrol provides traffic regulation enforcement, emergency incident management and service and assistance on the local highways/freeways, Interstate 5 (I-5), State Route 126 (SR-126) and State Route 14 (SR-14), and other major roadways in the Santa Clarita Valley area. The Consolidated Fire Protection District is the sole provider of fire prevention services in the region. These services are provided by the Los Angeles County Fire Department through a contract with the City of Santa Clarita. Currently, there are 8 fire stations and 3 fire camps that provide fire protection services for the Santa Clarita Valley area. Refer to Section V.M, Public Services, Fire for further information and discussion regarding police and fire protection.

The Saugus Union School District and William S. Hart Union High School District provide primary and secondary public education in the project area. Saugus Union School District provides elementary school service, while the William S. Hart School District provides junior and senior high school service for the project site area. Refer to Section V.M Public Services for further information and discussion regarding education.

The County of Los Angeles Public Library System provides library services for the project site and Santa Clarita Valley area. The project site and the Santa Clarita Valley area are served by three Los Angeles County Libraries, which include Valencia, Newhall and Canyon Country branches. Also, a mobile library provides additional service to the area. Refer to Section V.M Public Services for further information and discussion regarding library service.

There are existing and proposed parks within close proximity to the project site. Such facilities include parks maintained by the City of Santa Clarita, Los Angeles County, the State of California and the federal government. In addition, there is an extensive existing and proposed trail system throughout the Santa Clarita Valley area accommodating equestrian, pedestrian and bike uses. Refer to Section V.M Public Services for further information and discussion regarding parks and recreation facilities.

Project Site

The approximately 246-acre project site is located between Bouquet Canyon Road, Plum Canyon Road and Soledad Canyon Road. A City of Los Angeles Department of Water and Power (DWP) right-of-

way divides the site diagonally into two portions. Approximately 45 acres are located west of the right-of-way and 201 acres are to the east of the right-of-way. Figure III-2 illustrates the location of the project site within the context described above.

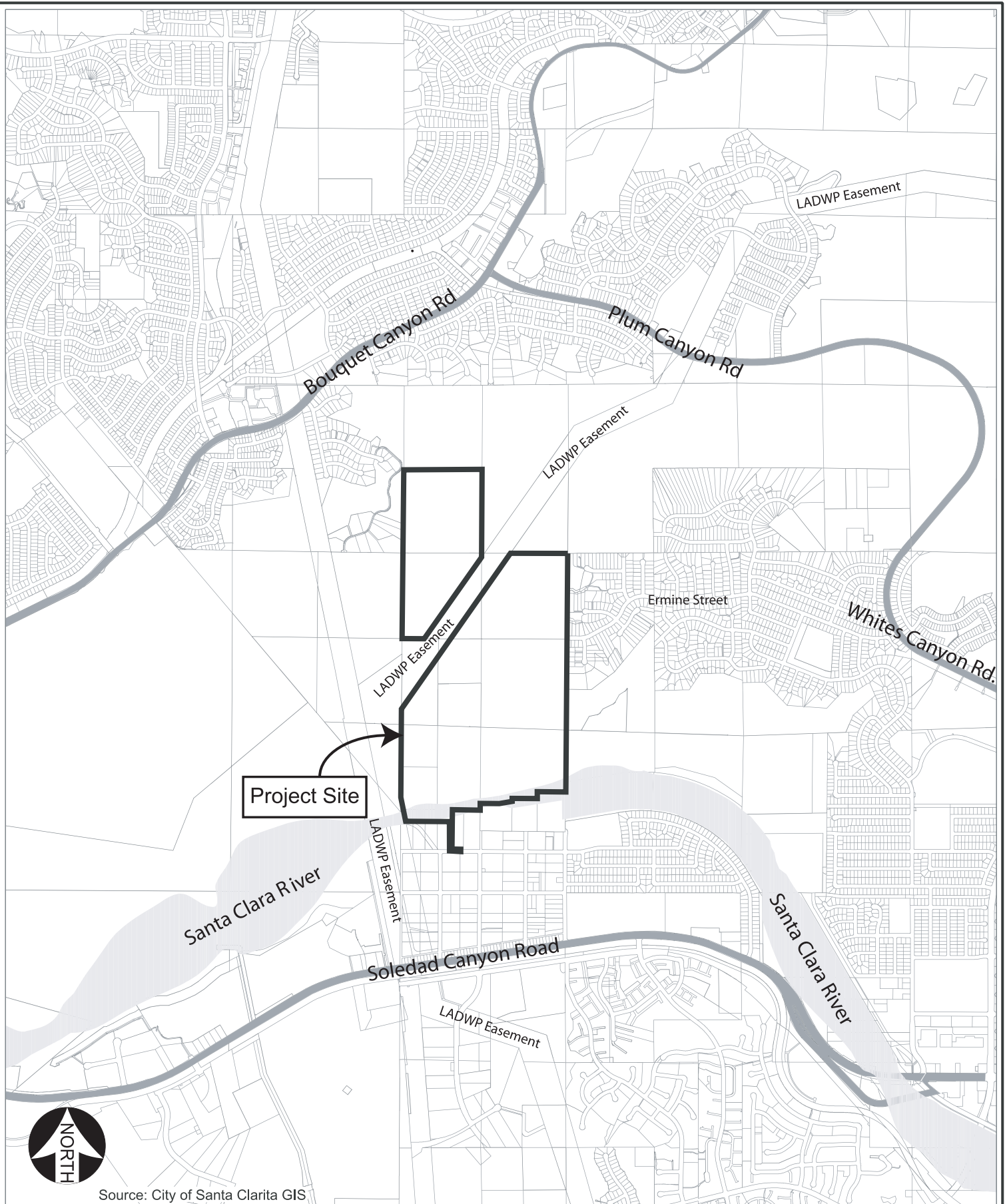
Topographically, the project site consists of two steep canyons three ridgelines and a series of mesas. The project site generally drains to the south and discharges into the Santa Clara River. Figure III-3 is a recent aerial photograph of the project site and surrounding area. Figure III-4 illustrates the major landforms on the project site.

The 45-acre portion consists of two ridges and a mesa. The 201-acre portion is a larger area (polygon-shaped) with two major canyons, a ridgeline and two mesas. As shown in Figures III-3 and III-4, the canyons follow a northeasterly and southwesterly direction with one located in the northern area and the other is situated in the southern portion of the project area (the larger polygon-shaped portion). The southern canyon drains both portions of the project site and some offsite development to the east. This canyon is steep sided and supports riparian vegetation. The northern canyon is less steep and supports a coastal sage scrub plant community along with some parts of the LA DWP facilities and service roads.

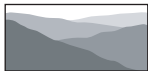
According to the City's ridgeline map, the highest ridge on the site is designated as a "Primary Ridgeline" while two other ridges have been classified as "Secondary Ridgelines". These designations are intended to protect the hill forms from grading. Figure III-5 depicts the location of the primary and secondary ridgelines on the project site per the City of Santa Clarita's ridgeline map. As shown, the Primary Ridgeline and one of the Secondary Ridgelines is located in the 45-acre area west of the LA DWP right-of-way while the other Secondary Ridgeline is situated in the 201-acre portion of the site. For discussion purposes, the Secondary Ridgeline in the 201-acre polygon shaped area would be referred as the eastern Secondary Ridgeline, and the Secondary Ridgeline in the 45-acre polygon shaped project area will be referred as the western Secondary Ridgeline.

The existing eastern Secondary Ridgeline is located in the larger polygon shaped project boundary area west of the LA DWP right-of-way as shown in Figure III-5. The ridgeline currently traverses the site in a northeasterly and southwesterly axis ending just north of the existing Ermine Street termination. This ridgeline extends approximately 3,300 feet across the site with a beginning elevation of approximately 1,430 feet above the mean sea level (msl) and ascends to approximately 1,600 feet msl at the Ermine Street location. This Secondary Ridgeline exhibits scars from past farming and mining activity, which have left large stair-step terraces on the south-facing slope. Additional scarring has occurred due to off-road vehicle activity.

As shown in Figure III-5, the existing western Secondary Ridgeline extends from the Primary Ridgeline on the north and continues generally in a southerly direction along the LA DWP right-of-way. The ridgeline extends approximately 2,200 feet across the 45-acre site. As typical of the area's topography,



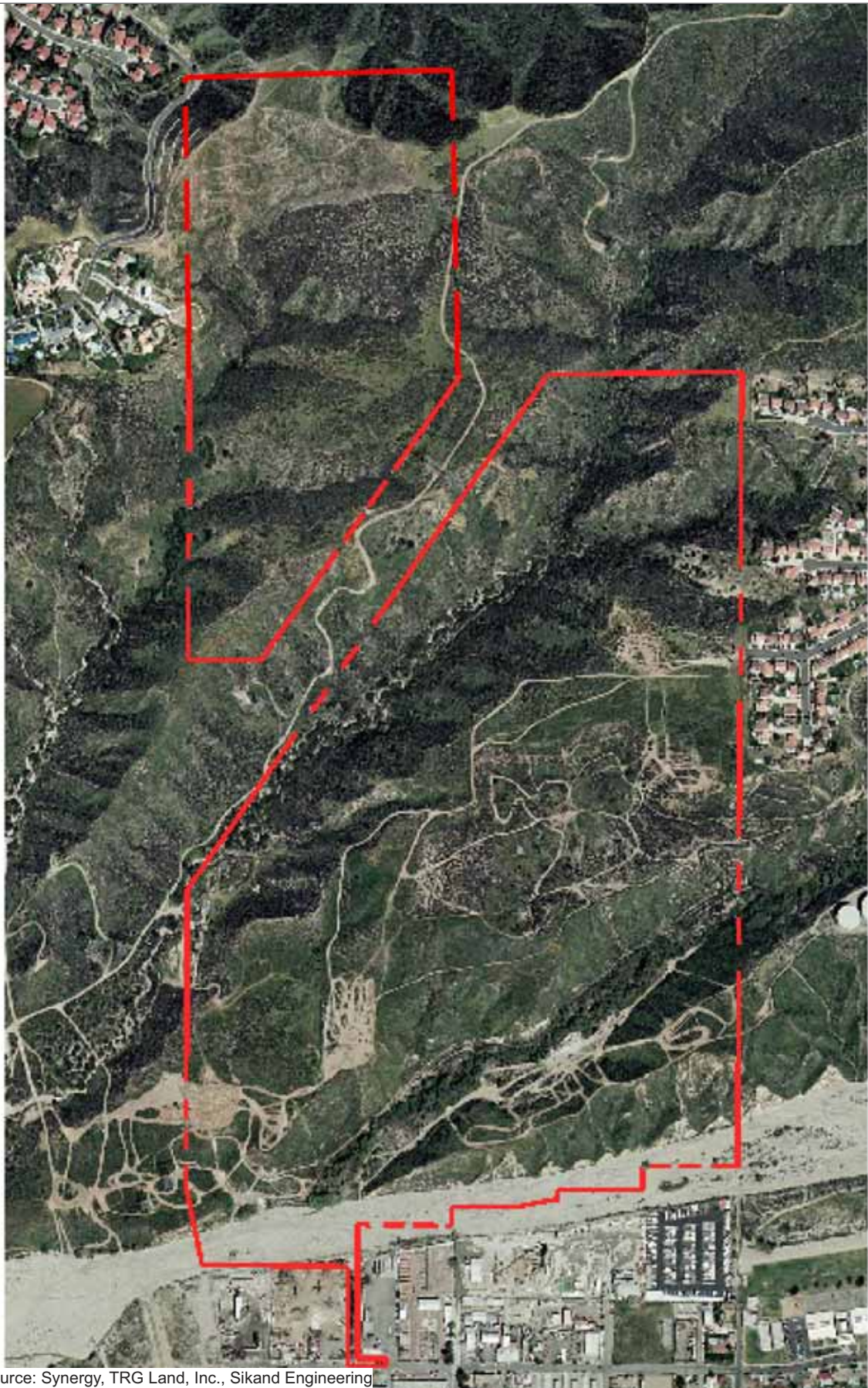
Source: City of Santa Clarita GIS



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Figure III-2
Vicinity Map



Source: Synergy, TRG Land, Inc., Sikand Engineering



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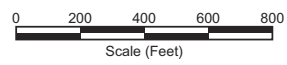
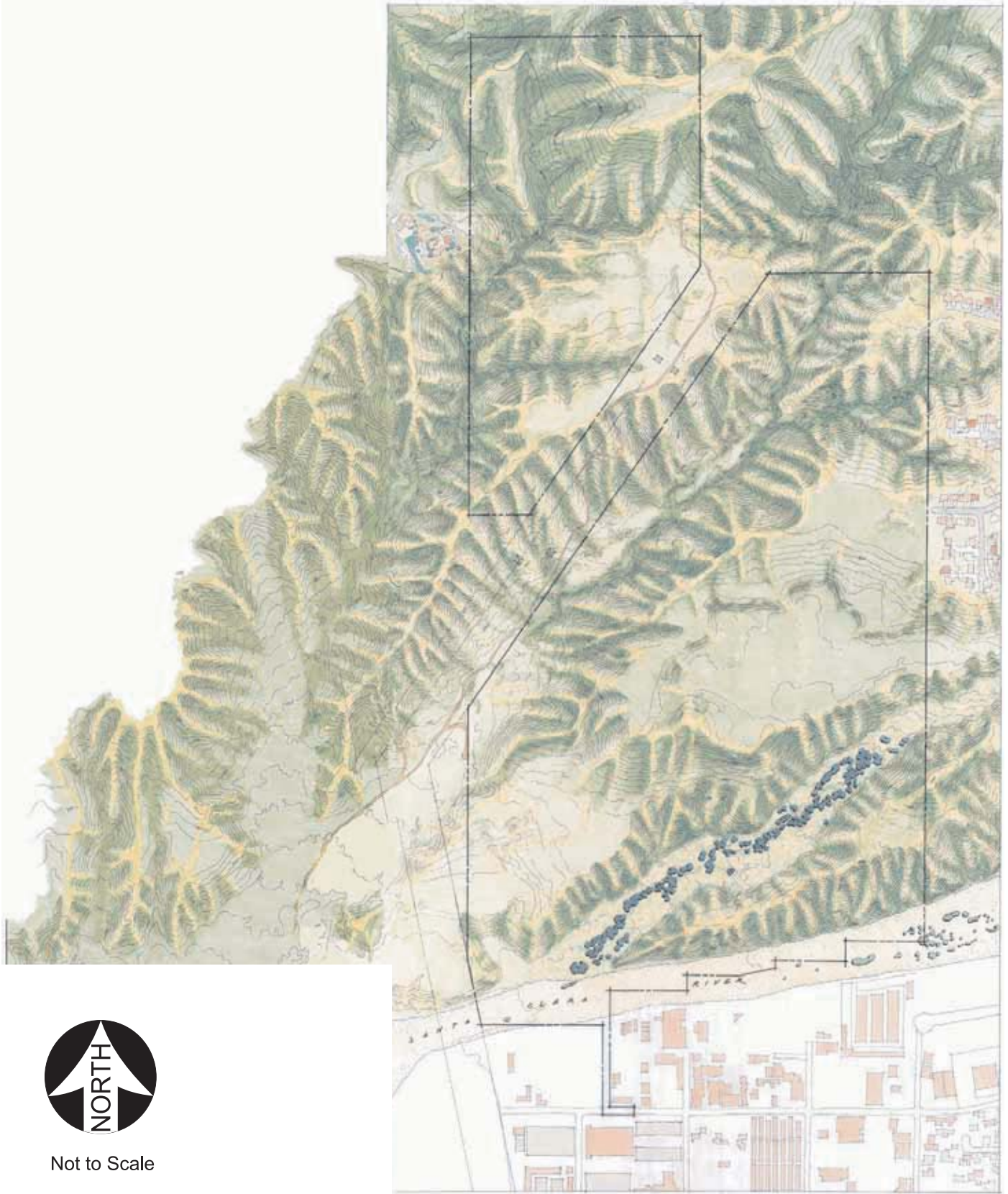


Figure III-3
Aerial Photograph



Not to Scale

Source: Synergy, TRG Land, Inc., Sikand Engineering



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Figure III-4
Major Landforms on Project Site

Legend

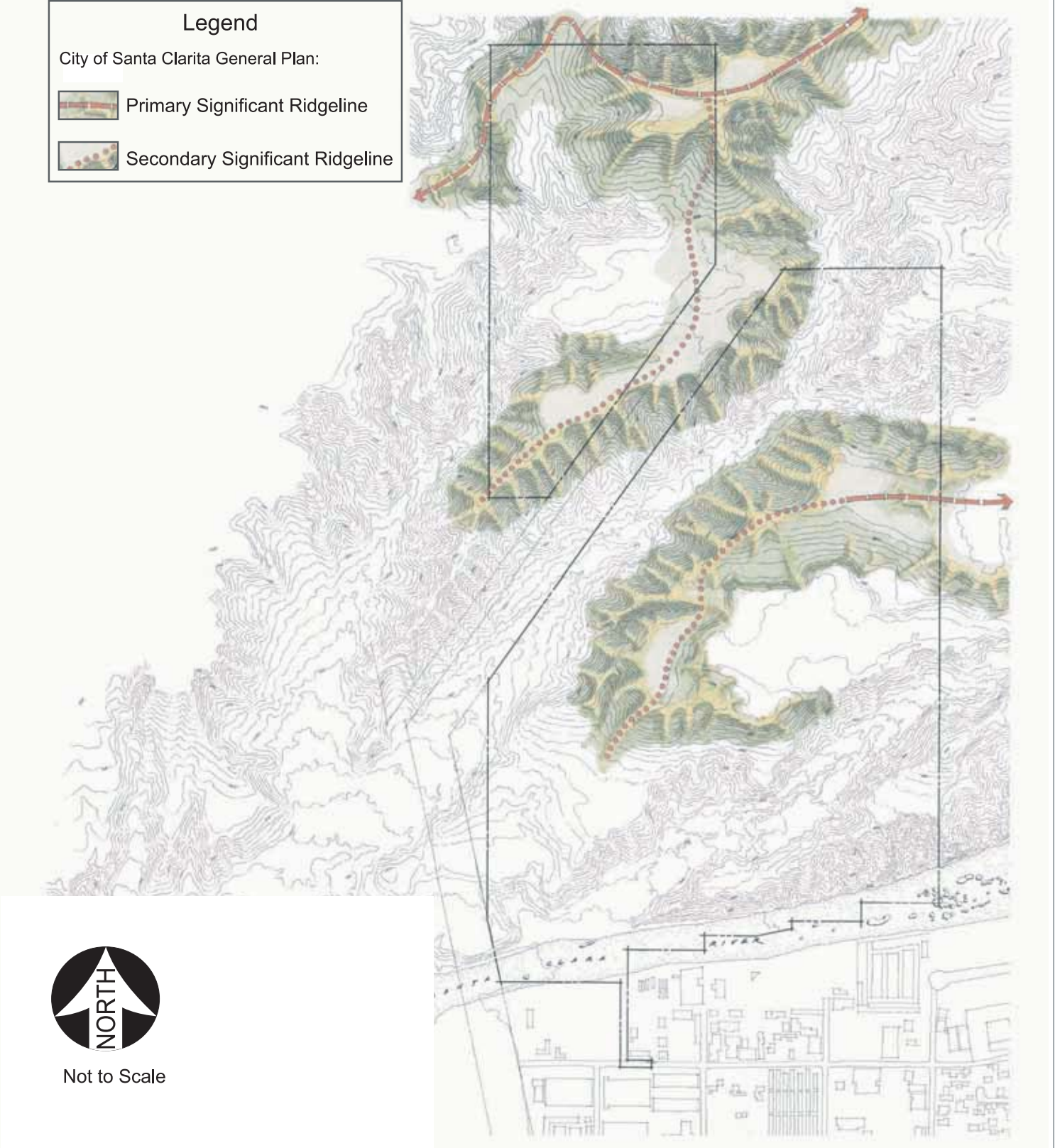
City of Santa Clarita General Plan:



Primary Significant Ridgeline



Secondary Significant Ridgeline



Not to Scale

Source: Synergy TRG Land, Inc., Sikand Engineering



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Figure III-5
Significant Ridgeline Location

the ridgeline undulates across the site with a beginning elevation of approximately 1,550 msl, ascending to 1,650 msl and continues northward meeting the Primary Ridgeline.

The project site is primarily vacant of development but there is trash strewn over the site with construction debris, abandoned automobile parts, stock piles of dirt, an abandoned water well and tank and a concrete pad from previous usage of the site.³ There are no known permanent structures or uses on the site according to the City of Santa Clarita records. However, the project site is not in a pristine condition. Portions of the project site have been subjected to mining activities in the past, which has particularly affected the eastern Secondary Ridgeline, leaving relatively large stair-step terraces up through the project area. The northern canyon also shows signs of squatters and dumping, with tents and piles of rubbish scattered throughout the canyon bottom.

Vegetation communities on the project site consist of Southern Riparian Scrub and Southern Willow Scrub in the canyons, coastal sage scrub on the hillsides. The Cottonwood-Willow Riparian Forest and the Mainland Cherry Forest are special-status vegetation associations found on the project site. Five oak trees are located within the project site boundaries and three off-site oaks are in close proximity to the site in the vicinity of the proposed Golden Valley Road extension to Newhall Ranch Road (refer to Section IV. Project Description for detail and discussion of roadway extension). The five on-site oak trees are located in a cluster situated immediately west of the LA DWP right-of-way in the southern portion of the northern canyon.

Surrounding Land Uses

Existing residential communities are located to the northwest and east of the project site with residential communities under construction to the north. The Santa Clara River borders the southern portion of the project site with industrial facilities along the southern bank. Additional discussion of surrounding land uses is provided below. As demonstrated in Figure III-3 (Aerial Photograph), much of the land immediately adjacent to the project site is vacant. However, the surrounding area is rapidly being converted from undeveloped hillsides to new suburban uses. For example, new housing to the north of the project site is spreading eastward out of Bouquet Canyon. South of the project site new commercial and industrial parks are being developed on the south side of the Santa Clara River. Farther south, new single-family and multiple-family communities have been built. The following discussion traces major land use trends surrounding the project site beginning in the east and moving counter-clockwise to the north, west and south.

³ *Phase 1 Environmental Site Assessments, RTF & A Geotechnical Engineering and Engineering Geology, May 7, 2003, November 10, 2003 November 26, 2003, May 6, 2004.*

Land Uses to the East

An existing single-family residential community is located immediately to the east of the project site. Ermine Street, one of several east-west residential streets that currently provide local access to this community, terminates at the project site's eastern property line. If approved for development, Ermine Street would be extended westward to provide access to the proposed Golden Valley Road. This adjacent residential area is accessed from Whites Canyon Road, a north-south roadway located just short of one mile to the east of the project site. Except in the vicinity of its intersection with Soledad Canyon Road (to the southeast) where there is a mix of commercial and institutional land uses, single-family residential communities are prevalent along both the east and west sides of Whites Canyon Road as it climbs the ridge north of the Santa Clara River.

Land Uses to the North

On the north side of the ridge, Whites Canyon Road descends into Plum Canyon and becomes Plum Canyon Road. This eastern portion of Plum Canyon, located to the northeast of the project site, is experiencing a spate of new housing construction projects. Some new subdivisions, such as St. Claire, are in the final stages of construction and some units are now occupied. Other subdivisions are in earlier construction phases, and large-scale grading operations are occurring along both sides of Whites Canyon/Plum Canyon Road. Such development to the north is currently under construction that will include an extension of Golden Valley Road from Plum Canyon to the northern project site boundary. There are also subdivisions on the north side, although these are not as readily apparent from the roadway. Plum Canyon Road terminates at Bouquet Canyon Road (to the northwest of the project site) where older and more extensive residential development is prevalent.

Land Uses to the West

The upper reaches of Bouquet Canyon Road within the City of Santa Clarita (northwest of the project site), are extensively developed with residential uses, most of which are located to the north and west of that roadway. Small subdivisions also line the southeast side of Bouquet Canyon Road. For the most part, the steep slopes on the east side of Bouquet Canyon limit the extent of development to the lower elevations close to the roadway. However, there is one small private subdivision on the mesa immediately west of the northern portion of the project site. This subdivision is accessed by a private drive via Bouquet Canyon Road, Sutters Point Drive and Elder Creek Drive (see Figure III-3). Also located on the mesa to the west of the project site (south of this small subdivision) is the approximately 695.4-acre site of the recently approved Riverpark project. When developed, this project would consist of 432 single-family homes, 657 multiple-family dwelling units, and 16,000 square feet of commercial uses (for Riverpark project location, refer to Figure III-6, Related Projects Location).

As one proceeds southwest along Bouquet Canyon Road, south of Haskell Canyon Road, land uses gradually transition from residential to commercial, institutional and public land uses, including the Castaic Lake Water Agency's Water Treatment Facility, the City of Santa Clarita's Central Park, and the Santa Clarita Methodist Church. Commercial uses dominate Bouquet Canyon Road in the vicinity of Seco Canyon, and large shopping centers are located along Bouquet Canyon Road at Newhall Ranch Road. The Santa Clara River is located to the south of Newhall Ranch Road and Soledad Canyon Road is located on south side of the River. The intersection of Bouquet Canyon Road and Soledad Canyon Road (southwest of the project site) is a node of commercial uses.

Land Uses to the South

South of the project site, Soledad Canyon Road parallels the southern bank of the Santa Clara River. To the east of Bouquet Canyon Road (southwest of the project site), low density commercial uses front onto the south side of Soledad Canyon Road. The north side of the road is bounded by the open space of the Santa Clara River. Southwest of the project site, the Saugus Speedway and the Metrolink station are located on the south side of Soledad Canyon Road, approximately one mile east of Bouquet Canyon Road. Directly south of the project site, mixed commercial uses and mobile home parks line the north side of Soledad Canyon between Gladding Way and Whites Canyon Road. A mixture of small homes and industrial uses occur between these commercial uses and the Santa Clara River. A new commercial/industrial park is under construction on the south side of Soledad Canyon Road, in the vicinity of Golden Valley Road. In this area the Metrolink rail line runs parallel to Soledad Canyon Road and separates it from Golden Triangle Road. A community of mixed single-family and multiple-family homes is located in the hills south of Golden Triangle Road.

B. REGULATORY SETTING

City of Santa Clarita General Plan

The City of Santa Clarita General Plan is the primary policy-planning document that guides land uses in the city. The General Plan Land Use Map indicates that the project site is designated as Residential Very Low (RVL) and Industrial Commercial (IC). Due to the topography of the site with two ridgelines forming steep canyons and a series of mesas, the majority of the approximately 246 acre site is designated RVL, 242.1 acres, with IC constituting approximately 3.7-acres. Approximately 15 acres of the 246-acre site are situated in the Santa Clara River, which is a Significant Ecological Area (SEA) Overlay (see discussion below). Refer to Section V.I. Land Use for further discussion of the project's consistency with the Santa Clarita General Plan.

Significant Ecological Area (SEA) Overlay

The Significant Ecological Area (SEA) Overlay category is used to designate areas that are of prime importance to the City for protection and preservation of areas that possess biotic resources that are uncommon, rare, unique or critical to the maintenance of wildlife. Los Angeles County has designated five locations in the Santa Clarita Valley as SEAs, which have been adopted by the City and incorporated into the Santa Clarita General Plan. These are ecologically fragile or important areas that are valuable as plant or animal communities. The SEAs include the Santa Clara River, the Santa Susana Mountains, San Francisquito Canyon, Lyon Canyon, and Valley Oaks Savannah.

The SEA designation is intended to provide a process whereby the reconciliation of potential conflict within these areas may equitably occur. While development is not prohibited within SEAs, such development should be designed to preserve the SEA and assure its ongoing viability.⁴

The project site is located adjacent to the Santa Clara River, designated as SEA 23. The SEA designation covers the southern portion of the project site (approximately 15 acres) within and adjacent to the Santa Clara River. SEA 23, the largest SEA in the Santa Clarita Valley, supports a variety of natural habitats that include freshwater marsh, coastal sage scrub, oak woodland, and riparian woodlands and also provides protection against the threat of loss of suitable habitat for three federally listed Endangered species (unarmored three-spined stickleback, least Bell's vireo, and arroyo Southwestern toad) and one Threatened species (Southwestern pond turtle). The current boundary of SEA 23 is based on the limits of the Floodway/Floodplain land use designation shown on the Santa Clarita Valley Area Land Use Map, which corresponds to the Federal Emergency Management Agency (FEMA) 100-year flood plain boundary. Refer to Section V.D. Biological Resources for further information regarding biological resources and project consistency with SEA 23.

Zoning

Zoning is the main implementation tool of the General Plan; thus, zoning corresponds to the general plan land uses designations. The corresponding zoning classifications for the project site include Residential Very Low (RVL) and Industrial Commercial (IC). Refer to Section V.I. Land Use for further discussion of the existing and Proposed Project's zone designations.

Regional Plans and Policies

Regional planning considerations and federal air and water quality laws have increased the relative importance of land use planning in a regional context. The Southern California Association of

⁴ City of Santa Clarita General Plan, Land Use Element, p. L-23, June 1991.

Governments (SCAG) reviews the consistency of local plans, projects, and programs with regional plans. The guidance provided by SCAG is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

The RCPG includes a Growth Management chapter that provides the demographic forecasts used in the South Coast Air Quality Management District's (SCAQMD) 2003 Air Quality Management Plan (AQMP) and provides a flexible network to resolve growth-related issues expected during the next 20 years. The SCAQMD's 2003 AQMP predicts the attainment of clean air in the Los Angeles Basin by the year 2010.

In addition to these plans, the project area is also subject to the Water Quality Control Plan (Basin Plan) for the Los Angeles Region of the California Regional Water Quality Control Board (RWQCB), Los Angeles Region and the Congestion Management Plan (CMP) of the Metropolitan Transportation Authority.

Regional Comprehensive Plan and Guide

The project site is located within the North Los Angeles County subregion planning area of the Southern California Association of Governments (SCAG), the Southern California region's federally-designated metropolitan planning organization. SCAG has prepared a Regional Comprehensive Plan and Guide (RCPG) to address regional growth.

The RCPG was adopted in 1994 by the member agencies of SCAG to set broad goals for the Southern California region and identify strategies for agencies at all levels of government to use as a decision-making guide. It includes input from each of the 14 subregions that comprise the Southern California region (including Los Angeles, Orange, San Bernardino, Riverside, Imperial and Ventura Counties). The RCPG is a policy document that sets broad goals for the Southern California region and identifies strategies for agencies at all levels of government to use as a decision-making guide with respect to significant issues and changes, including growth management, that are anticipated by the year 2015 and beyond. Adopted policies related to land use are contained primarily in the Growth Management chapter of the RCPG. The primary goal of Growth Management Chapter policies is to address issues related to growth and land consumption by encouraging local land use actions that could ultimately lead to the development of an urban form that will help minimize development costs, save natural resources and enhance the quality of life in the region.

Regional Transportation Plan

The Regional Mobility Chapter of the Regional Mobility Element (RME) which is also sometimes referred to as the Regional Transportation Plan (RTP), originally adopted in 1994, is the principal transportation policy, strategy and objective statement of SCAG. The RTP serves as both the federal- and state-required regional long-range transportation plan for the SCAG region. The RTP was most

recently updated in 2004. The RTP is the guide for developing the federal and state Regional Transportation Improvement Program (RTIP), which is a seven-year program for regional transportation improvements for highways, transit, and aviation. The RTIP is aimed at improving the overall efficiency and people-moving capabilities of the existing transportation system. For further discussion of project consistency with specific goals, objectives and policies of the RTP refer to Section V.O. Transportation.

South Coast Air Quality Management District

The project site is also located within the South Coast Air Basin (SCAB) and is therefore within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) within the Los Angeles County Northern Region. In conjunction with SCAG, the SCAQMD is responsible for formulating and implementing air pollution control strategies. The current Air Quality Management Plan (AQMP), adopted in 2003 by SCAQMD and SCAG to assist in fulfilling these responsibilities, is intended to establish a comprehensive regional air pollution control program leading to the attainment of state and federal air quality standards in the SCAB area. SCAG is responsible for preparing and approving the portions of the AQMP which relate to the following: regional demographic projections and integrated regional land use; housing, employment, and transportation programs; control measures; and strategies. Air quality impacts and project consistency with the AQMP are analyzed in detail in Section V.C. Air Quality of this Draft EIR.

Congestion Management Program

The Congestion Management Program (CMP) was enacted by the State Legislature to address traffic congestion in California's urbanized counties. The Legislature noted that the existing transportation system relies upon an overcrowded street and highway system that impacts the economic vitality of the state and diminishes the quality of life in many communities. The current CMP for Los Angeles County was adopted in 2004, and it is required by law to be updated biennially. The CMP was created for the purposes of linking land use, transportation and air quality decisions; developing a partnership among transportation decision-makers on devising appropriate transportation solutions that include all modes of travel; and proposing transportation projects eligible to compete for state gas tax funds.

The requirements for the CMP became effective with voter approval of Proposition 111 in June 1990. Proposition 111 provided for a nine-cent increase in the state gas tax over a five-year period to generate revenues to fund transportation investment statewide. In order to receive these funds, jurisdictions must comply with CMP requirements. By statute, the CMP has five elements: (1) a system of highways and roadways with minimum level of service performance standards designated for highway segments and key roadway intersections on the system; (2) transit standards for frequency and routing of transit service and coordination between transit operators; (3) a trip reduction and travel demand

management element promoting alternative transportation methods; (4) a land use impact analysis program; and (5) a seven-year capital improvement program of projects.

Within Los Angeles County, the Metropolitan Transportation Authority (MTA) is the designated congestion management agency responsible for coordinating the County's adopted CMP. The project's Traffic Impact Analysis, which is presented in greater detail in Section V.O Transportation of this Draft EIR, was prepared in accordance with the CMP as well as City of Santa Clarita Department of Transportation and Engineering Services guidelines.

Water Quality Control Plan Los Angeles Region (Basin Plan)

The State of California Water Resources Control Board delegates to the various Regional Water Quality Control Boards (RWQCB) the responsibility for protection of water quality in watershed basins throughout the state. The Los Angeles RWQCB Basin Water Quality Plan (Basin Plan) serves as a resource for the RWQCB and others who use water and/or discharge wastewater in the Los Angeles Region. The Basin Plan establishes water quality objectives for the County of Los Angeles. The California Water Code defines water quality objectives as "the allowable limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area." Therefore, the Basin Plan water quality objectives are intended to: (1) protect the beneficial uses of water; and (2) maintain or enhance water quality in relation to the designated existing and potential uses of the water.

The Basin Plan designates beneficial uses for surface and ground waters, sets narrative and numerical water quality objectives that must be attained (or maintained) to protect the designated beneficial uses, and describes implementation programs to protect all waters in the region. The major drainage of the project site is the Santa Clara River located on the southern portion of the project site, which consists of approximately 17.4 acres of the project site (Lot 123)⁵. For further discussion of project drainage and water quality issues refer to Section V.H Hydrology.

C. CUMULATIVE ANALYSIS METHODOLOGY

Sections 15126 and 15130 of the CEQA Guidelines provide that EIRs consider the significant environmental effects of a Proposed Project as well as "cumulative impacts." Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.⁶ Cumulative impacts may be analyzed **by**

⁵ GeoSyntec Consultants, Inc., *Keystone Project Water Quality Technical Report*, April, 29, 2005.

⁶ *State CEQA Guidelines Section 15355.*

considering a list of past, present, and probably future projects producing related or cumulative impacts.⁷

Section 15130(a) also requires that EIRs discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, it need not consider the effect significant but shall briefly describe the basis for its conclusion. As further clarified by Section 15065 of the CEQA Guidelines, "cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. If the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, 15130(a)(2) of the CEQA Guidelines requires a brief discussion in the EIR of why the cumulative impact is not significant and is not discussed in further detail. Section 15130(a)(3) of the CEQA Guidelines requires supporting analysis in the EIR if a determination is made that a project's contribution to a significant cumulative impact is rendered less than cumulatively considerable and, therefore, is not significant. CEQA recognizes that the analysis of cumulative impacts need not be as detailed as the analysis of project-related impacts, but instead should "be guided by the standards of practicality and reasonableness".⁸ The discussion of cumulative impacts in this EIR focuses on whether the impacts of The Keystone project are cumulatively considerable.

The fact that a cumulative impact is significant on the whole does not necessarily mean that the project-related contribution to that impact is significant as well. Instead, under CEQA, a project-related contribution to a significant cumulative impact is only significant if the contribution is cumulatively considerable.

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita and unincorporated areas of Los Angeles County within the Santa Clarita Valley. The compiled list totaled 47 projects across the Santa Clarita Valley. Since the Santa Clarita Valley spans a large geographical area, an approximate two-mile radius was drawn around the project site to narrow the vicinity. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. By narrowing the geographical vicinity, a list of 12 related

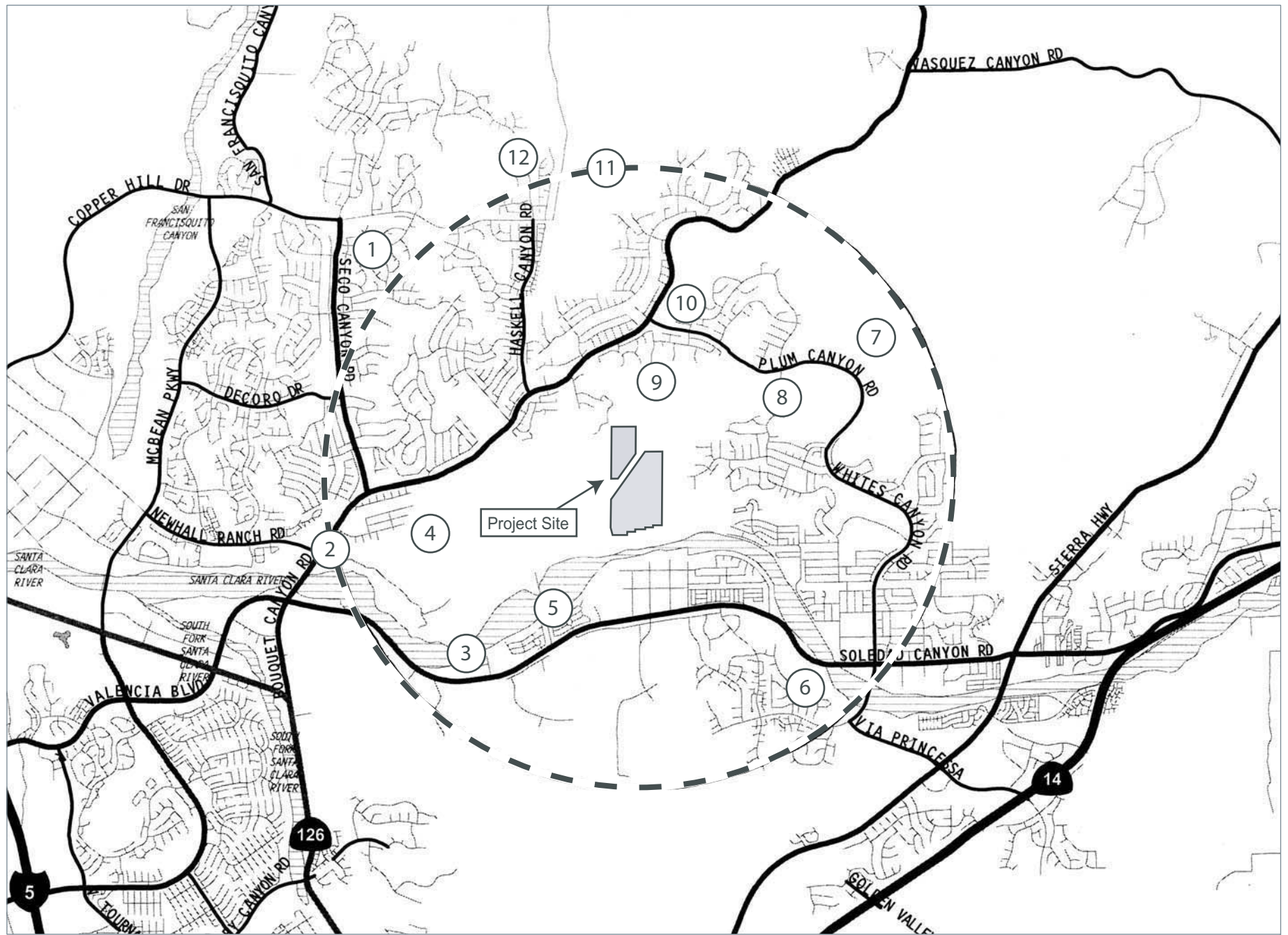
⁷ *State CEQA Guidelines Section 15130(b)(1)[A]*.

⁸ *State CEQA Guidelines Section 15130 [b]*.

projects were located within a two-mile radius of proposed Keystone project. Table III-1 presents the 12 related projects and Figure III-6 illustrates the location.

**Table III- 1
List of Related Projects**

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU



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Figure III-6
 Related Project Locations

This related projects list as presented in Table III-1 is used for cumulative analysis in this EIR for the following environmental topics which will be analyzed in this EIR for these following sections: aesthetics, biological resources, cultural resources, geology and soils, hazards, hydrology and water quality, land use, mineral resources, population and housing, public services (fire protection, police protection, schools, parks/recreation and libraries), utilities (water, sewer and solid waste) and energy conservation.

For transportation, air quality and noise, a different methodology is used for cumulative analysis. Traffic analysis is primarily based on the Santa Clarita Valley Consolidated Traffic Model (SCVCTM), which was developed jointly by the City of Santa Clarita and the County of Los Angeles Department of Public Works and amended as necessary to include general plan amendment applications as they are submitted to the City and County. The modeled area extends easterly from Ventura County line to where the Antelope Valley Freeway (SR-14) passes out of the Santa Clarita Valley near Vasquez Rocks Park; northerly to the Grapevine area north of Castaic; and southerly to the confluence of the I-5 and SR-14 freeways south of Newhall Pass. The compiled list of 47 related projects, as previously discussed, are included in the SCVCTM.

The SCAQMD's *CEQA Air Quality Handbook* identifies several methods to determine the cumulative significance of land use projects (i.e., whether the contribution of a project is cumulatively considerable). However, the SCAQMD no longer recommends the use of these methodologies. Instead, the SCAQMD recommends that any construction-related emissions and operational emissions from individual development projects that exceed the SCAQMD's project-specific daily emissions thresholds would be considered cumulatively considerable. The SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess the impacts associated with these emissions.

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the Proposed Project and other projects within the study area. As discussed, traffic analysis evaluates increase in vehicle trips using the SCVCTM, and therefore, noise cumulative operational analysis is based on the traffic study and application of the SCVCTM. However, cumulative construction noise analysis is based on the list of related projects as provided in Table III-1.

IV. PROJECT DESCRIPTION

PURPOSE

The purpose of the Project Description is to describe the project in a way that will be meaningful to the public, reviewing agencies and decision makers. The CEQA Guidelines (Section 15125) require that a Project Description contain the following information: (1) a detailed map showing the precise location and boundaries of the project; (2) a statement of objectives sought by the Proposed Project, which should include the underlying purpose of the project; (3) a general description of the project's technical, economic and environmental characteristics; and (4) a statement briefly describing the intended uses of the EIR, including a list of the agencies that are expected to use the EIR in their decision-making, a list of permits and other approvals required to implement the project, and a list of related environmental review and consultation requirements required by federal, state, and local laws, regulations and policies. An adequate project description need not be exhaustive, but should supply the detail necessary for project evaluation.

A. PROJECT APPLICANT

The applicant for The Keystone project is Synergy-Brookfield, LLC, located at 19200 Von Karman, 6th Floor, Irvine, California, 92612 and the contact person is Rick Doremus at (949) 622-5480.

B. LEAD AND POSSIBLE RESPONSIBLE AGENCIES

Lead Agency

The lead agency for this project is the City of Santa Clarita, 23920 Valencia Boulevard, Suite 302, Santa Clarita, California, 91355 and the contact person for this project is Heather Waldstein, Associate Planner, (661) 255-4330, FAX (661) 259-8125 and email: hwaldstein@santa-clarita.com.

Possible Responsible Agencies

The following is a list of possible responsible agencies for this project EIR:

- U.S. Army Corps of Engineers (ACOE)
- U.S. Fish and Wildlife Service (USFWS)
- California Department of Fish and Game (CDFG)
- California Department of Transportation (CALTRANS)
- Regional Water Quality Control Board (RWQCB)
- South Coast Air Quality Management District (SCAQMD)
- Los Angeles County Sanitation – Valencia WRP/District 32 and Saugus WRP/District 26
- Los Angeles County Fire Department

- City of Los Angeles Department of Water and Power (DWP)
- Castaic Water Agency (CLWA)
- Santa Clarita Water Company
- Los Angeles County Public Works

These agencies, as listed by the lead agency, City of Santa Clarita, are expected to utilize this EIR for their discretionary approvals.

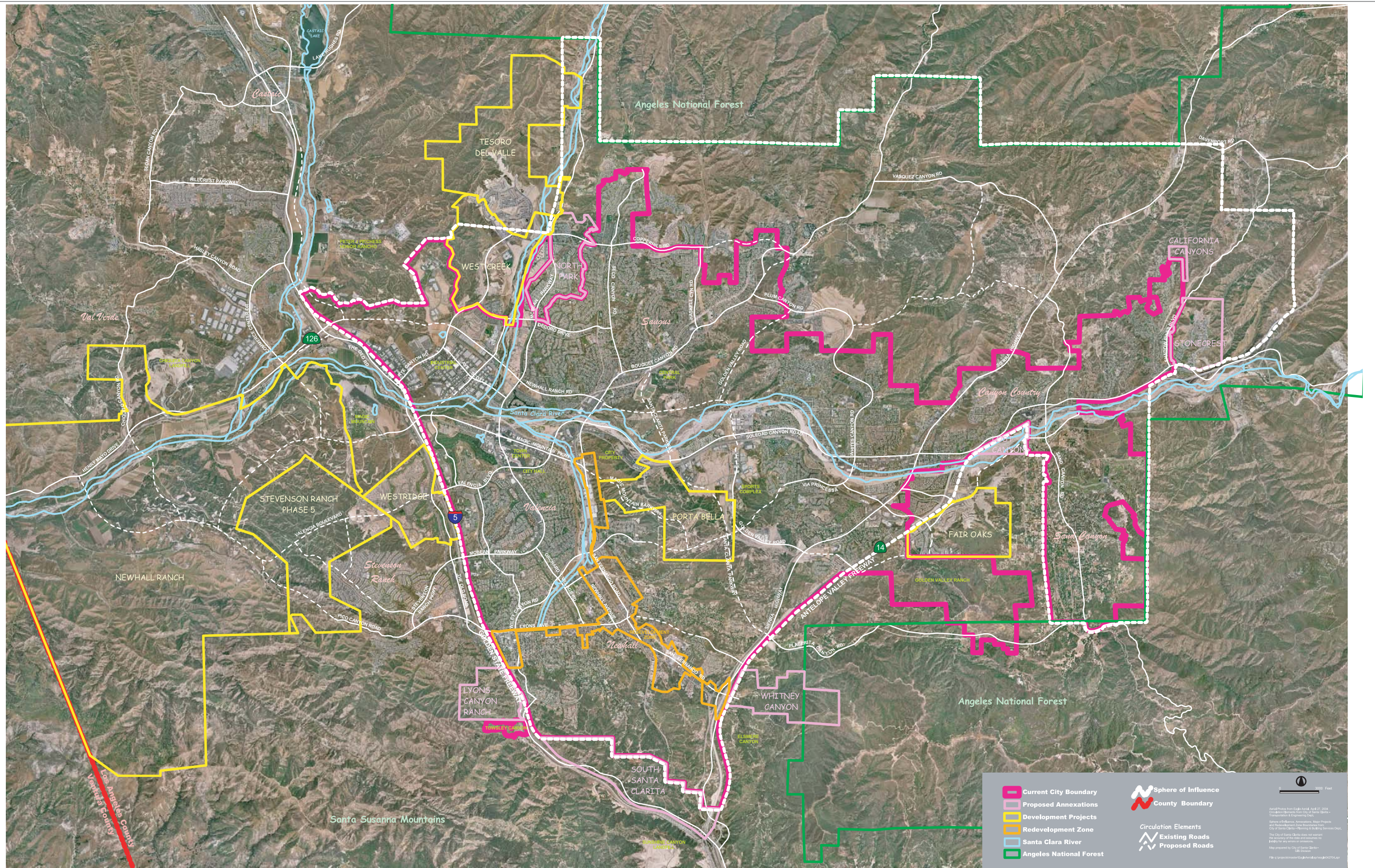
C. PROJECT LOCATION

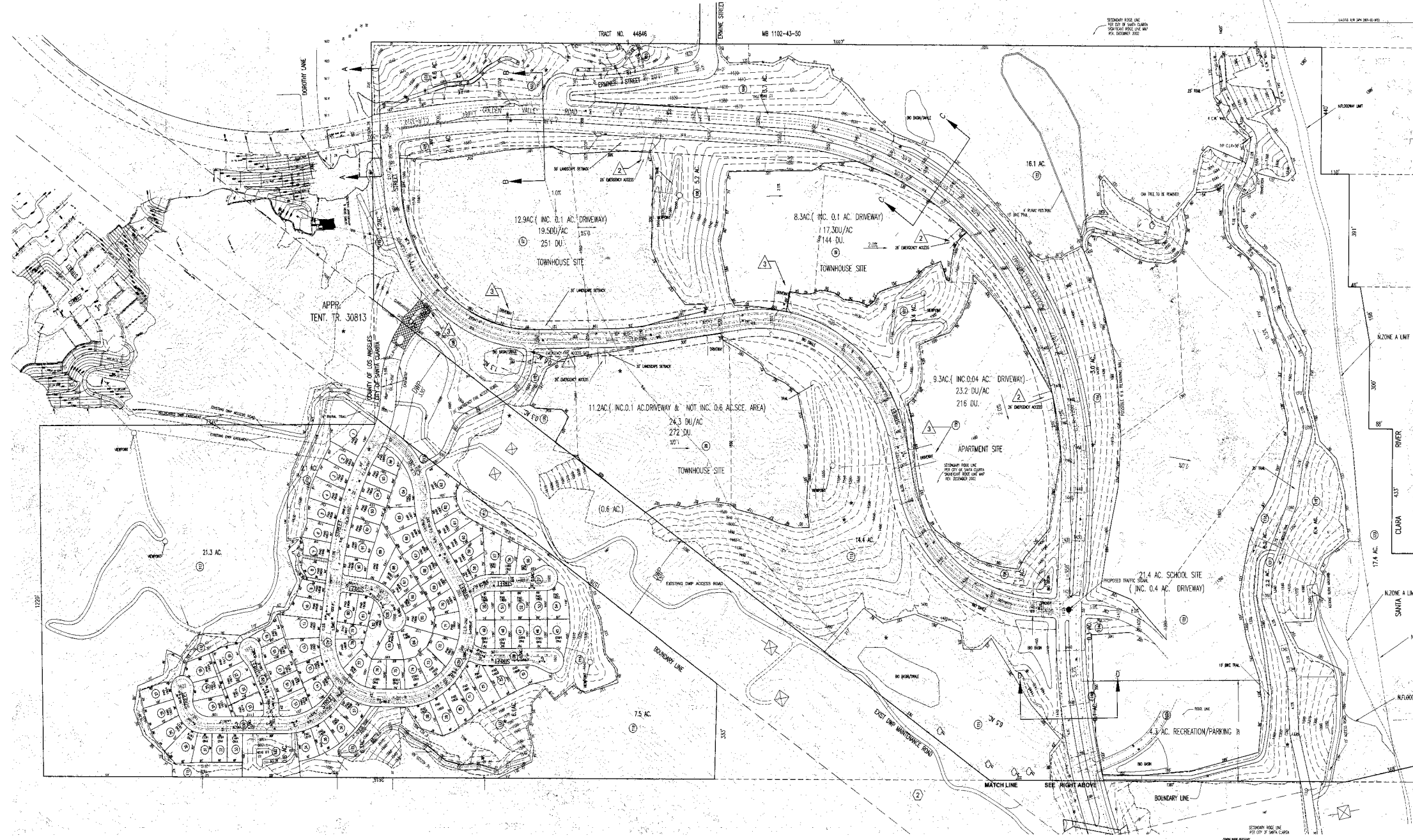
The approximate 246-acre Keystone project is located in the north-central part of the Santa Clarita Valley within the corporate boundaries of the City of Santa Clarita (see section II. Environmental Setting, Figure II-1 and Figure II-2). More specifically, the project site is bordered on the east at the westerly extension of Ermine Street and northwest by existing residential neighborhoods, and by recently approved residential/commercial development to the southwest and residential development to north that is currently under construction. The Santa Clara River is located to the south with industrial facilities along the southern bank. The Proposed Project site is located along the future extension of Golden Valley Road and to the north of the future Newhall Ranch Road and Golden Valley Road intersection. Newhall Ranch and Golden Valley Roads are part of the Cross-Valley Connector road planned for the Santa Clarita Valley connecting I-5 and SR-14 freeways. A City of Los Angeles Department of Water and Power (DWP) right-of-way with electrical transmission lines runs through the site diagonally (northeast to southwest angle) from approximately the middle of the western project edge to the center of the northern project boundary dividing the site. Figure IV-1 is an aerial photograph showing the project site in relationship to existing development in the area. Since this aerial photo, grading has begun for a 498 unit residential project in unincorporated Los Angeles County directly to the north, and a 432 unit single-family, 657 unit multi-family and 16,000 square foot development project, known as Riverpark, has been recently approved by the City of Santa Clarita for development directly southwest of The Keystone project site.

D. PROJECT CHARACTERISTICS

Proposed Project Overview

The applicant is requesting approval to develop the approximately 246-acre project site based on the Vesting Tentative Tract Map No. 060258 illustrated in Figure IV-2 with a detailed tract map provided in Figure IV-2a. An illustrative site plan is provided in Figure IV-3. The project consists of the subdivision of the site into 132 lots for a mix of residential (single-family and multi-family), recreational, educational, YMCA facility and open space uses. The Proposed Project specifically includes construction of 979 dwelling units that consists of 96 single-family lots, 216 multi-family apartment units and 667 townhouse units and finished (graded) lots for a 1,200-1,600 student and 70-





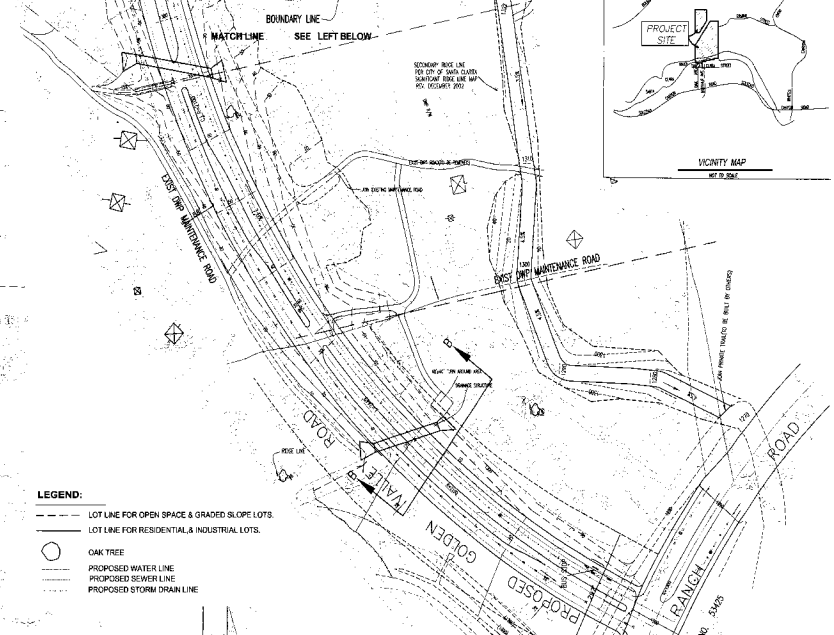
EASEMENT

EASEMENTS PER FIRST AMERICAN TITLE COMPANY P.T.A. ORDER NO. 1046154 JUNE 30 2003 (04) 19 JUNE 19 2003 (04) 15 (01) MARCH 7 2003

- STORM DRAIN EASEMENT REC. 5/19/13 WEST 034 O.A.
- EXISTING WATER WELL EASEMENT P.T.A. 1/4/18 PCL 2
- ELECTRICAL POLE LINE & OTHER EASEMENTS BEING REMOVED ARE NOT PLOTTED.

FIRE DEPT NOTES

- ROLLING GATE WITH AUTOMATIC CLOSER FOR FIRE AND EXTERIOR LOCK BOX FOR EMERGENCY FIRE INGRESS.
- IF FIRE ACCESS INCLUDING GATE WITH AUTOMATIC CLOSER FOR EXTERIOR LOCK BOX FOR EMERGENCY FIRE INGRESS.
- IF FIRE CALL BOX AND/OR CHANGEOVER BOX SHALL BE A MINIMUM OF 16 FEET AWAY FROM THE STREET. EACH ENTRY AND EXIT POINT IS REQUIRED TO BE MARKED WITH A 32 FOOT CENTER LINE TURNING RADIUS. TURNING RADIUS TO BE INDICATED AS NO PARKING FIRE LANE. A TURN RADIUS WITH A 32 FOOT CENTER LINE TURNING RADIUS IS REQUIRED PRIOR TO THE GATE. ALL GATE ACCESSORY HARDWARE IS REQUIRED TO BE OUT OF THE ACCESS WAY WHEN THE GATE IS IN ITS FULLY CLOSED POSITION. GATES SHALL COMPLY WITH THE FIRE DEPARTMENT'S REGULATION IS.



DATA SUMMARY

ACRES CROSS	48.4 AC
EXISTING ZONING	RM-1C
PROPOSED ZONING	SBT (INC. 0.4 AC), S (0.8 AC)
EXISTING GENERAL PLAN	RM-1C
PROPOSED GENERAL PLAN	SBT (INC. 0.4 AC), S (0.8 AC)
EXISTING LAND USE	VACANT
PROPOSED LAND USE	SINGLE FAMILY & MULTI-FAMILY RESIDENTIAL / SCHOOL OPEN SPACE OVERSEER

UTILITIES AND SERVICES

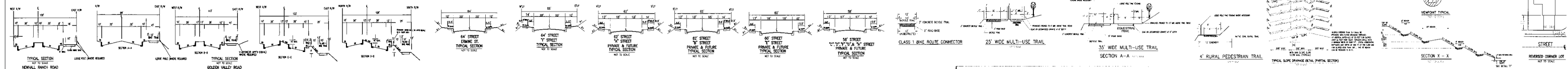
WATER: CLAYMANTA CLAYMANTA WATER CO
 SEWER: LOS ANGELES COUNTY SANITATION DISTRICT NO. 10
 GAS: SOUTHERN CALIFORNIA GAS COMPANY
 ELECTRICITY: SOUTHERN CALIFORNIA Edison COMPANY
 SCHOOL DISTRICT: W. B. WARD HIGH SCHOOL DISTRICT AND SAGUO UNION

NOTES

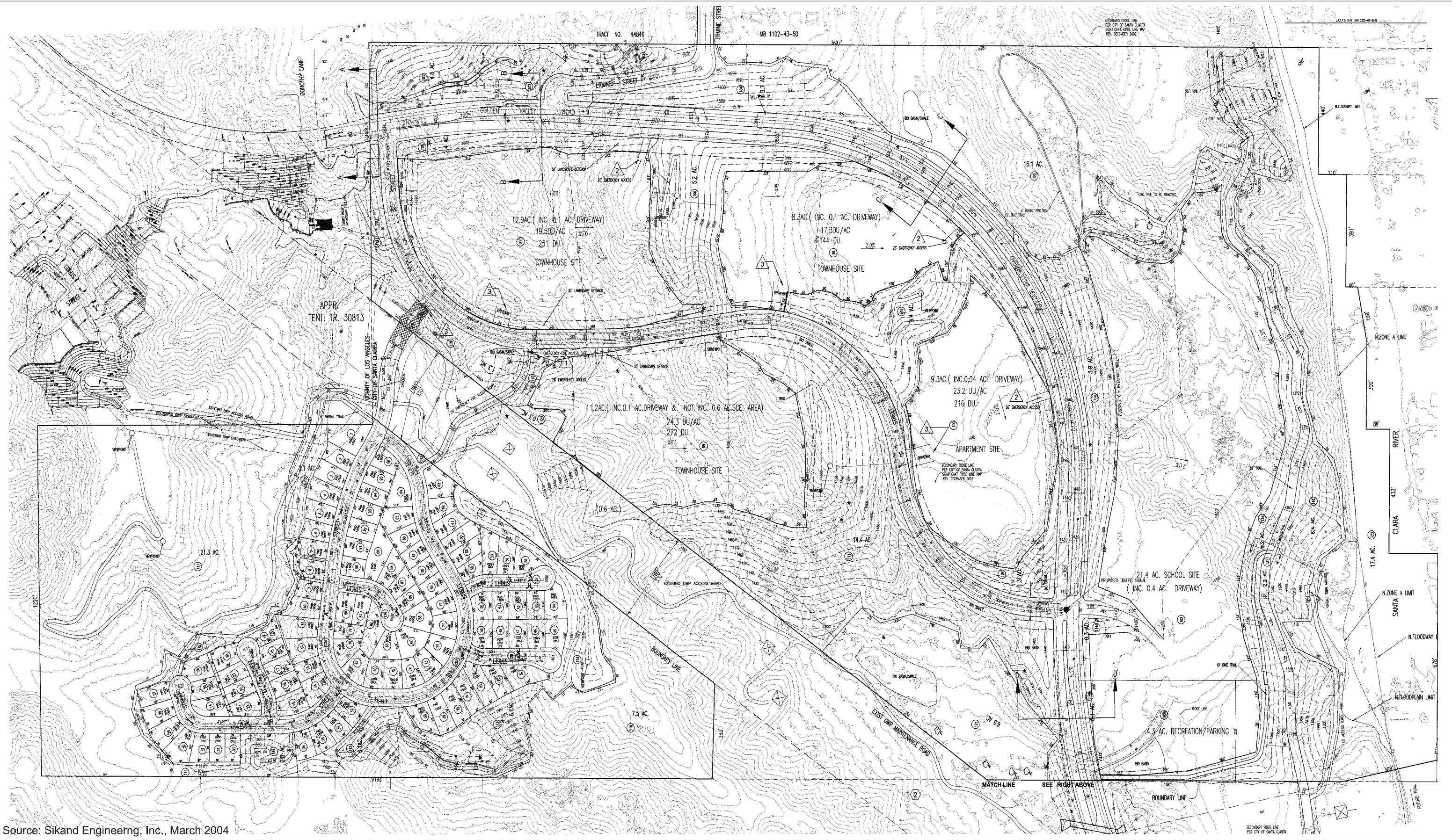
- BOUNDARIES ARE APPROXIMATE ONLY AND SUBJECT TO RE-SURVEY.
- SOILS INFORMATION APPROXIMATELY OBTAINED FROM CALIF. STATE UNIV. COUNTY OFFICE.
- EXISTING AND PROPOSED LOT LINES SHALL BE 1/8" TYP. (SEE ALSO SHEET 06-01-01).
- LANDING AT ALL INTERSECTIONS AND END OF CURVE SHALL BE 100' MIN. DIA. ALL CURVES SHALL BE 100' MIN. DIA. UNLESS OTHERWISE NOTED.
- ALL LOT LINES SHALL BE 1/8" TYP. UNLESS OTHERWISE NOTED.
- SEE SHEET 06-01-01 FOR ROAD AND SLOPE EASEMENTS FOR FUTURE TRAIL LANE.

LOTS SUMMARY

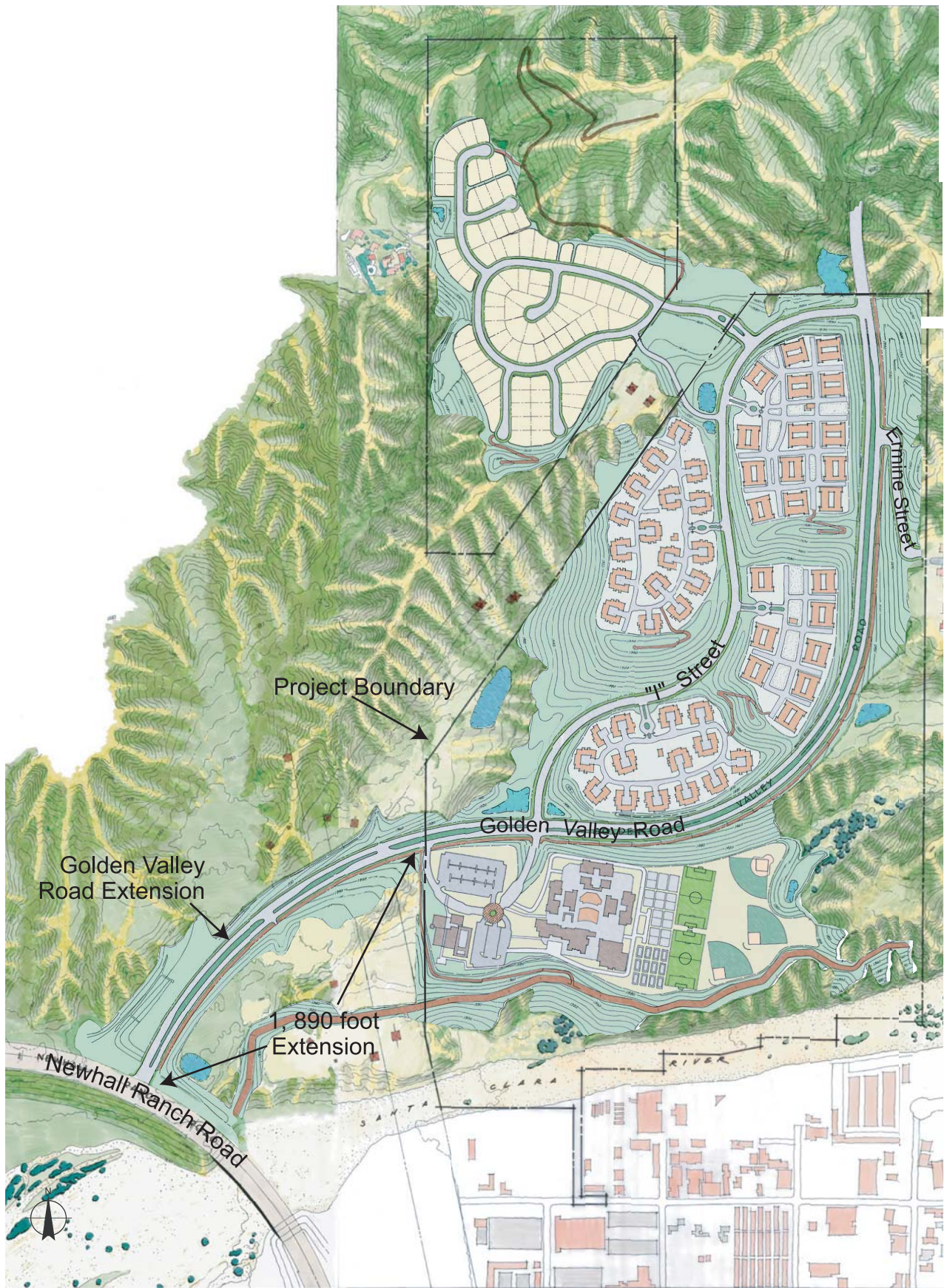
LOT NO.	ACRES	DU
SINGLE FAMILY RESIDENCE TO BE GATED	1.06	14.2
MULTI-FAMILY CONDO (8) TO BE GATED	26.5	25
TOWNHOUSE	1.0	66
MULTI-FAMILY CONDO (8) TO BE GATED	10.0	10
INDUSTRIAL LOT	101	1.5
JR. HIGH SCHOOL	102	21.4
RECREATION (PARK/RECREATION)	103	4.3
GRADED SLOPE LOTS	104-114	99.9
STREETS	115-118	11.8
NATURAL OGS	119-123	30.3
STREET LOTS	124-131	8.8
IMPROVEMENT	132	1.8
TOTAL	203.4 AC	879.0



WETLAND CONSULTANT VANDERKAM & ASSOCIATES 2732 GALL AVENUE SAN ANTONIO, TEXAS 78205 (TEL) 849-489-2300 (FAX) 849-489-0259	ARCHITECTURE & PLANNING JEC 2050 CAMPUS DR. SUITE 100 NEWPORT BEACH, CALIF. 92660 (TEL) 949-252-7171 (FAX) 949-252-7169	LAND PLANNING T RIG LAND INC. 888 PRODUCTION PLACE NEWPORT BEACH, CALIF. 92660 (TEL) 949-722-0834 (FAX) 949-722-0235	UTILITY CONSULTANT WEST COAST UTILITY SERVICES, LLC 7724 FOLTON AVENUE NEWPORT BEACH, CALIF. 92660 (TEL) 949-764-8000 (FAX) 949-764-8928	TRAFFIC ENGINEER AUSTIN-FOUST ASSOCIATES INC. 2020 NORTH JOSTON AVENUE SANTA ANA, CA 92705 (TEL) 714-667-0495 (FAX) 714-657-7502	SOILS ENGINEER ALLEN SEWARD SOILS ENGINEER COMPANY 27825 AVENUE 24TH VALLEJO, CA 94589 (TEL) 924-294-2825 (FAX) 924-294-2833	LANDSCAPE ARCHITECT TOTAL CONCEPT LANDSCAPE ARCHITECTURE INC. 27808 SAVANNA DRIVE VALLEJO, CA 94589-4834 (TEL) 924-702-1011 (FAX) 924-702-0293	SOILS & WATER CONSULTANT KNITTER & ASSOC. 20321 58 BARCLAY SUITE 100 NEWPORT BEACH, CALIF. 92660 (TEL) 949-732-1177 (FAX) 949-732-0151	SOILS & WATER CONSULTANT TOM LESLIE CORPORATION 4204 BUSINESS PARK DRIVE SANTA ANA, CALIF. 92705 (TEL) 924-296-8232 (FAX) 924-296-8233	LEGAL DESCRIPTION LOTS 1 THRU 3, PORTION OF LOTS 5 THRU 8 AND 9 OF TR. 8575, ME 117-64-66 E 1/2 OF THE NW 1/4 OF SEC. 18 & POR. OF THE NE 1/4 OF THE SW 1/4 OF SEC. 18 14N, 1815W S.B.M.	SYNERGY, A LAND & DEVELOPMENT COMPANY 19220 VON HUMBOLDT, SUITE 600 IRVINE, CA 92612 ATTN: RICK DORMAN, TEL: (949) 822-5480	REVISIONS 5 3-5-05 DEL. B.D. SWALE DETAIL. MODIFY LOT 108 GRADING. 3/10. 0.0 SH. 2 4 3-21-05 DELETED 80' SWALE DETAIL. 3 3-23-05 REV. GRADING & DRAINAGE. ADD TRAIL, BIKE LANE AND SHALE TRAIL. 2 12-14-04 REV. GRADING/STREET'S BOUNDARY. 1 4-29-04 REV. GRADING/SCHOOL SITE & WISC.	SCALE: AS SHOWN DATE: 3-23-04 DATE: 5-23-05-08 SHEET: 1 OF 2	SIKAND Engineering Planning Surveying 15230 Burbank Blvd., Van Nuys, CA 91411 Tel: (818) 787-8550 Fax: (818) 901-7451 info@sikand.com	MAJOR LAND DIVISION VESTING TENTATIVE TRACT NO. 060258 IN THE CITY OF SANTA CLARITA STATE OF CALIFORNIA
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Source: Sikand Engineering, Inc., March 2004



Source: Synergy-Brookfield LLC, TRG Land, Inc., Sikand Engineering, March 21, 2005



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Environmental Planning and Research

Figure IV-3
Illustrative Site Plan

faculty/staff junior high school, and an approximate 30,476 square foot community/fitness YMCA center. The proposal includes a trail system that connects to regional trails as well as on-site trails. The future cross-valley connector road, Newhall Ranch Road, would provide access to the project site. Build out of the project includes the extension of Golden Valley Road to Newhall Ranch Road; however, approximately 1,890-feet of Golden Valley Road is located outside the project boundaries.

In order to provide access to the project site, the project applicant proposes to construct this 1,890-foot roadway segment, which is analyzed in this EIR as part of the Proposed Project. Golden Valley Road is currently under construction north of the project site from Plum Canyon to the northern project site boundary. Golden Valley Road would be constructed between the proposed Newhall Ranch Road and the terminus of the roadway north of the project site. Additional access would be provided via Ermine Street that would be extended from its current terminus east of the project site to Golden Valley Road. Also, the project applicant would provide an extension of the multi-use trail that is proposed along the southern portion of the site from the project's western boundary to Newhall Ranch Road. This trail extension is analyzed in this EIR as part of the Proposed Project.

The proposed residential uses provided would support projected regional population growth. The proposed recreational use would provide a trail system linking to the Santa Clara River Trail and a finished lot for a YMCA facility. Each multi-family development would include recreational facilities such as swimming pools and landscaped open space areas. A proposed finished lot for a junior high school would provide educational facilities for the existing and proposed residential development. The junior high school lot would include approximately 6 acres of outdoor recreational uses available to the public, which would include basketball courts, tennis courts, ball fields and a jogging trail. Additional trails would be provided, including a Class 1 bike trail on Golden Valley Road and a multi-use trail along the Santa Clara River connections. Open space uses would serve to protect significant natural resources of the area.

The project site is currently vacant of buildings and no demolition activity would be required to remove structures. Site development would consist of (1) grading for building pad sites, access and other necessary improvements, (2) construction of homes, apartments, condominiums, trails, , storm drainage and water quality facilities and access improvements, (3) installation of utilities (e.g., water lines, fire hydrants, and sewers), and (4) the landscaping of common areas.

The developed site would include preservation of the primary ridgeline and the eastern portion of the existing southern canyon. Approximately 5.4 million cubic yards of dirt would be moved and balanced on-site with an additional 1.8 million cubic yards of remedial grading. Grading techniques would be employed to simulate ridgelines with undulating slopes and berms, which would re-create two on-site secondary ridgelines. Project grading would result in the creation of 6 super development pads, one for the single-family development, four for the multi-family development, one for a YMCA facility and one for a junior high school site.

The projects technical characteristics are described below.

Proposed Land Uses

To construct Golden Valley Road between Newhall Ranch Road and the northern project boundary, a series of “mesas”, or development pads, would be created. The proposed development would occur on these pads. The following describes the types and amounts of new land uses proposed by the applicant and the infrastructure. Table IV-1 provides a detailed land use summary. As shown, the project applicant proposes 979 residential units, a finished lot for a YMCA facility, a finished lot for a junior high school, supported by an infrastructure of streets and open space lots (both natural and graded).

Table IV-1
The Keystone Project Detailed Land Use Summary

Lot Numbers	Total # of Lots	Proposed Use	# of Units	Approximate square feet	# of Acres
		<i>Residential Lots</i>			
1-96	96	Single-family	96	N/A	14.2
97-99 ^a	3	Multi-Family - Condominiums	667	N/A	29.5
100	1	Multi-Family - Apartments	216	N/A	9.3
		<i>Industrial Lot</i>			
101 ^b	1	None	0	N/A	0.5
		<i>Educational Lot</i>			
102 ^c	1	Junior High School	N/A	100,000	21.4
		<i>Recreational Lot</i>			
102A	1	YMCA/Parking	N/A	30,476	4.3
		Trails	N/A	N/A	
		<i>Open Space Lots</i>			
103-114 114A, 114B, 115, 116	15	Graded Open Space Lots	N/A	N/A	86.9
117-123	7	Natural Open Space Lots	N/A	N/A	70.3
		<i>Other</i>			
124-131 ^d	6	Street Lots	N/A	N/A	8.6
132	1	Debris Basin	N/A	N/A	0.8
TOTAL			979		245.8
<i>Notes: a There are two product types: one for Lots 97 and 98; and one for Lot 99.</i>					

**Table IV-1
The Keystone Project Detailed Land Use Summary**

Lot Numbers	Total # of Lots	Proposed Use	# of Units	Approximate square feet	# of Acres
<p><i>b No development is proposed for Lot 101 and the 0.5-acre lot would remain zoned Industrial Commercial (IC).</i></p> <p><i>c William S. Hart School District recommended typical junior high school size.</i></p> <p><i>d Lot 131 is a multi-use trail along the Santa Clara River.</i></p> <p><i>Source: Sikand Engineering, Vesting Tentative Tract Map, March 25, 20054.</i></p>					

Residential

The project includes development of 979 dwelling units including 96 single-family lots and 883 multi-family units.

Single-family

Detached single-family homes would be located west of the DWP right-of-way as shown in the illustrative site plan, Figure IV-3. The 96 single-family housing units would be situated on curvilinear streets with traditional lot orientation and a gross density of 3.8 dwelling units per acre. The Residential Suburban (RS) zone requires a minimum lot size of 5,000 square feet and the project applicant proposes to meet the zone lot requirements and proposes a maximum lot size of 24,980 square feet (Lot 1) The single-family lots would be accessible from proposed Streets “A” and “B” creating a looped roadway. Street “A” would intersect with the proposed internal project roadway “I” Street. An additional road connection from “B” Street to “I” Street would be provided as emergency access only. The development includes five additional cul-de-sac streets that connect to the looped roadway. An additional access road is proposed just south of the main entrance road on “I” street which is provided for emergency purposes only.

The proposed entrance to the single-family development would be gated. The gated entrance would include a guardhouse, a split vehicular roadway for ingress and egress, and pedestrian access. The applicant has requested a Conditional Use Permit (CUP) for a gate guarded entry. An elevation of the proposed guardhouse and gates are show in Figure IV-4.

Multi-Family Units

The project applicant proposes to construct 883 multi-family units on four lots (Lots 97-100) consisting of townhome/condominium units and apartment units. All four lots would be located in the center of the project site in between the proposed Golden Valley Road and “I” Street, north of Newhall Ranch Road. As shown in Figure IV-3, “I” Street would provide access to all four lots; no direct access would be available from Golden Valley Road except for emergency access for Lots 97, 98 and 100.

The lot sizes would range from 8.7 to 12.0 acres and would include development of approximately 41 acres of the 246-acre site.

The maximum height permitted by the City of Santa Clarita's Unified Development Code (UDC) for multi-family dwellings is two-stories, or 35 feet for residences located within the Residential Medium High (RMH) zone. In addition, the UDC for the RMH zone establishes a maximum of 20 dwelling units per acre. The UDC provides a project applicant with the ability to exceed the two-stories, 35-foot tall and unit per acre limitation with the approval of a CUP. The project applicant has filed a request for a CUP in order to exceed the UDC height limit to allow 3-story structures and a CUP for a gated residential entry into each multi-family development (Lots 97-100).

Condominium Units

Two lots (Lots 97 and 98) would include 395 condominium units and one lot (Lot 99) with 272 condominium units, totaling 667 "for sale" units. Figure IV-5 provides a key to the location of the multi-family lots and Figures IV-6 and IV-7 provide illustrative plans for Lots 97 and 98, respectively. As shown in the lot plans, a single driveway from I Street would be provided with a gated entry with emergency access driveways from both lots to Golden Valley Road. Lot 97 would include approximately 251 units located in 14 buildings and Lot 98 would include approximately 144 units located in 8 buildings. Parking would be provided below each building and guest parking would be located on the ground level areas adjacent to the buildings. A common recreation area would be provided on each lot that includes a swimming pool, Jacuzzi spa, bath rooms and shower area, children's play area, family picnic area with bar-b-ques, sunning decks, trellised area and landscaped open space. These common recreational areas will be owned and maintained by each Homeowners Associations (HOA). The architectural style would be Mediterranean with plaster exterior walls and Spanish style roof tiles with facades of varying setbacks, window articulations and balconies. Figure IV-8 provides a typical illustrative elevation of the product type on Lots 97 and 98. As shown, the buildings would include three residential levels situated above a partial subterranean garage level. Figure IV-9 provides an illustrative site plan for Lot 99 that shares a similar product type to Lot 100 (apartments). The product type for Lots 99 and 100 are described in detail below.

Apartment Units

The apartment lot, Lot 100, would include a total of 216 units. Figure IV-10 provides an illustrative lot plan. As shown, the units are situated in two concentric rings of buildings accessed by a circular internal driveway. Lots 100 and 99 both would be accessed from "I" Street by gated driveways, although Lot 100 would have an emergency access only connection to Golden Valley Road. Recreational space with swimming pool, Jacuzzi spa, bathrooms and shower area, children's play area, family picnic area with bar-b-ques, sunning decks, trellised area and open space are provided on each lot. Figure IV-11 depicts the Mediterranean architectural style of these buildings with plaster exterior

walls, Spanish roof tiles, pitched roof, balconies, varying window sizes and setbacks. The buildings are “u-shaped” with unit parking provided in a subterranean garage level. Three residential levels would be situated above the parking level.

Educational

The project proposes to provide a finished graded lot of approximately 21-acres (Lot 102) for a school facility located on Golden Valley Road, south of proposed intersection with “I” Street. Figure IV-2 and IV-3 illustrate the location of Lot 102 and Figure IV-12 presents a conceptual site plan for the school site. The project applicant proposes to sell the school site to the William S. Hart School District for a junior high school. The school district would be responsible for funding and construction of the school and the applicant would be required to pay school mitigation fees. Junior high schools in the Hart District are built to accommodate an enrollment of 1,200 students and with modular (portable) buildings the student population can increase to approximately 1,600 students with maximum staff of approximately 70 faculty. The school will be built by the Hart District under the supervision of the California State Architect. According to the School District, the recommended average size of a junior high school is approximately 100,000 square feet¹ for 1,200 students. To accommodate 400 additional students 15,000 square feet of portable classrooms would be provided. Parking for the school would be reciprocal with the proposed YMCA facility under reciprocal use agreement. No assigned parking would be provided, but rather use would be on a “first come, first served” basis. The City’s UDC requires 2 spaces per classroom and the applicant would provide 96 spaces for the junior high school.² Further, the City’s UDC requirements for a health and fitness facility of 30,496 square feet are the provision of 204 parking spaces.³ Therefore, the applicant proposes to provide the required 300 spaces for the junior high school and YMCA as a reciprocal use.

A typical William S. Hart School District junior high school site plan is shown in Figure IV-12. As shown, the junior high school would include an administration building with a multi-purpose room facility, a gymnasium building and 6 classroom buildings situated around a central open space area (or

¹ Communication with Lorna Baril, William S. Hart School District, March 10, 2005.

² Synergy-Brookfield, Parking Requirements for The Keystone project based on UDC requirements, 2 spaces per classroom based on the assumption of 48 “teaching stations” x 2 = 96 spaces, memorandum, May 27, 2005 (verified by City staff, May 27, 2005).

³ Synergy-Brookfield, Parking Requirements for The Keystone project based on UDC requirements, 1 space per 60 sq. ft. Aerobic/Martial Art Area (3,696 sq. ft./60) = 61.6 spaces; 1 space per 150 sq. ft. Weight & Pool Area (13,282 sq. ft./150) = 88.5 spaces; 1 space per 250 sq. ft. Other Floor Area (13,498 sq. ft./250) = 52.9 spaces for a total of 204 spaces, memorandum, May 27, 2005 (verified by City staff, May 27, 2005).

quad). Located immediately east of the school buildings are outdoor recreational facilities that include approximately 6 acres of (10) basketball courts, (12) tennis courts and athletic fields with room for 2 soccer fields and 3 baseball fields. In addition, the site would include a 4-foot wide dirt “cross-country” loop trail, located north of the athletic fields to be used by the junior high school. The William S. Hart School District has a joint powers agreement with the City of Santa Clarita and city recreational programs use school facilities on the weekends and it would be expected that such activities would occur at the proposed junior high school site as well. In addition, private organizations use District school facilities for recreational use (soccer, baseball, softball, basketball, etc.) for a fee and would expect that the proposed school facilities would be used by such organizations.

The access point to the school would be from a “half-moon”-shaped circular driveway from Golden Valley Road. The main driveway entrance would be at the Golden Valley Road and “I” Street intersection, continues south providing access to parking and the proposed YMCA facility (see Recreational below for detail description) and accesses Golden Valley Road, approximately 500 feet south of the Golden Valley Road and “I” Street intersection.

Recreational

YMCA Facility

As part of the project, the applicant would dedicate Lot 102A, approximately 4 acres of the 247 acre site, to the YMCA for a 30,476 square foot community/fitness center to be located south of the proposed junior high school site. The location of the facility is shown in Figures IV-2 and IV-3, the concept site plan is illustrated in Figure IV-12, a conceptual floor plan is presented in Figure IV-13. The YMCA facility would have shared access with the school site from the driveway located at the intersection of Golden Valley Road and “I” Street (see description under Educational above). The project applicant would deed the site to the YMCA, which would then build the facility (with its own funds) in accordance to the City of Santa Clarita’s Unified Development Code. Figure IV-14 provides an architectural concept plan for the east and west elevations of the building. As shown, the building would be Mediterranean in style with plaster exterior walls, Spanish tile roof, arched windows and doorway.

Operationally, the facility would include 25 to 30 employees depending on the time of day and the load of the facility. It is estimated that the facility would be open from 5:30 AM to 9:00 PM Monday through Friday, 6:30 AM to 5:00 PM Saturday, and 7:30 AM to 3:00 PM Sunday. The facility would include general group fitness/exercise classes, strength training, yoga, health education, movement education, youth and adult skill classes, teen programs, family activities and special events. The wellness center is a fitness center that would include strength training equipment, free weights equipment and cardiovascular equipment like treadmills, and stair climbing equipment. The swimming

pool and therapy pool are in-door facilities offering swim instruction, water exercise, lap swimming and would be available for youth competition events.

To cross use the recreation and parking facilities, a reciprocal use agreement between the YMCA and the William S. Hart School District would be recorded.

Trails

Trails are proposed along Golden Valley Road and the Santa Clara River, as shown in the trail concept plan, Figure IV-15. Along Golden Valley Road, a Class 1 bike trail is proposed which would follow the roadway from Newhall Ranch Road and terminate at the property's northern boundary. As part of the project, the Class 1 bike trail along Golden Valley Road would be provided along the 1,890-foot roadway extension from the project southwestern boundary to Newhall Ranch Road, and thus the Class 1 bike trail along the roadway extension is considered part of the project. The bike trail would be situated on an approximate 10-foot paved path, separated from the roadway by a 10- to 20-foot setback.

A 25- to 35-foot wide multi-use trail is proposed along the southern portion of the project site, following the Santa Clara River. The project applicant proposes to deed the multi-use trail to the City of Santa Clarita, which would ultimately also maintain the trail. The trail would connect to a proposed multi-use trail to the east, which would in the future connect to and terminate at Discovery Park. In addition, the project applicant proposes to extend the multi-use trail west beyond the project site boundary to connect to the eastern property line of the neighboring proposed Riverpark development. Newhall Ranch Road, beyond which the trail would be constructed by the neighboring Riverpark development project. As shown in Figure IV-15, a 12-foot wide bicycle trail and a 9-foot wide equestrian trail would be provided. These uses would be separated by a 12-foot median, which would include a lodge pole fence provided for additional separation.

In addition to these trails, the project applicant proposes pedestrian only walking/hiking trails on site. One such trail would be provided on the junior high school site, as previously discussed. This trail would be a 4-foot trail within a 12-foot easement to be maintained by the William S. Hart School District. Other trails are proposed include a 4-foot wide rural pedestrian trail within a 12-foot wide easement north of the single-family home development and a short trail leading from the development to a secondary ridgeline lookout point. The single-family development's homeowner's association would maintain this trail. Other lookout point trails are proposed adjacent to the multi-family residential development pads as shown in Figure IV-15. The multi-family residential development's homeowner's associations would maintain these trails. This EIR analyzes the Proposed Project's conceptual trail plan and the project applicant's extension of the Class 1 bike and multi-use trails outside of the project site boundaries to Newhall Ranch Road.

Open Space

The Santa Clara River (River) runs along the southern boundary of the project site with approximately 17 acres of River area within the project site boundaries. The project applicant proposes the project area within the River to be a separate open space lot (Lot 123) with no development. The River lot would be separated from development (YMCA and junior high school lot) by two linear graded and natural open space lots and a lot for the multi-use River trail. The proposed 0.5 acre industrial lot (Lot 101) crosses over the River and borders existing industrial land to the south. The project applicant does not propose development on this industrial zoned lot and thus would remain in its current undeveloped condition. The remaining open space is divided into natural open space and graded lots with natural open space lots totaling approximately 70 acres and the graded lots totaling approximately 87 acres. The location of the natural and graded open space and industrial lots are shown in Figure IV-2.

Water Quality Features

Water quality features or improvements/Best Management Practices (BMPs) have been incorporated into the project design to prevent operational pollutants from entering storm and no-storm runoff. Treatment controls included in The Keystone project are extended detention basins and biofiltration devices/areas (which are linear vegetated swales and bioretention devices or biofiltration areas). Extended detention basins store stormwater runoff for a period of time to remove pollutants through sedimentation. The basins usually are sized to capture a volume of water and retain it for a period, generally 36 and 48 hours, to remove heavy metals, some pesticides and other pollutants bound to the sediment.

Vegetated swales are engineered vegetation-line channels that provide water quality benefits in addition to conveying stormwater runoff. Swales provide pollutant removal through settling and filtration in the vegetation (often grasses) lining the channels and also provide the opportunity for volume reductions through infiltration and evapotranspiration.

Bioretention devices are designed to provide volume reduction through infiltration and evapotranspiration, and water quality treatment through infiltration into the subsurface. Bioretention removes stormwater pollutants through physical and biological processes, including adsorption, filtration, plant uptake, microbial activity, decomposition, sedimentation and volatilization. Bioretention devices are 15 feet by 40 feet with a preferred 25-foot width. Excavation should be 4-feet so that there is allowance for a 6-inch ponding depth, 12-inch root zone depth, 3 inches of mulch over the surface and approximately one tree or shrub per 50 feet of bioretention area.

The stormwater treatment proposed for The Keystone project is discussed in detail in Section V.H. Hydrology. The following includes some of the major features proposed: vegetated swales for the main residential access road, "I" Street, and for impervious areas (buildings, hard courts and parking areas)

of the junior high school and YMCA facility site (Lot 102); bioretention for multi-family lots (Lots 97-100); and extended detention basins for Golden Valley Road and Ermine Street extension, and open space areas.⁴ Water quality improvements are discussed in more detail in Section V.H. Hydrology.

Architectural and Project Entry Features

The architectural design of the proposed multi-family development and the YMCA building has been previously discussed and building elevations are provided which include Mediterranean architectural elements (Spanish tile roofs, arches, wooden trellis, exposed stone treatments, etc.).

At the northeast corner of the Golden Valley Road and "I" Street intersection is a Proposed Project "entry monument" feature. The project entry monument is proposed to be approximately 41-feet tall and would include a tower element flanked by arches as shown in Figure IV-16. In addition, a water feature is proposed as part of the entry monument that would use a re-circulating pump and use approximately 2,500 gallons of water. The project applicant has requested CUP to permit the height of this project entry tower element which exceeds the 35-foot height limit for the RMH zone.

Site Access

As shown in Figures IV-2 and IV-3, primary vehicle access to the site would be via a major arterial, Golden Valley Road, which would run on a north-south axis through the site and Ermine Street to the east, which would connect to Golden Valley Road within the project site boundaries. Golden Valley Road would connect to the proposed east-west roadway, Newhall Ranch Road, which would intersect with Golden Valley Road east of the project boundary. Golden Valley Road would end at the northern project boundary, however, development to the north in unincorporated Los Angeles County is currently under construction with an extension of the Golden Valley Road to Plum Canyon Road.

There would be a gap between the project site southeastern boundary and the City's proposed Newhall Ranch Road alignment. The project applicant proposes to construct approximately 1,890 feet of roadway to connect the project site, via Golden Valley Road, to the proposed Newhall Ranch Road alignment, as shown in Figure IV-17. This off-site improvement is considered part of the applicant's "project" and this environmental document addresses the effects of constructing the 1,890-foot roadway extension outside the project boundaries in addition to the proposed 132 lot subdivision, Keystone project.

Construction of Golden Valley Road would include full grading, the construction of four vehicle lanes, a landscaped median and a Class I trail within a maximum right-of-way of 126 feet. The roadway

⁴ *Keystone Project, Water Quality Technical Report, GeoSyntec Consultants, Inc., June 14, 2005,*

would be split by a median and would have varying levels of elevation depending upon the location on the project site. The portion of Golden Valley Road right-of-way that crosses the project site would also include bus stops.

The project would also include approximately 19 acres of other public streets, including "I" Street, the primary access roadway to the multi-family lots the single-family neighborhood, as well as cul-de-sacs of the single-family development as shown in Figure IV-3. Access to the multi-family lots would be an interior road (proposed "I" Street) spurring off Golden Valley Road. The proposed single-family development would be accessed via "I" Street from one street (proposed "A" Street) that would be gated with a guard house. An additional road connection from the single-family development via "B" Street to "I" Street would be provided as emergency access only. All roadways within the single-family development area (beyond the proposed gate and guard entry) would be private streets.

Grading and Site Design Concept

Site grading is required to prepare the Proposed Project building pads and roadways. The site includes one primary and two secondary ridgelines (see Chapter III, Figure III-3). In between the ridgelines is a canyon with drainage and tributaries to the Santa Clara River. Grading of the site would require movement of approximately 5.4 million cubic yards of earth, which would be balanced on site in terms of cut and fill. The project would require fill to level areas to create building pads on the site for development. In addition, approximately 1.8 million cubic yards of earth would be removed for remedial grading (alluvial recompaction and slope buttressing as required). To create the building pads, the project would re-align and recreate the two existing secondary ridgelines with faux ridgelines emulating the surrounding topography.

Utilities

All required utilities and services are currently available at locations adjacent to the project site and would likely serve the project. Section V.P. Utilities discusses project impacts on the utilities and service systems (water, wastewater, solid waste, etc). In addition, natural gas would be supplied by the Southern California Gas Company and electric service by Southern California Edison.

Economic and Environmental Characteristics

The project applicant proposes a mix of single-family, multi-family, educational, recreational and open space uses on the Proposed Project site. Using the latest data provided by the California Department of Finance, the average household size in City of Santa Clarita is 3.023 persons per household. Using this data, the estimated population for the Proposed Project would be 2,959 persons ($979 \times 3.023 \text{ persons} = 2,959 \text{ persons}$). It is expected that the project residents would generate revenue in the form of property taxes and fees, etc. which would be available to the City of Santa Clarita to fund services to the project

site. Other fees will be collected such as development fees, fire facilities fees, wastewater connection fees, library fees, bridge and thorough-fare fees, water connection fees school fees, etc.

The existing environmental character of the site and immediate surrounding area is discussed in detail in Chapter III. Environmental Setting and the potential project impacts upon the environment are discussed in detail in Chapter V. Environmental Impact Analysis.

Construction Schedule

Construction of the Proposed Project is anticipated to begin by spring 2007 with completion by fall 2009. However, actual completion of the Proposed Project is dependent upon local economic conditions.

E. CROSS VALLEY CONNECTOR ROAD

The approximately eight and a half mile Cross Valley Connector roadway is part of the City of Santa Clarita's plan to ease traffic across the Santa Clarita Valley and would provide direct connection between the I-5/SR-126 freeway on the westside of the City to the SR-14/Golden Valley interchange on the east. To provide a seamless connection between the freeways, the roadway includes Newhall Ranch Road from I-5/SR-126 that would run on an east-west axis to the southeastern boundary of The Keystone project site. At that juncture, the roadway would turn southerly and cross over the Santa Clara River via a bridge and then flyover (above) Soledad Canyon Road (with roadway connections to Soledad Canyon road) and connect to the existing Golden Valley Road that continues southeasterly to SR-14.

A separate environmental document has been prepared analyzing the Cross Valley Connector roadway which includes Newhall Ranch Road, the Newhall Ranch Road/Golden Valley Road Bridge and Golden Valley Road, south of the Santa Clara River and Soledad Canyon Road. The City of Santa Clarita is addressing the 1,890 foot gap between The Keystone project's southeastern boundary and the roadway's extension through the project site to the northern boundary, which is the City's corporate boundary. As discussed above, these two segments are analyzed as part of The Keystone "Proposed Project".

North of the site, the SunCal development project is currently under construction within the unincorporated boundary of Los Angeles County. The SunCal development is constructing Golden Valley Road from Plum Canyon southward to the boundary with The Keystone project. That roadway connection is not part of this environmental document. However, the traffic report prepared for The Keystone project includes analysis of project generated and ambient trips along the Golden Valley Road from the northern project boundary to Plum Canyon. Further, the traffic report includes analysis of a building cap for The Keystone project in the event the Newhall Ranch Road connection (Cross Valley

Connector Road) is delayed and thus only a northern and Ermine Street access would result. Refer to Section V.O. Transportation for a detailed discussion.

F. PROJECT OBJECTIVES

The California Environmental Quality Act (CEQA) requires that an environmental impact report (EIR) include a statement of the objectives sought by the applicant of the Proposed Project (Section 15124(b) of the CEQA Guidelines).

The Keystone project (see Figure V-2) is part of a private development plan proposed by Synergy-Brookfield, LLC. The purpose of the development is to provide a predominately residential community with accessory junior high school and YMCA opportunities. The project site is comprised of 96 single-family detached homes (to be gate guarded) (Lots 1-96), 4 multi-family communities (Lots 97-100) consisting of 216 apartment units and 667 condominium units, an approximate 21 acre junior high school site and an approximate 4 acre YMCA community fitness facility site (both on Lot 102). Lot 102 would include finished grading only and the school site would be sold to the William S. Hart USD and the YMCA site deeded to that entity and each would be responsible for construction of their own facilities. Each multi-family community is proposed to be gate guarded and include open space areas and private recreation facilities. The project applicant's objectives for the project include the following items:

Land Use Planning

1. Create a new community that allows for residential, educational and fitness facility development, while preserving significant natural resources and open areas.
2. Provide a substantial number of new housing units to accommodate projected regional growth in a location which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors, and major employment areas.
3. Cluster development within the site to preserve regionally significant natural resource areas and sensitive habitat.
4. Provide development that is compatible with surrounding communities and land uses.
5. Construct all required on-site and off-site infrastructure improvements in a timely manner in order to provide concurrence of infrastructure availability and to meet the service needs of the project. Provide a coordinated "pay as you go" development that is consistent with surrounding uses.
6. Provide for adequate flood projection for the safety of the public and property.

7. Provide for the long-term maintenance of landscaping, storm drains, etc., that serve the project site.
8. Ensure compatibility with the City's Standard Urban Stormwater Mitigation Plan Implementation Ordinance and FEMA requirements.
9. To create small, safe, human scale, residential development enclaves, by incorporating cul-de-sacs and traffic calming measures and avoiding the use of long through streets, to foster closer-knit resident interaction, and to reduce and downplay the dominance of the automobile.
10. Provide a graded lot to be sold to the William S. Hart USD for construction of a new junior high school.

Economic

1. Develop the site to include housing of varying types, accommodating a range of incomes, and educational and health facility opportunities for the residents of the project as well as the local area.
2. Create an economically feasible project.

Mobility

1. Provide a safe, efficient, and aesthetically attractive street system, which includes pedestrian walkways (sidewalks) with connections to adjoining transportation routes.
2. Provide an efficient street circulation system that minimizes impacts on residential neighborhoods and environmentally sensitive areas.
3. Provide Class I bike facilities and landscaping on new roadways providing access to residential areas.
4. Provide connections to and construct portions of the Santa Clara River Trail, which provides equestrian, pedestrian, and bicycle access to the Valencia Town Center, Valencia Industrial Center, Central Park and commercial core of the Santa Clarita Valley.

Parks and Recreation

1. Provide for the recreational use of open space areas that are compatible with protection of significant natural resources.

2. Provide recreation areas and improvements within the multi-family communities and contribute park fees which satisfy park dedication requirements and meet the recreational needs of local residents.
3. Provide a graded lot for a Junior High School with recreation opportunities.
4. Provide a graded lot for a YMCA fitness facility to be constructed by the YMCA.
5. Provide an extensive system of pedestrian, equestrian and bicycle trails consistent with the City's Santa Clara River Trail plans and the City's Circulation Element.

Resource Conservation Objectives

1. Retain some open areas and their natural vegetation as a wildlife or ecological preserve.
2. Provide a site specific evaluation of the biotic resources of the site in compliance with the provisions of the City's Unified Development Code and General Plan with regard to significant ecological areas and encourage development that protects or enhances those resources, while allowing a reasonable use of the land.
3. Maintain and protect the major areas that possess biotic resources that are uncommon, rare, unique, or critical to the maintenance of wildlife.
4. Establish an adequate buffer and mitigation measures to maintain and enhance the habitat value of the area and preserve the river resources.

G. PROJECT APPROVALS AND ENTITLEMENTS

The project applicant is requesting approval of the following entitlement applications, which govern the development activities on the project site as described in this Project Description chapter of the EIR:

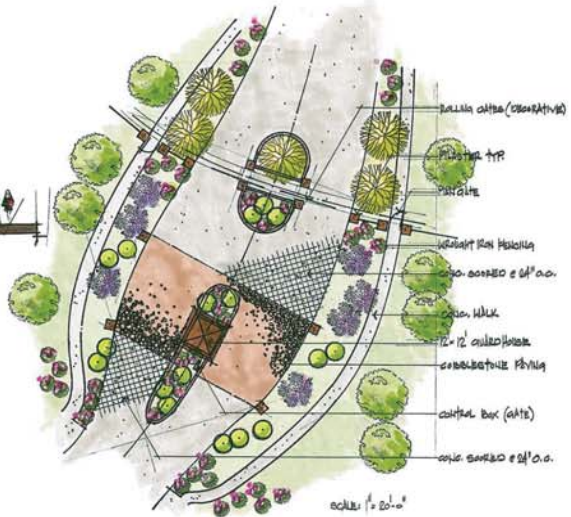
1. **General Plan Amendment 03-002.** The current General Plan designates 242.1-acres of the project site (245.8-acres) as Residential Very Low (RVL) and 3.7-acres as Industrial Commercial (IC). A General Plan Amendment has been requested by the project applicant to change the land use designation of the project site to Residential Suburban (RS) and Residential Medium High (RMH). However, 0.5-acres that are currently designated IC would remain IC under project implementation. The current Significant Ecological Area (SEA) overlay zone would remain.
2. **Zone Change 03-002.** Approximately 242.1-acres of the project site (245.8-acres) is currently zoned Residential Very Low (RVL). The Proposed Project includes a request to revise the site zoning for approximately 52-acres to Residential Suburban (RS) and

approximately 193.3-acres Residential Medium High (RMH) including 3.2-acre area from Industrial Commercial (IC) to RMH. The 0.5-acre lot would remain as IC zone classification under project implementation.

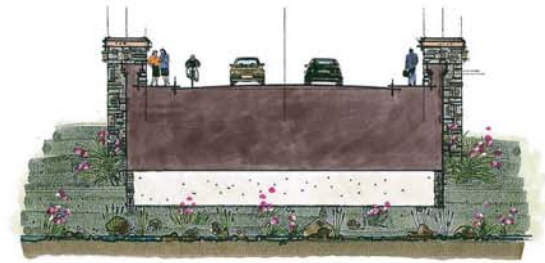
3. **Vesting Tentative Tract Map (VTTM 060258) 03-003.** Approval of the Vesting Tentative Tract Map is required to subdivide the site into 96 single-family lots, four lots for multi-family residential development (216 apartments and 667 condominiums totaling 883 multi-family units) and one lot as industrial (no proposed development), a junior high school (approximately 100,000 square feet), recreation use (YMCA facility totaling approximately 30,476 square feet), trails, utilities, roadways and open space. The proposed Vesting TTM would subdivide the site into 132 lots.
4. **Conditional Use Permit 03-016.** The Proposed Project requires approval of a Conditional Use Permit for approval of: (1) the Innovative Application for development on ridgelines; (2) gate guarded residential entries; (3) height of project entry monument accessory structure; (4) YMCA use and height of structure; and (5) height of multi-family structures.
5. **Hillside Plan Review 03-006.** A hillside plan review is necessary for proposed development on slopes with an average cross slope of greater than 10 percent and development on ridgelines classified as primary or secondary. The intent of the hillside ordinance is to “regulate the development and alteration of hillside areas and ridgelines, to minimize adverse effects of hillside development and to provide for safety and welfare of the City of Santa Clarita while allowing for the reasonable development of hillside areas.” (UDC Section 17.80.010). An Innovative Application is required to develop on City identified ridgelines classified as primary or secondary. The project applicant proposes development on two ridgelines classified as “secondary”.
6. **Oak Tree Permit 03-066.** An Oak Tree Permit is required for the removal of two off-site oak trees for the construction of the off-site extension of Golden Valley Road to Newhall Ranch Road. In addition, one on-site oak tree would require removal for grading of a slope on Lot 115.



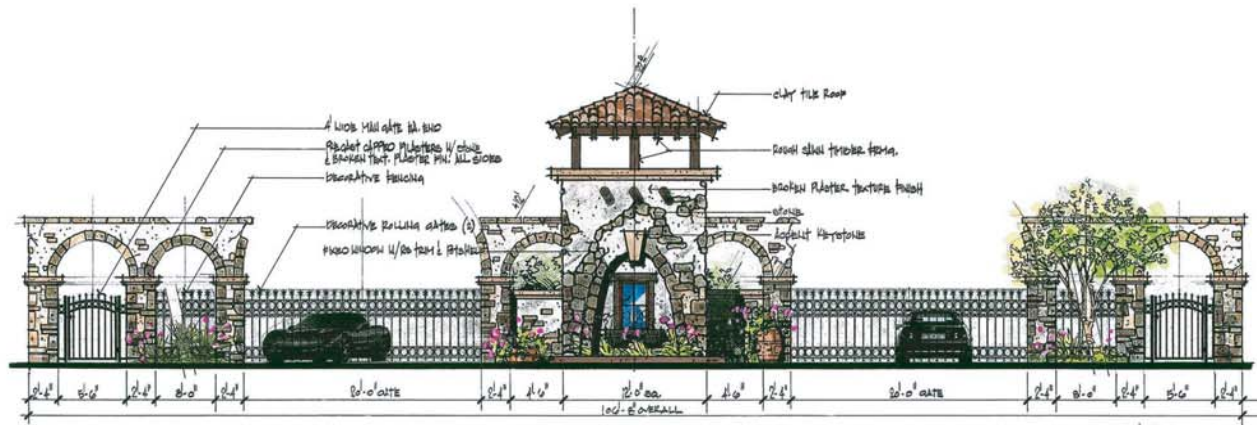
BRIDGE ELEVATION
scale: 1/8" = 1'-0"



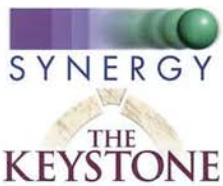
GUARDHOUSE PLOT PLAN
@ SINGLE FAMILY LOTS
scale: 1" = 20'-0"



BRIDGE SECTION / ELEVATION
scale: 1/8" = 1'-0"

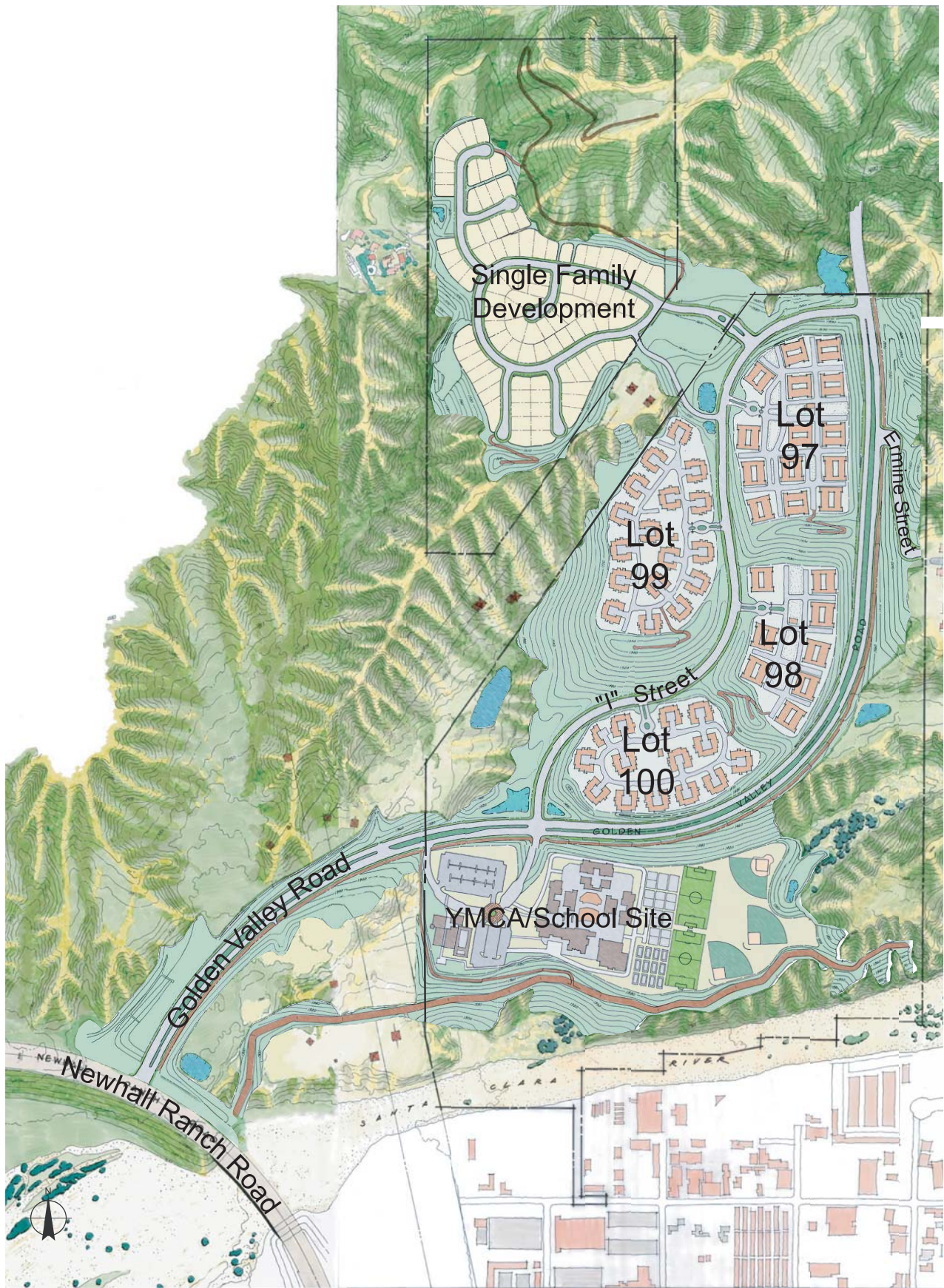


GUARDHOUSE ELEVATION
@ SINGLE FAMILY LOTS
scale: 1/4" = 1'-0"

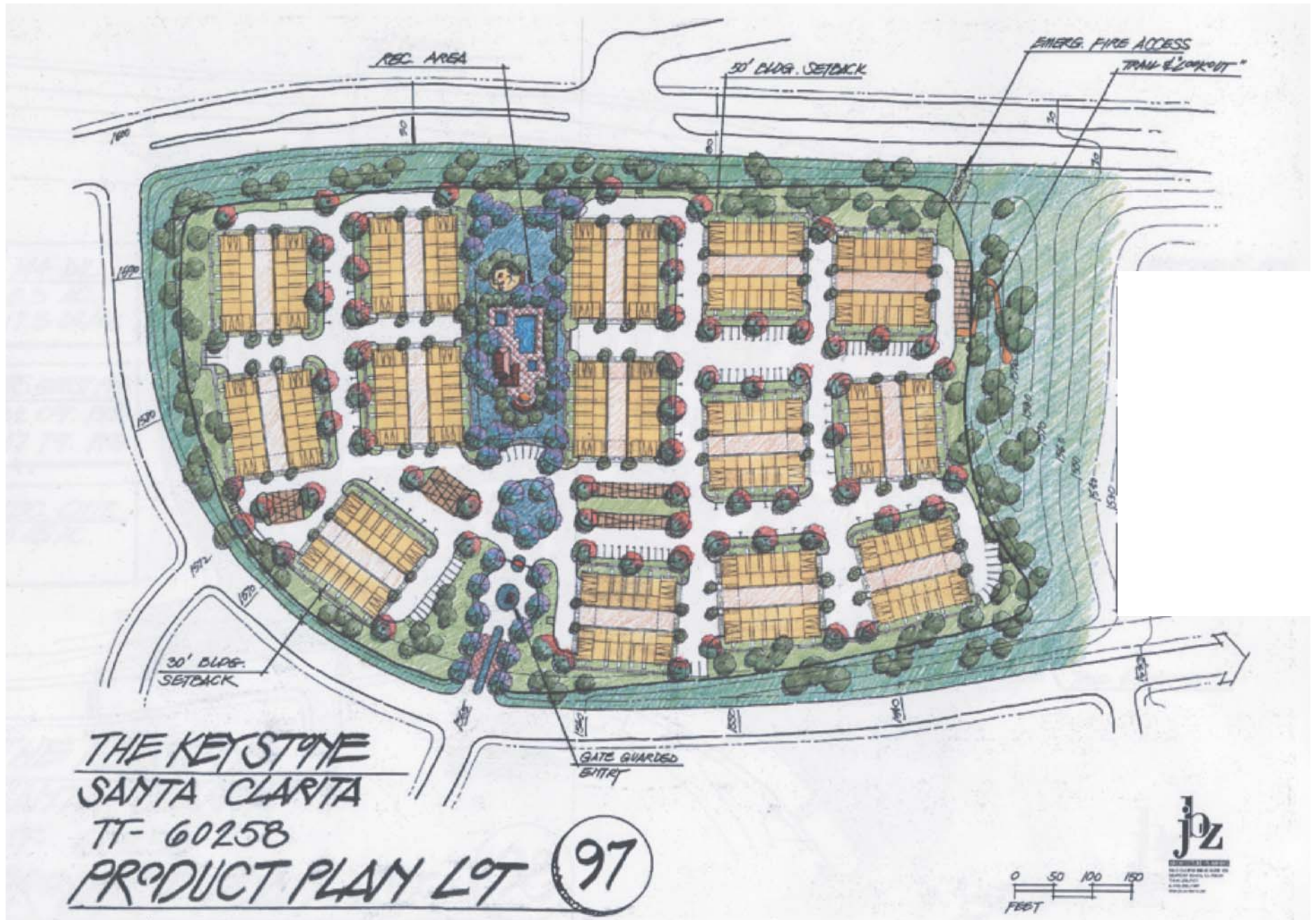


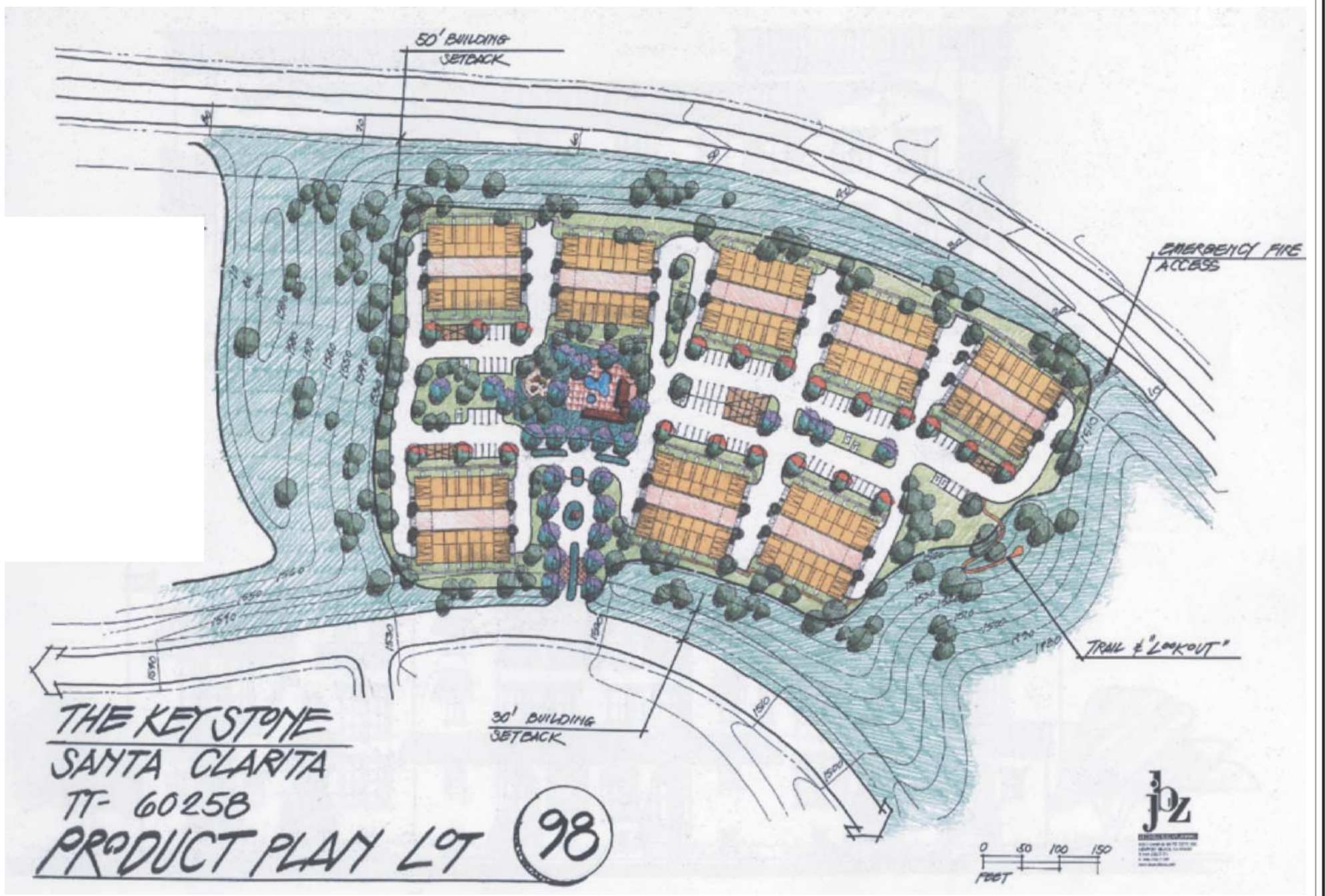
THE KEYSTONE YMCA
CONCEPTUAL ARCHITECTURE
SANTA CLARITA, CA





Source: Synergy-Brookfield LLC, TRG Land, Inc., Sikand Engineering, March 21, 2005













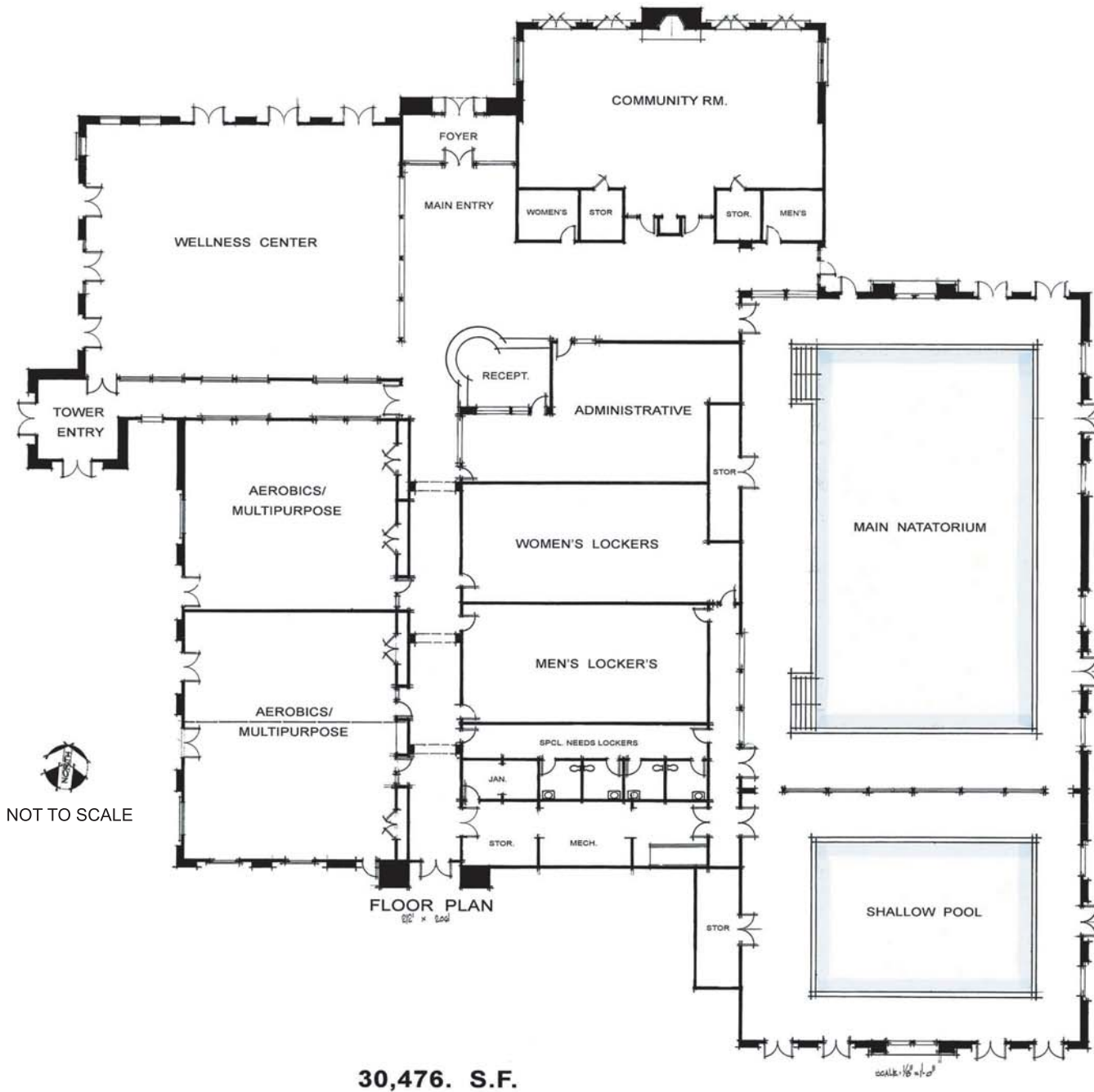


Source: Kniiter & Associates, October 2004.
 *Final site plans shall be subject to DRC Code



CHRISTOPHER A. JOSEPH & ASSOCIATES
 Environmental Planning and Research

Figure IV-12
 School and YMCA Facility
 Conceptual Site Plan



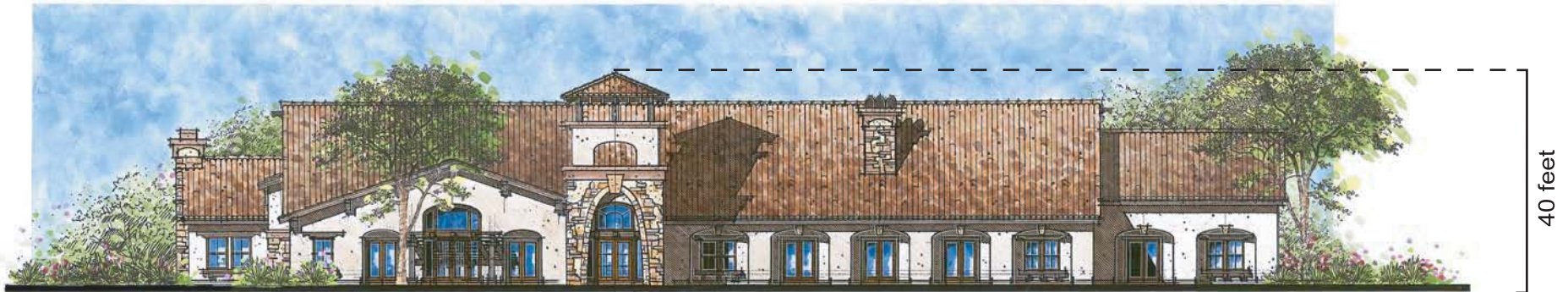
30,476. S.F.





NORTH ELEVATION

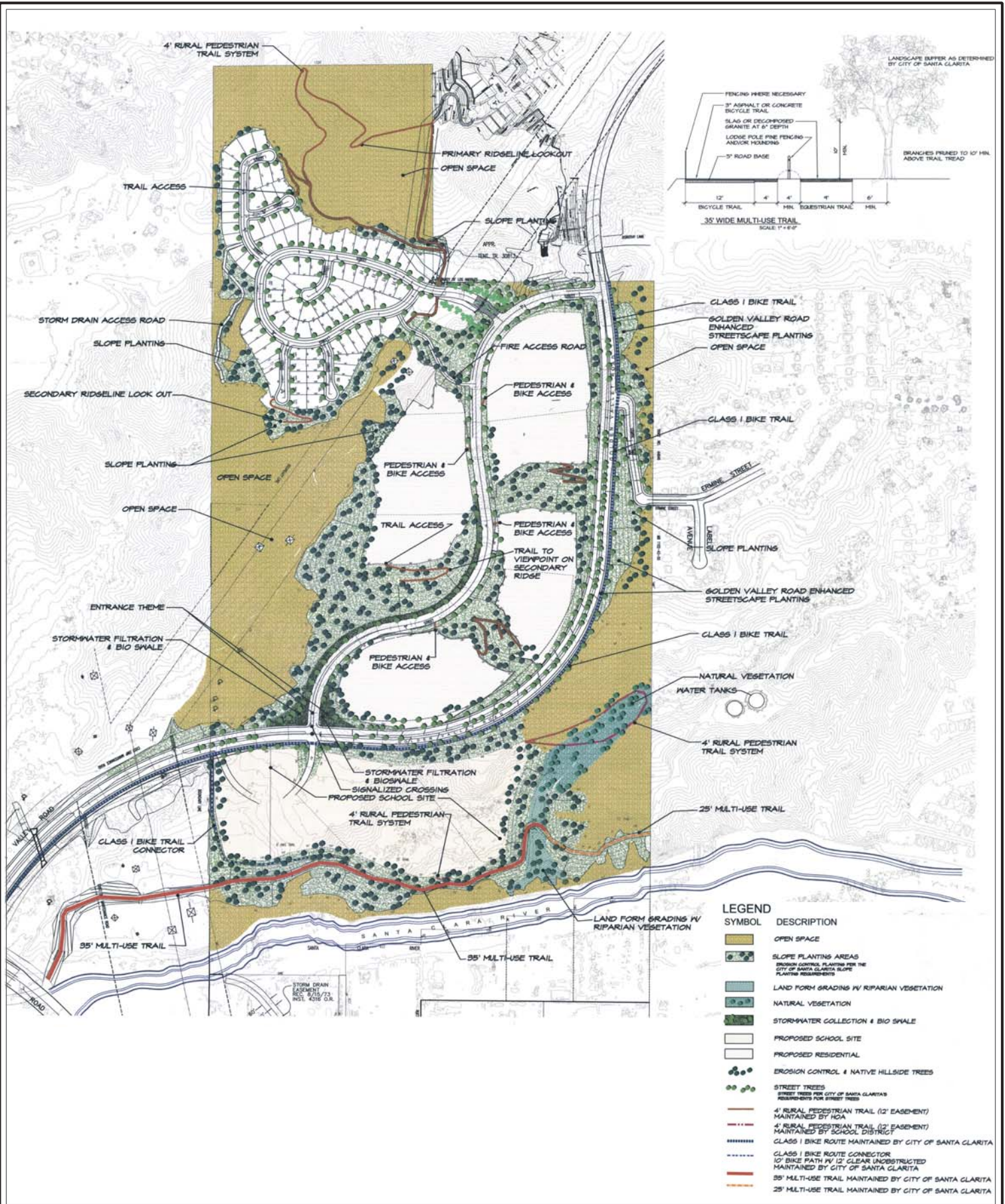
SCALE: 1/8" = 1'-0"



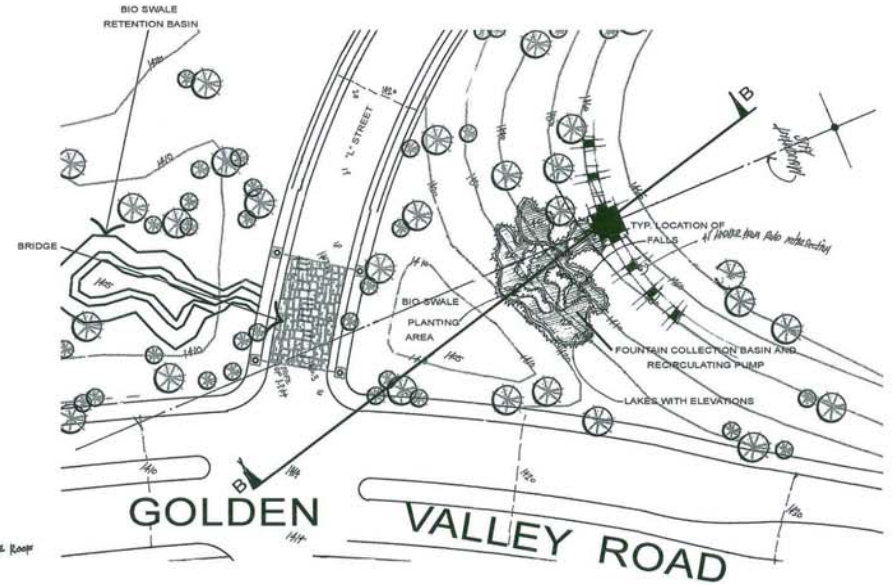
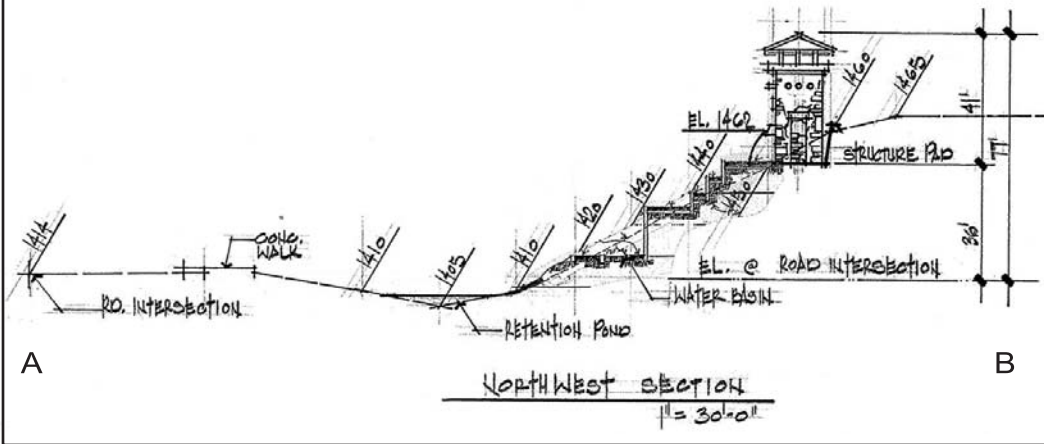
WEST ELEVATION

SCALE: 1/8" = 1'-0"

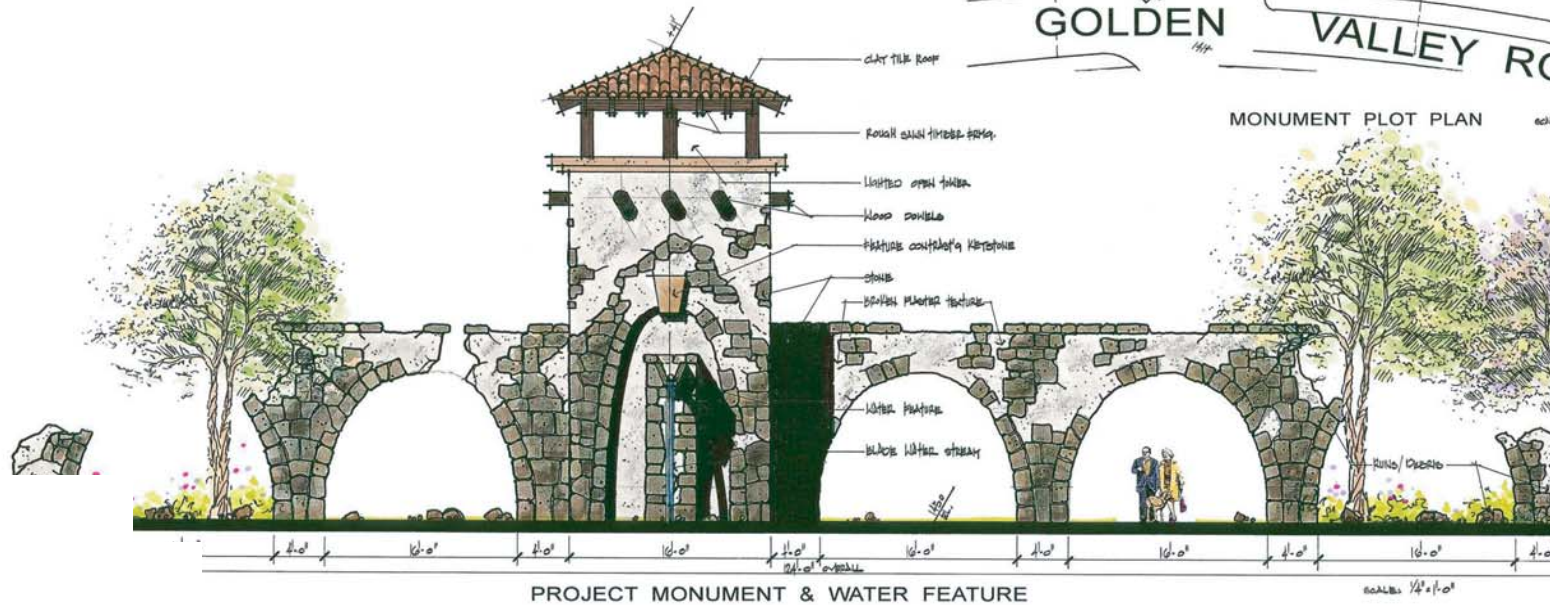




MONUMENT PLOT SECTION



Height = 41 feet



V. ENVIRONMENTAL IMPACT ANALYSIS

A. IMPACTS FOUND TO BE LESS THAN SIGNIFICANT

In addition to the environmental impact categories analyzed in detail in this EIR, the City of Santa Clarita has determined through the preparation of an Initial Study that the development and operation of the Proposed Project would not result in potentially significant impacts to the environmental concerns listed below. Therefore, no further review of these issues is necessary. (See Section VI.A for a Summary of Significant Unavoidable Impacts). The following discussion provides a summary of the Initial Study findings and is provided in accordance with CEQA Guidelines Section 15128 which states:

“An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. Such a statement may be contained in an attached copy of an Initial Study.”

Agricultural Resources

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?

According to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation, the project sites does not contain prime farmland, unique farmland or farmland of statewide importance. Therefore, no project impacts are anticipated to result from this proposal.

Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The General Plan designation and the zoning of the project site are Residential Very Low and Industrial Commercial. The proposed General Plan Amendment and Zone Change requests to change the project site to Residential Suburban (RS), Residential Medium High (RMH) and maintain Industrial Commercial (IC) for 0.5 acres. No conflict to the Williamson Act contract will occur because no portion of the site is within an agricultural zone. Therefore, no impacts are anticipated to occur as a result of the proposal.

Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

The project will not cause any changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use because the site is not located in

or adjacent to any agricultural land. Therefore, no impacts are anticipated to occur as a result of the project.

Cultural Resources (Historical Resource)

Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?

The project site is not listed in any register of historical resources, nor does the site contain any structures with distinctive characteristics of a region, period or construction method because the site is vacant natural land. The site does not meet any criteria set forth in the California Environmental Quality Act (CEQA) to identify the site as a historical resource. Therefore, no impact is anticipated to result from the proposal.

Hazards and Hazardous Materials (Airport Land Use)

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?

The project site is not located within two miles of any public airport and therefore, is not within an airport land use plan and no impacts are anticipated to occur from the proposal.

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?

The project site is not located within the vicinity of a private airstrip, and would not result in a safety hazard for people residing or working in the project area. Therefore, no impacts are anticipated to occur from the proposal.

Noise (Airport Land Use)

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?

The project site is not located within an airport land use plan or within two miles of a public airport or public use airport. Therefore, no impacts are anticipated in this area.

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?

The project site is not located within the vicinity of a private airstrip. Therefore, no impacts are anticipated in this area.

Population and Housing (Replacement Housing)

Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere (especially affordable housing)?

The project will not displace any existing housing, necessitating the construction of replacement housing elsewhere because the project site is currently vacant and undeveloped. Therefore, no impacts are anticipated in this area.

Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The project will not displace any existing housing, necessitating the construction of replacement housing elsewhere because the project site is currently vacant and undeveloped. Therefore, no impacts are anticipated in this area.

Transportation/Traffic – Air Traffic Patterns

Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?

The proposed development of 979 residential units will not increase air traffic levels or change air traffic locations that would result in a substantial safety risk. No impacts to air traffic patterns are anticipated.

V. ENVIRONMENTAL IMPACT ANALYSIS

B. AESTHETICS

ENVIRONMENTAL SETTING

Introduction

This examination of views and aesthetics is based upon an evaluation of two categories of values: visual character and the attributes of the related views and/or viewsheds. Visual character is comprised of a combination of elements making up the aesthetic qualities of both existing conditions on the project site and the Proposed Project itself, such as land use, building scale and mass, proportion and balance, and ambience. The visual character of a project and site is typically evaluated with respect to its physical components and within the context of its neighborhood through an analysis of its compatibility with the land uses of the immediately surrounding areas. The values and issues generally associated with visual character and the degree of associated environmental impact tend to be subjective - more so with respect to the aesthetic qualities of the project design; less so with respect to the compatibility of the aesthetic qualities with the surrounding environment. The inherent subjectivity of issues and values relative to visual character often makes difficult a conclusive determination of what constitutes a "significant impact" under CEQA.

Visual impacts are also analyzed through an examination of views and/or viewsheds. Viewsheds refer to the visual qualities of a geographical area. The geographical area is defined by the horizon, topography, and other natural features that give an area its visual boundary and context. Viewshed impacts are typically characterized by the loss and/or obstruction of existing scenic vistas or other major views in the area of the site which are available to the general public. For the purposes of this analysis, views are categorized by distance from the observer into three classifications: foreground (the view within approximately 500 feet of the observer), middle ground (the view generally beyond 500 feet of the observer to approximately 2,700 feet) and background (the view beyond 2,700 feet of the observer). A panoramic view has a broad field of vision that combines foreground, middle ground, and background elements. View analysis is also based upon relative visibility with regard to viewing location and future development onsite. Views treated within this analysis assume fair-weather daytime conditions.

Surrounding Area

Aesthetic qualities of the area surrounding the project site are derived from the interplay of natural and man-made features. The predominant natural features are the hillside and mountainous slopes that give form to the Santa Clarita Valley, the Santa Clara River (which gives form to the valley floor), and the

expanses of undisturbed native vegetation that give color and texture to the higher elevations and more remote portions of the Santa Clarita Valley. Urban development in the Santa Clarita Valley has been strongly influenced by the natural forms of the valley. Because the valley and its side canyons are long and relatively narrow, urban uses in the vicinity of the project site tend to be configured in a linear fashion. Typically, a mix of commercial, industrial, institutional and residential land uses tend to be strung out along the canyon bottoms and banks of the washes. As the City's population has grown and the bottomland has built-out, new residential developments are being constructed on the hillsides that rise above the valley floor. The project is located on ridgelines that run along the north side of the Santa Clara River.

The following discussion provides a brief description of the surrounding area from which the project site may be visible. While the project site may also be visible from additional areas, this analysis is focused on the areas that may experience the greatest aesthetic impacts.

Land Uses and Views to the South of the Project Site

In the vicinity of the project site urban uses have been developed on the south bank of the Santa Clara River along Soledad Canyon Road and, to a lesser extent, along Golden Triangle Road. Between Bouquet Canyon Road and Gladding Way (a distance of approximately 1.4 miles) there are few, if any, structures on the north side of Soledad Canyon Road and views across the Santa Clara River of the southern portion of the project site are, for the most part, unobstructed. Beginning at Gladding Way, a mix of commercial, industrial and residential uses line the north side of Soledad Canyon Road. These structures extend easterly to Whites Canyon Road (and beyond) and form obstacles that restrict views of the project site as seen from Soledad Canyon Road. Particularly for passengers in vehicles on Soledad Canyon Road, the project site is only briefly visible through the gaps between existing buildings.

A mix of business parks, individual commercial structures and a MetroRail line are located along the south side of Soledad Canyon Road and along Golden Triangle Road. Views of the project site from this area are limited due to intervening structures. From the north facing hills that rise to the south of Golden Triangle Road the project site is clearly visible above the roof line of intervening buildings and along view corridors formed by such north-south roadways as Golden Valley Road. New business parks are being developed along the lower elevations of these hills and along Golden Valley Road. Multi-family residences are located to the east of the new business parks. Some north facing apartments in this area may have views of the project site, but for the most part, these large buildings tend to block most views to the north. Single-family neighborhoods are located at higher elevations and those residences with suitable orientation and clear lines-of-sight also have views across the valley

toward the project site. However, views of the project site from most of these single-family residences are blocked by other residences and maturing landscaping.

Land Uses and Views to the East of the Project Site

Whites Canyon Road forms the eastern boundary of the viewshed considered in this assessment. The analysis follows the northbound journey of vehicles on Whites Canyon Road as they proceed from the vicinity of the Santa Clara River to Plum Canyon. The first view of the project site from Whites Canyon Road is from the bridge over the Santa Clara River. This view lasts for a brief moment before passengers lose sight of the project site as their vehicles descend toward the intersection with Soledad Canyon Road. There are no views of the project site from the intersection of Whites Canyon Road and Soledad Canyon Road where substantial commercial development blocks any possible views that might have once existed. As vehicles move north, passengers can catch glimpses of water tanks, power lines and housing on the ridge to the east of the project site. However for the most part commercial buildings, a junior high school, groves of ornamental trees, and a single-family residential community prevent views of the project site. As Whites Canyon Road climbs north out of the valley, there are no views of the project site, although there are various views of the Primary Ridgeline and residential community located between the project site and Whites Canyon Road. As Whites Canyon Road begins its descent into Plum Canyon views of the project site are block by the Primary Ridgeline.

Ermine Street and Neighborhood

Immediately to the east of the project site is an existing single-family community, which is similarly located along the Primary Ridgeline. Those residences that border the project site, or are in close proximity, have clear foreground and middle ground views of the project site. In particular, the western most homes along Ermine Street, Kelsey Street, Label Avenue, Huffy Street, Drasin Drive, Pine Hill Avenue, and Summit View Drive tend to have uninterrupted views of the eastern portion of the project site. Some homes on other streets in the area may also have limited views, but for the most part homes located more than a block away have no views of the project site. For these later homes, intervening houses and mature landscaping effectively block their views.

Residential Neighborhood Below the Ridge

Below the south facing slopes of the Primary Ridgeline, west of Whites Canyon Road and south of Canyon High School, there is a single-family neighborhood consisting primarily of east-west oriented local streets. These include but are not limited to, Babington Street, Four Oaks Street, Cedarcreek Street, Fairweather Street and Delight Street. Some homes on the north sides of these streets may have partial views of the southern edge of the project site from their rear yards. However, mature landscaping and intervening houses largely block views from the homes on the south sides of these

streets. Some homes along the west sides of the north-south oriented streets in this area (such as Camp Plenty Road and Rosamond Street) may also have partial views of the southern portion of the project site.

A private, gated community is located at the north end of Canyon View Drive, north of River Park. No public views are available from this community, although it is likely that some residents have partial views of the southern portion of the project site.

Land Uses and Views to the North of the Project Site

On the north side of the Primary Ridgeline, Whites Canyon Road turns into Plum Canyon Road. In the eastern portion of Plum Canyon there are no views of the project site because of the intervening Primary Ridgeline. In this area several large single-family residential developments are under various stages of construction. On the north side of Whites Canyon Road/Plum Canyon Road, where it swings to the west, a large parcel of land is in the early stages of rough grading. It's possible that some residences at the higher elevations in this future subdivision may have limited views of the northeastern portion of the project site. On the south and west sides of Whites Canyon Road, the St. Claire subdivisions is nearing completion. Some of the homes are already occupied. The intervening ridge blocks all views of the project site from this development. The St. Claire subdivision has built a block wall along the west side of Whites Canyon Road that effectively blocks views of the ridge, particularly from southbound vehicles.

To the west of the St. Claire subdivision, another rough grading operation is underway on the north facing slopes near the project site. Because this new subdivision (Tract No. 30813) will be tucked into the north-facing slopes of the ridge, most of the future residents will not have views of the project site, although homes at the highest elevations will most likely have views of the project's development area proposed for multi-family housing.

West of these new subdivisions are a number of somewhat older subdivisions that line the south side of Plum Canyon Road. Because of the high ridge behind them, there are no views of the project site from these homes and no public views of the project site from Plum Canyon Road between the St. Claire subdivision and Bouquet Canyon Road.

There is also a residential community on the north side of Plum Canyon Road along such streets as Santa Catarina Road, Joyce Drive and Rodgers Drive. The Primary Ridgeline at the north end of the project site is visible from some of these homes with the proper orientation and no intervening obstacles. However, the Primary Ridgeline forms a large berm-like topography that largely prevents views of the proposed development areas from this residential neighborhood.

Land Uses and Views to the West of the Project Site

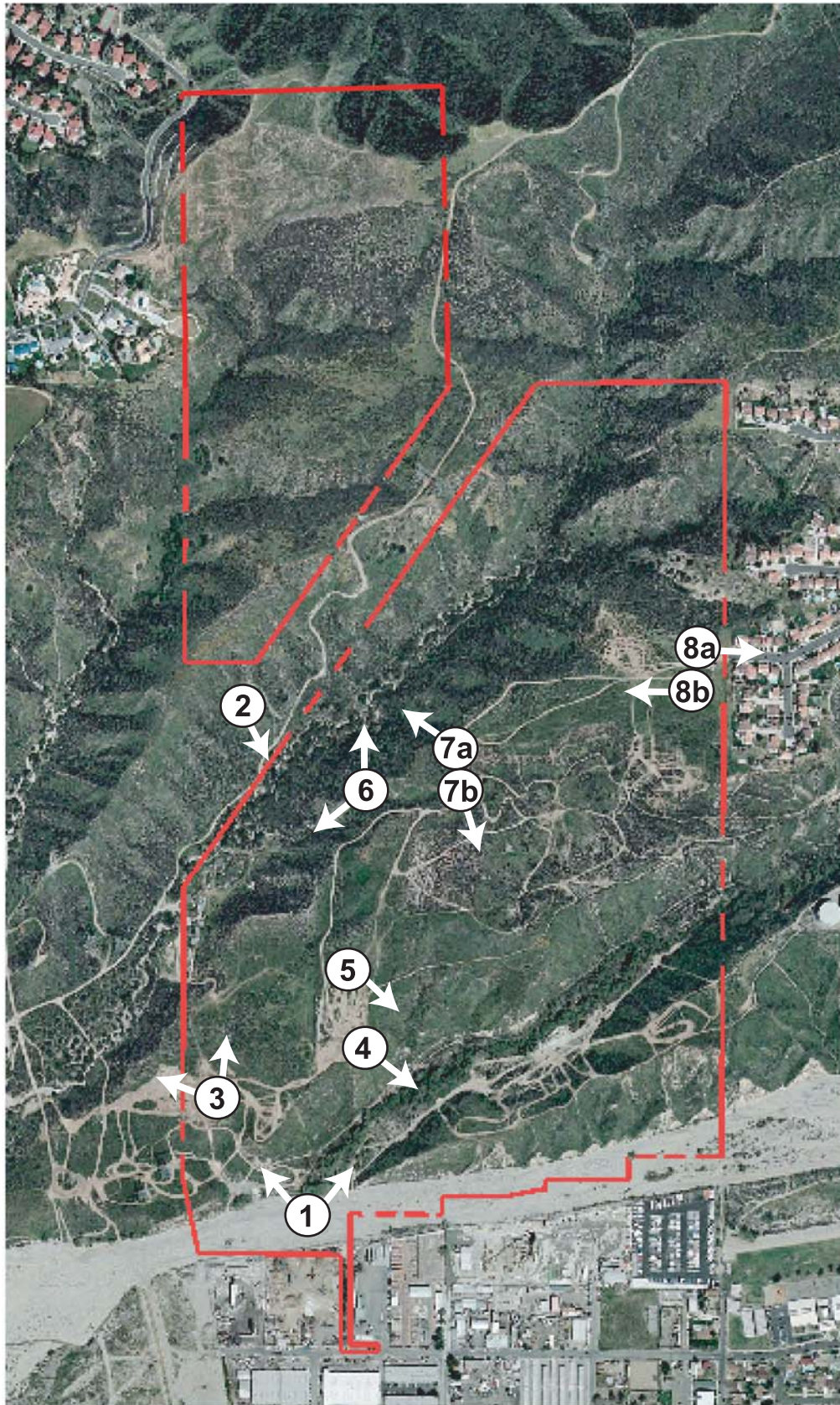
Residential communities line Bouquet Canyon Road in the vicinity of its intersection with Plum Canyon Road. Due to intervening terrain none of the homes in this area have views of the project site. The same is true for all land uses located along Bouquet Canyon Road from Plum Canyon south to Soledad Canyon Road. However, it is possible that some homes located at the higher elevations on the west side of Bouquet Canyon Road, with the right orientation and no other intervening obstacles, may have views that look east along the Primary Ridgeline toward the project site. But, such homes would be located almost two miles away.

Lastly, there is one small subdivision located on top of the mesa just west of the project site. Access to this private community is from Bouquet Canyon Road. Some homes in this private development, particularly those on the east side of Alta Knoll Drive, have uninterrupted middle ground views of a large portion of the project site.

South of Haskell Canyon Road, land uses along Bouquet Canyon road begin to transition from residential to more public uses. Central Park is located on the southeast side of Bouquet Canyon Road between Haskell Canyon Road and Seco Canyon Road. There are no views of the project site from Central Park. Commercial uses come to dominate Bouquet Canyon Road in the vicinity of Seco Canyon Road. There are no views of the project site from the shopping centers and other commercial uses along Bouquet Canyon Road between Seco Canyon Road and Newhall Ranch Road. Between Newhall Ranch Road and Soledad Canyon Road eastward views along the Santa Clara River open up and the south facing slopes of the Primary Ridgeline come into view. However, there are no views of the project site from any location along Bouquet Canyon Road.

Project Site

The project site is irregularly shaped and consists of complex topography including steep sided V-shaped canyons and relatively flat mesa areas. Figure III-4 provides an overview of the site's topography. In the discussion that follows photographs are used to instill a sense of the project site, as it currently exists. Figure V.B-1 is an aerial photograph of the project site and surrounding area; it shows the locations from where the photographs were taken and the direction of the views. The Photographs are presented in Figure V.B-2 through Figure V.B-4.



Not to Scale



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Figure V.B-1
Photo Location Map



View Location 1



View Location 2

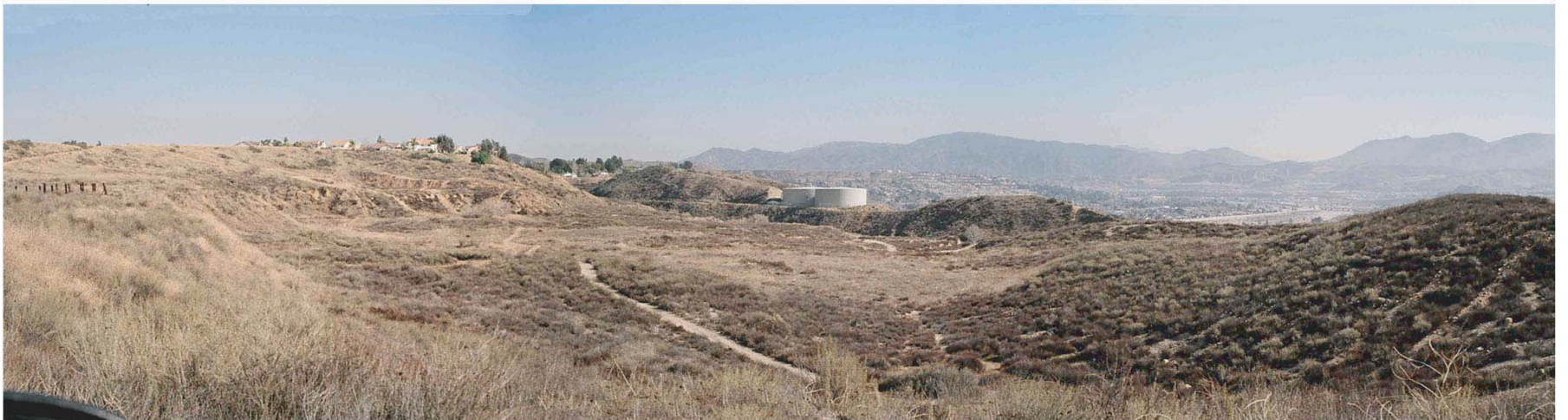


View Location 3





View Location 4



View Location 5



View Location 6





View Location 7a



View Location 7b



View Location 8a



View Location 8b



View Location 1

This photograph (Figure V.B-2) was taken from the southwest corner of the project site; it looks northwest to northeast. As shown in the photograph, the dominant (foreground) view is of the Santa Clara River, a portion of which makes up the southern most section of the project site. In the center right of the photograph can be seen the project site's steep south facing slopes that front onto the Santa Clara River. Behind those slopes the project site appears to level out. The southern portion of the project site visible in the center of the photograph is the proposed location of the project's junior high school and YMCA components. The vantage point in View 1 is in the Santa Clara River.

View Location 2

This view (Figure V.B-2) was taken off site in the LA DWP right-of-way; it looks south to southeast. The larger polygon shaped project area is to the southeast and presents portions of the project area that would be developed with a multi-family pad and re-contoured slopes.

View Location 3

This view (Figure V.B-2) was also taken from the southwest corner of the project site, close to View Location 2. It presents a close up of the DWP power transmission lines that bisect the project site into two portions. It also provides a fair indication of the dry, scrubby nature of the vegetation in the southern portion of the project site. The vantage of the photo is the approximate location of Golden Valley Road where it would enter the project site boundary from the southwest.

View Location 4

This photograph (Figure V.B-3) looks south from a position just to the north of the smaller, southwest draining canyon in the southern portion of the property. The canyon's flat riverbed, willow riparian vegetation and south flanking ridge are visible in the left of the photograph. The view looks south, across the Santa Clara River to the mixed industrial area on the south bank of the river. Portions of the proposed graded lot for the YMCA building and junior high school lot would be seen in this view. The vantage point in View 4 is the approximate location of Golden Valley Road.

View Location 5

This view (Figure V.B-3), also from the southwestern portion of the project site, looks south to east along one of the lower mesas. Vegetation on the site can be seen to transition from Buckwheat Scrub vegetation to the south to grasslands to the north. The water tanks and homes in the middle ground center of the photograph are offsite to the east. Like View 4, portions of the proposed graded lot for

the YMCA building and junior high school lot would be seen in this view. The vantage point in View 5 is the approximate location of Lot 100, a multi-family development pad.

View Location 6

This view (Figure V.B-3) was taken from the western center of the larger, southern portion of the project site. It is a panoramic view looking southwest to north along the major canyon that separates the project site into two portions (or polygons). In the middle ground is the western Secondary Ridgeline (i.e., the south and east facing slopes of the major canyon on the project site). The top of the western Secondary Ridgeline is proposed for the single-family residential component of the Proposed Project. In the foreground, a sidewall of a secondary onsite canyon blocks further views of the major canyon. The offsite DWP power transmission lines are visible in the center of the photograph. The vantage point taken in View 6 is in the approximate location of the manufactured slopes for Lot 99, a multi-family development pad.

View Location 7a

This view (Figure V.B-4) looks generally northwest to east from a location near the center of the southern portion of the project site. In the foreground, the ground appears to have been graded flat sometime in the past, and is now mostly covered with non-native grasses. To the left, the steep walls of the main canyon that separates the two portions of the project site can be seen. The flat area above the canyon wall (i.e., western Secondary Ridgeline) is the general location of the single-family component of the Proposed Project. The hilltop in the center of the photograph is the Primary Ridgeline and marks the northern end of the project site. The Primary Ridgeline blocks all views of the proposed single-family development area from the Plum Canyon area to the north. In the right-hand portion of the photograph, the existing residential development located adjacent to and easterly of the project can just be made out. The vantage point taken in View 7a is in the approximate location of the manufactured slopes for Lot 99, a multi-family development pad.

View Location 7b

This view (Figure V.B-4) is from the same location as View 7a; only it looks from southeast to southwest. It is generally the same view as present in View 4; only it is from a higher elevation located farther to the north. The smaller, southwest draining canyon in the southern portion of the project site is partially visible in the left hand portion of the photograph. In the right-hand portion of the photograph the mouth of the major canyon, where it discharges into the Santa Clara River, is visible. The vantage point in View 7b is in the approximate location "I" Street and Lot 100, a multi-family development pad.

View Location 8a

This view (Figure V.B-4) looking easterly along Ermine Street at the existing single-family community located adjacent to the project site. The proposed Ermine Street extension would be extended into the project site to Golden Valley Road. This photograph clearly demonstrates how the east-west roadways in this existing community form view corridors of the project site for homes in the area, and vice versa. Further, the photograph also demonstrates how some houses along the eastern edge of the project site form effective barriers that prevent views of the project site from homes located farther to the east. The vantage point of View 8a is the approximate location of Ermine Street extension into the project site connecting to Golden Valley Road.

View Location 8b

This view (Figure V.B-4) is from the same location as that for View 8a, only looking west. It provides a good approximation of the existing views of the project site from the “front line” homes. Again, the disturbed condition of the project site is visible in the foreground. The Primary Ridgeline in the northern portion of the project site is visible in the right hand central portion of the photograph. The vantage point of View 8b is the approximate location of Ermine Street extension into the project site connecting to Golden Valley Road.

Night Lighting

Currently, the project site is undeveloped and has no sources of night lighting upon it. However, a small amount of night lighting currently spills over onto the eastern edge of project site from the adjacent residential community.

ENVIRONMENTAL IMPACTS**Thresholds of Significance**

The State CEQA Guidelines identifies criteria for determining whether a project’s impacts are considered to have a significant aesthetic effect on the environment if it will:

- a) Have a substantial adverse effect on a scenic vista?
- b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?
- c) Substantially degrade the existing visual character or the quality of the site and its surroundings?

- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Proposed Project

A full description of the Proposed Project, including site plans, floor plans, elevations, and architectural details is presented in Section IV, Project Description. The proposed Keystone project is a residential subdivision with educational and recreational components. A total of 979 dwelling units would be provided that includes 96 single-family units, 667 condominiums and 216 apartment units. The project includes a finished graded 21-acre lot for school to be sold to the William S. Hart School District for a junior high school accommodating 1,200 to 1,600 students and 60 faculties. The recreational component includes: a finished graded lot for an approximate 30,476 square foot YMCA building; and a bicycle, hiking and multi-use trail system.

Proposed Lighting

No lighting plans have been developed as of the preparation of this EIR; however, certain basic lighting elements can be anticipated. For example, the Keystone project would require lighting along Golden Valley Road, proposed "I" Street and streets within the single-family and multi-family residential development areas. Most likely the parking areas of the YMCA and school site would include nighttime lighting and security lighting on the structures. In addition, the multi-family structures would include lighting for vehicle circulation and parking, as well as for security. Individual single-family homes would also include outdoor security and decorative landscape lighting.

Project Impacts

The Proposed Project would transform the project site from its current, vacant condition to a mix of residential and institutional uses. In the process approximately 173 acres of complex topography of prominent ridgelines, relatively flat mesas and steep-sided V-shaped canyons would be transformed to a simplified series of large horizontal planes, manufactured slopes and recreated ridgelines accommodating the proposed development. Several large building pads, ranging in size from 8.7 to 24.7 acres, would be created and the northern canyon west of the LA DWP right-of-way with its tributary canyons would be filled. For discussion purposes, the multi-family residential pads have been labeled "A" through "D" while the school site has been labeled "E" as shown in Figure V.B-5. The southwest-draining canyon in the southern portion of the project site would also be filled. The site's Secondary Ridgelines would be affected with project construction grading activities.

The Proposed Project would be more or less visible from public viewing locations along Soledad Canyon Road, Canyon View Drive and Golden Valley Road (south of Soledad Canyon Road). In



Not to Scale

Source: Synergy TRG Land, Inc., Sikand Engineering



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Figure V.B-5
Development Pad Identification Key

addition, the project would also affect the private views from residences adjacent to the site. For example, the western most homes along Ermine Street, Kelsey Street, Label Avenue, Huffy Street, Drasin Drive, Pine Hill Avenue and Summit View Drive tend to have uninterrupted views of the eastern portion of the project site. In addition, some homes to the east on Babington Street, Four Oaks Street, Cedarcreek Street, Fairweather Street, Delight Street, etc. on the north side of those streets may have partial views of the western edge of the project site.

View Simulations

The following analysis provides computer simulations of what the project is expected to look like after construction is completed. For each simulation, a “before” photograph indicates existing conditions. Photographs of the “before” views were taken in November 2004. The simulations approximate the appearance of the proposed structures. Their locations and elevations are accurately depicted, and are based upon computer modeling. The perspective depicted in the simulations is also accurate. However, the depiction of the proposed structures is only intended to give the “sense” of their appearance. While the depictions of building massing and gross architectural features reflect preliminary designs, the architectural details do not represent final designs. In addition, the depiction of future landscaping reflects the preliminary landscape plan “concept” and not specific plant materials.

A total of six view simulations are presented in the following section. The existing views, the locations from which the existing view photographs were taken and visual simulations are presented in Figures V.B-6 through V.B-11. The following paragraphs present brief discussions of each visual simulation:

View Simulation No. 1

Existing View

This is a view looking north toward the project site, taken from a location on Golden Valley Road north of future intersection of Via Princessa, approximately 1.8 miles south of the project site. Via Princessa is a major east/west travel corridor on the north-facing hills south of the Santa Clara River. Via Princessa could logically be expected to provide expansive views toward the north. However, views looking north from Via Princessa (west of Whites Canyon Road) are practically non-existent due to the blocking effect of intervening residential development. In fact, there is little in the way of public views looking toward the north from these hills, although some individual homes and local residential streets in the area (with clear lines-of-sight) may have views of the project site vicinity. An exception to this generalization is the view corridor along Golden Valley Road, which was recently created by the extension of Golden Valley Road through to SR-14 freeway. Now, vehicles traveling along Via Princessa that turn north onto Golden Valley Road are presented with a panoramic view of the northern

portion of the City of Santa Clarita and areas beyond. View No. 1 approximates the first view of the project site from northbound on Golden Valley Road after turning off from Via Princessa.

Foreground: The foreground is practically non-existent in this view. However, the photograph was taken from a recently graded building pad on the east side of Golden Valley Road which, in the near future, will be developed with one or more business park structures. As this area is built out, such panoramic views from Golden Valley Road will begin to be blocked by new, warehouse type constructions.

Middle Ground: In the middle ground new business parks are visible (both recently completed and others still under construction). Beyond the new business parks, the older mixed-use development along the south bank of the Santa Clara River can be seen.

Background: Beyond the concentration of mixed-use development on the south bank of the Santa Clara River lie the background features of the view. The project site can be seen taking up the central portion of the closer range of hills. The primary ridge is clearly visible in the center left of the photograph. Other features of the project site are less easy to discern at this distance, although they can be made out. For example, the low saddle to the right of the primary ridgeline indicates the general location of the central canyon that separates the project site into two portions. A portion of the southwest draining canyon in the southern portion of the project site can be made out to the left of the two prominently water tanks. Behind this canyon, the series of stair-stepped mesas can also be seen. Above the water tanks, the single-family residential community to the east of the project site can be seen along the ridgeline. To the west (left) of the primary ridgeline, a portion of the small private single-family mesa on the mesa can also be seen.

Proposed View

The Proposed Project would not affect the foreground and middle ground views shown in this view simulation; although, the simulation assumes that no business park development in the foreground will block the existing panoramic vistas from Golden Valley Road. The major elements of the Proposed Project that are visible in this simulation are:

- The junior high school and the YMCA building. These two uses are located at the lowest elevations on the project site and closest to the Santa Clara River. Tree landscaping is visible surrounding the junior high school, while green open space appears to surround the YMCA building.

- The alignment of Golden Valley Road as it ascends into the project site is discernible by a row of street streets and other landscaping to the west (left) of the YMCA building.
- The south-facing super slopes that separate the four multi-family development pads are visible above and to the east (right) of the junior high school. The contour grading of the super slopes is not readily discernible in this simulation, although the extent of proposed landscaping can be made out.
- Some of the multi-family buildings on the three lower development pads are visible; although the hill-like berms created at the south end of each development pad effectively conceal the extent of development on each development pad. None of the single-family residences are visible from this location; although a line of new landscaping the follows the profile of the new hill-like berm indicates their presence.
- The recreated western secondary ridgeline, indicated by a line of new landscaping, is visible below the primary ridgeline. A comparison of the existing and proposed views demonstrates that, from this location, the recreated secondary ridgeline does not substantially change the existing ridgeline profile.

View Simulation No. 1 demonstrates that the Proposed Project would alter the existing view from Golden Valley Road, south of Soledad Canyon Road. It would simplify existing landforms by imposing strong horizontal lines on a formerly complex topography. It would introduce a pattern of landscaping that is distinctively non-native in appearance. And, it would fill the vacant space that currently separates existing ridgeline development, creating the sense of a continuous line of hillside and ridgeline development. On the other hand, the visual simulation demonstrates that from this location the Proposed Project would not alter the existing primary ridgeline and none of the major elements of the Proposed Project would break the existing skyline. Further, the simulation also demonstrates that the proposed grading design principles are effective in minimizing the intrusion of the new structures into a major public panoramic view.

View Simulation No. 2

Existing View

This is a view looking from north to west toward the proposed development area from a location just west of the current terminus of Ermine Street. As with View 8b (Figure V.B-4), it provides a good approximation of the existing view of the project site from the existing “front line” homes in the single-family residential community adjacent to the east.

- Foreground:** The foreground is relatively flat and disturbed. Because the terrain slopes away to the west, views of the foreground drop off pre-maturely. This drop-off is the top of the eastern secondary ridgeline as seen from above and to the east. Views to the north reveal an undulating mesa surface that conceals the presence of a steep-sided canyon that separates this area from the homes along Huff Street.
- Middle Ground:** The left hand portion of the photograph looks to the west. The middle ground, beyond the edge of the eastern secondary ridgeline, consists of a view of the western secondary ridgeline. In the central portion of the photograph, the middle ground consists of an edge-on view of the western secondary ridgeline and the mesa area at the foot of the primary ridgeline. Farther to the north are the homes along Huff Street.
- Background:** The major elements of the background consist of the primary ridgeline as it stretches from the center to the right hand portion of the photograph. In the west (left), the small private single-family community on the mesa to the west of the project site can just be identified. In the extreme background, the mountainous ridgeline on the west side of Bouquet Canyon can be seen beyond the project site.

Proposed View

In this simulation of the view from homes near the existing terminus of Ermine Street, the foreground consists of a landscaped super slope (center of photograph) that drops off to development pad "B"; it also includes a view of the proposed extension of Ermine Street (right side of photograph), which would provide through access to Whites Canyon Road for the Proposed Project. As can be seen in the simulation, the elevation of development pad "B", which is about 1,550 mean sea level (msl) to 1,560 msl, has been lowered by approximately 60 to 70 from the existing 1,620 foot elevation. Thus, this simulation demonstrates the recreation of the existing eastern secondary ridgeline as seen from above and to the east. Views from the existing residences in the vicinity of current terminus of Ermine Street would look over the roofs of the proposed multiple-family residences on development pad "B" to the recreated western secondary ridgeline. While the recreated western secondary ridgeline would be visible edge-on from the vantage point of this simulated view, there would be minimal changes to the skyline. Background views of the primary ridgeline would be unaffected from this perspective, with the exception that new street trees along the extension of Ermine Street would tend to interrupt existing views. In the distant background the, the views of the mountains on west side of Bouquet Canyon remain largely unaffected by the Proposed Project.

View Simulation No. 3

Existing View

This is the view from the south side of Huffy Street, looking south (left side of photograph) to west (right side of photograph).

Foreground: In the foreground is a steep-sided, tributary canyon to the main northeast/southwest trending canyon. The homes visible in the left hand side of the photograph, on the south side of the secondary canyon, are located along Lewendo Court. Actually, the canyon in the foreground is the northern branch of a larger system that forms a “Y” shaped divide; the southern branch of the “Y” is hidden behind the homes in the photograph.

Middle Ground: The “Y” branching system of tributary canyons partially visible in the foreground forms yet another “Y” branch with the main canyon in the center of the photograph (middle ground). The steep sides of the V-shaped main canyon form the previously mentioned eastern and western secondary ridgelines. The DWP electrical lines are visible above the western secondary ridgeline, just to the right of the photo center.

Background: The hazy mountains in the center of the photograph (looking southwest) are the mountains that form the south side of the Santa Clarita Valley. The primary ridgeline is not visible in this photograph; it is located farther to the north (or right) than shown in this photograph.

Proposed View

The foreground remains unaffected by the Proposed Project in this simulation. From this location, the viewer must look down the tributary canyon to see any of the proposed development. Proposed development pad B is visible in the center of the view (middle ground). Mostly, the rooftops of the multiple-family buildings and new landscaping are visible in this view.

Most significant are those elements of the Proposed Project that cannot be seen from this location. None of the proposed development on multiple-family development pads “C” and “D” is visible; neither is the junior high school nor the YMCA building. Further, while the southern portion of the western secondary ridgeline can be seen to the right of the multiple-family buildings, the proposed single-family residences are blocked from view by the existing terrain and development.

View Simulation No. 4

Existing View

This view is taken from Canyon View Drive, approximately ¼ mile south of the City's proposed Riverpark site (Related Project No. 4) and 1½ miles southeast of the Proposed Project's junior high school site. Canyon View Drive runs parallel and adjacent to the east side of the Santa Clara River and provides mostly uninterrupted views of the southern portion of the project site.

Foreground: The Santa Clara River fills the foreground view from this location. Recent grading within the Santa Clara River has raised a low berm along the fence line that partially obstructs views of the River and the project site from vehicles. Immature street trees line the west side Canyon View Drive and further block views of the project site.

Middle Ground: Because of the distance of this vantage point from the project site, the middle ground portion of this photograph also consists of views of the Santa Clara River. Existing homes on the south bank of the Santa Clara River can be seen in the left hand corner of the photograph. Construction equipment can be observed in the middle of the River. The roof lines of existing housing on the north bank of the Santa Clara River, along Edgewater Drive can just be seen sticking up above the artificial River embankment.

Background: The project site is visible in the background of the photograph. Most visible are the site's steep south-facing slopes that front onto the Santa Clara River. Behind those slopes the project site appears to be flat mesa. In fact, the project site continues to rise toward the north in broad stair-step changes in elevation and in steep sided v-shaped canyons. To the east of the project site (left side of photograph), two offsite water tanks are visible along with the rooflines of some existing single-family homes. On the west side of the project site, the mouth of the major canyon can be seen as it flows into the Santa Clara River. The western wall of this Canyon forms the lower end on the western secondary ridgeline.

Proposed View

This simulation demonstrates the minor effect the Proposed Project would have on views from the vicinity of Canyon View Drive. The structural elements of the Proposed Project that would be visible from this location are the rooflines of the junior high school and the YMCA. Visible landform alternation would consist of the partially reconstructed south-facing slope that forms the north bank of

the Santa Clara River, and the alignment of Golden Valley Road as it ascends onto the mesa. As seen from a distance, the Golden Valley Road alignment would create an artificial diagonal slope across the face of the hillsides that border the Santa Clara River. None of the proposed multiple-family or single-family homes are visible from this location. In addition, none of the proposed super slopes and neither of the recreated secondary ridgelines are visible from this location.

View Simulation No. 5

Existing View

This is the view from the vicinity of the southern terminus of Alta Knoll Drive. The view looks northeast to southeast and approximates the views from the residences on the east of Alta Knoll Drive.

Foreground: Currently, the foreground consists of views of vacant gently sloping mesas covered with a mix of native and non-native vegetation. In this view, the mesa is cut by the steep sided, south draining canyons.

Middle Ground: To the east the middle ground encompasses a portion of the project site. However, visually, the middle ground continues the foreground views of the undeveloped mesa. The DWP power transmission lines can be seen in the middle ground.

Background: To the east the existing single-family community on the east side of the project site subdivision can be observed, and appears to be ridgeline development. Beyond that, the tops of the mountains that form the eastern end of the Santa Clarita Valley form a visual backdrop. To the southeast, a portion of the Santa Clarita Valley floor is visible. In particular, this vantage point looks down onto the mixed land uses that are clustered along the south back of the Santa Clara River.

Proposed View

The foreground view would remain unaffected by the Proposed Project. The middle ground view would be transformed as the undeveloped mesa is replaced with a single-family residential community. In some areas, new manufactured slopes would replace natural topography, and landscaping would replace native habitat. The background view of the existing "Ermine Street" community would be blocked by the proposed single-family homes; however, none of the new development would break the profile of the existing skyline. Background views to the southeast and east would remain unaffected by the Proposed Project.

View Simulation No. 6

Existing View

This is the view looking generally northwest from Soledad Canyon Road where it crosses the Santa Clara River. This view is similar to view from Canyon View Drive (View Simulation No. 4). However, whereas View Simulation No. 4 approximates the local neighborhood views of residents in the vicinity of Canyon View Drive, View Simulation No. 6 demonstrates the view of the project site more widely experienced by the large numbers of people who use Soledad Canyon Road as a major east/west transportation corridor. It is approximately 1.8 miles from this vantage point to the proposed location of the project's junior high school.

Foreground: The Santa Clara River fills the foreground view from this location. Recent grading within the Santa Clara River is shown in the right hand corner of the photograph. The view from this location is unimpeded by any obstacles.

Middle Ground: Because of the distance of this vantage point from the project site, the middle ground portion of this photograph also consists of views of the Santa Clara River. Soledad Canyon Road can be seen to parallel the southwest back of the Santa Clara River at the left of the photograph.

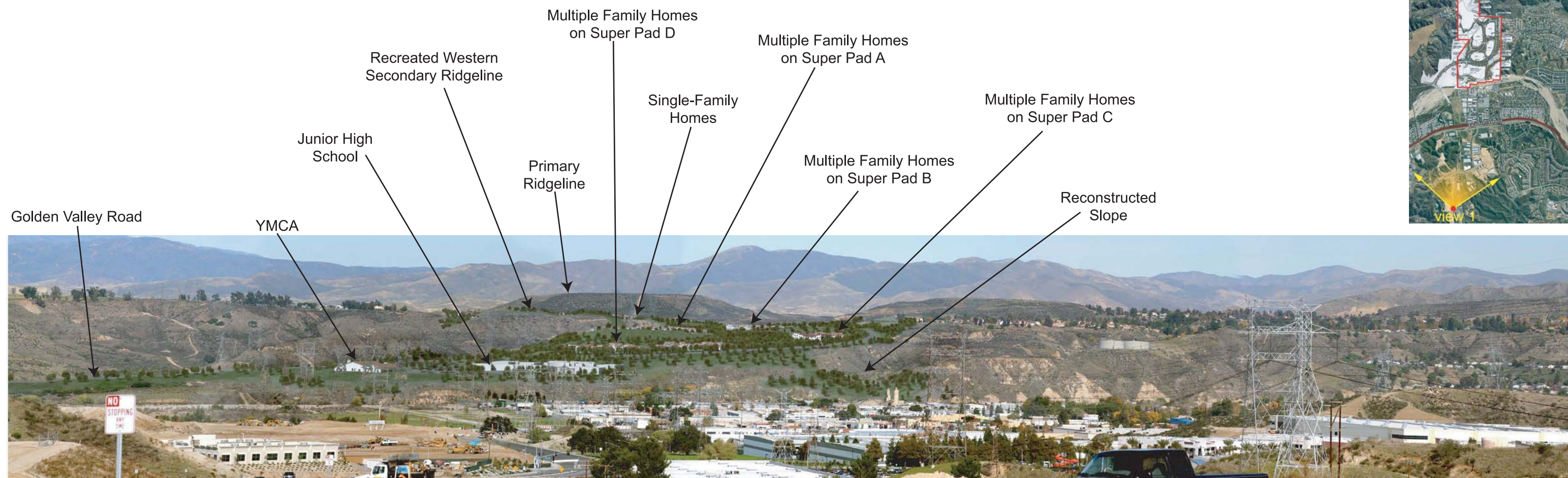
Background: The project site is visible in the center background of the photograph. To the east (or photograph right) of the project site can be seen the two water tanks, existing homes on the ridgeline, and more homes on the slopes below the ridgeline at the end of Canyon View Drive. Directly in front of the project site (on the south side of the Santa Clara River) several large commercial and/or industrial buildings can be seen. The most visible aspect of the project site is the site's steep south-facing slopes that front onto the Santa Clara River. Behind those slopes the project site appears to be flat mesa. On the west side of the project site (or photograph left), the western secondary ridgeline can be seen.

Proposed View

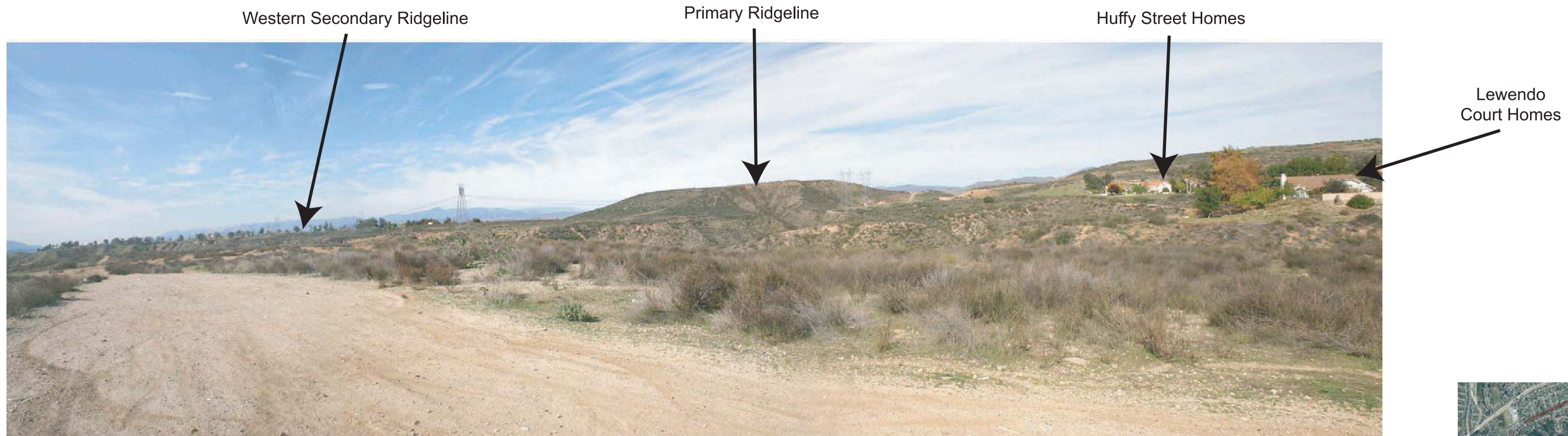
The foreground and middle ground views would remain unaffected by the Proposed Project. In the background, the project would modify the view of the some hillside slopes that face the Santa Clara River. This would result in new manufactured slopes replacing natural topography, and landscaping replacing native habitat. The only building visible from this location would be the roofline of the YMCA. None of the residential structures would be seen from this location. The Golden Valley Road



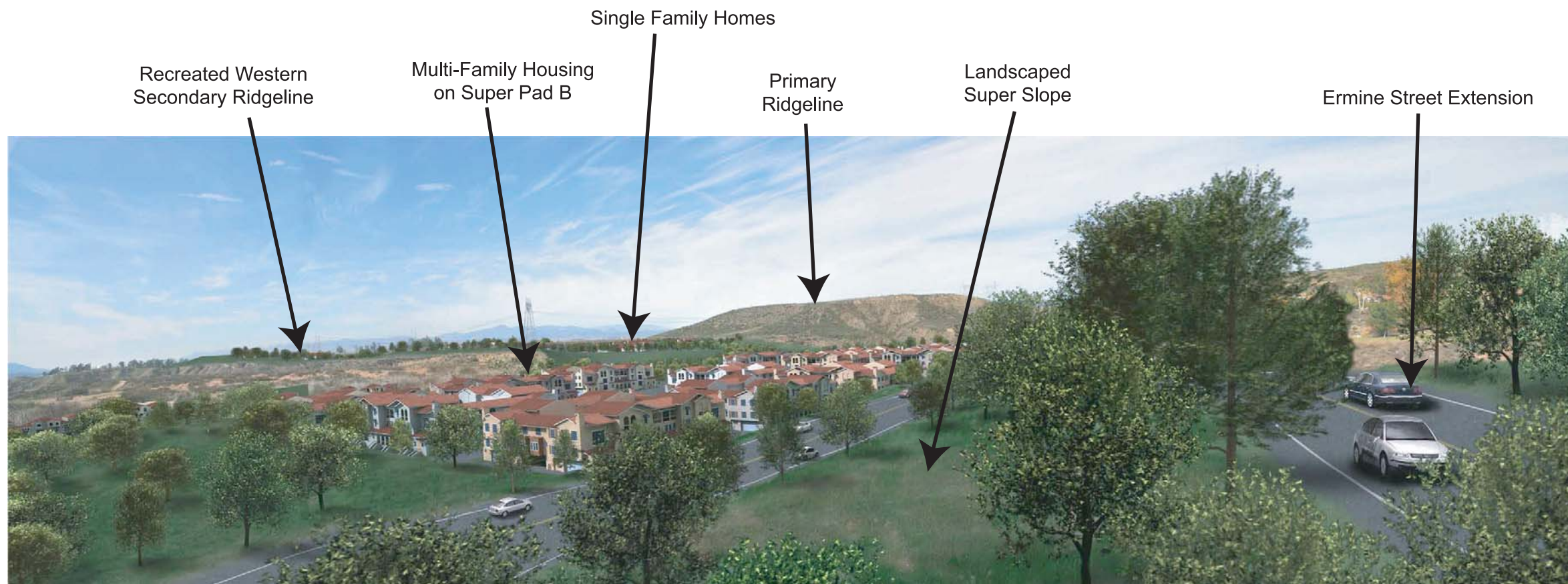
Existing Condition: Looking north toward the development from a vantage point south of Soledad Canyon Road



Proposed Condition



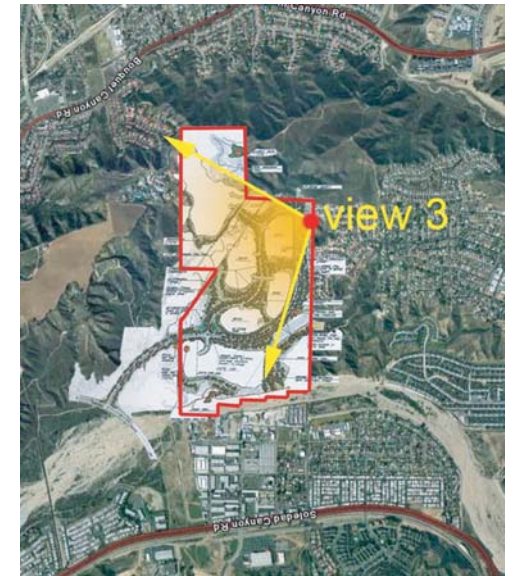
Existing Condition: Looking west toward the development from a vantage point near existing Ermine Street.



Proposed Condition



Existing Condition: Looking west toward the development from a vantage point near existing Huffy Street.



Lewendo Court
Homes

Multiple Family Housing on
Super Pad B



Proposed Condition

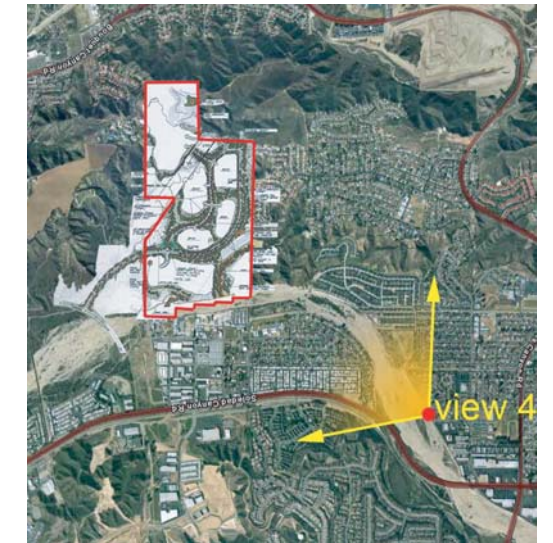


Existing Condition: Looking northwest toward the development from a vantage point along the Santa Clara River & north of Soledad Canyon Road

Western Secondary
Ridgeline YMCA Junior High School Golden Valley Road

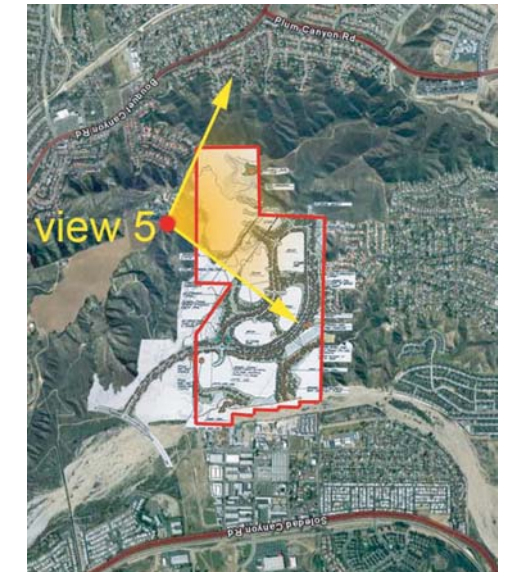


Proposed Condition





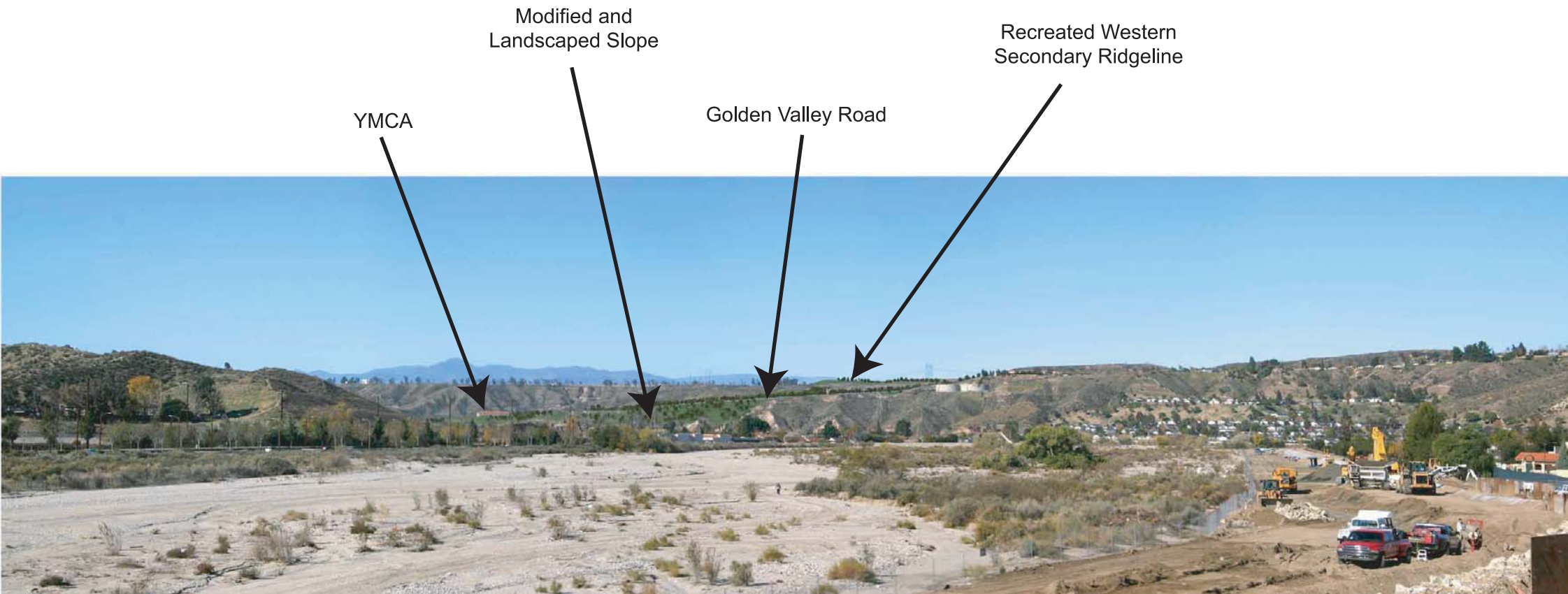
Existing Condition: Looking east from a vantage point near an existing development west of the proposed single family development



Proposed Condition



Existing Condition: Looking northwest towards the development from a vantage point where Soledad Canyon Road crosses the Santa Clara River



Proposed Condition



alignment would create in an artificial diagonal slope across the face of the hillsides that border the Santa Clara River.

Night Lighting

Project development would result in the introduction of several sources of lighting onto the project site, resulting in increased nighttime illumination. Environmental impacts associated with increased nighttime illumination include decreased night sky visibility, changes in aesthetic qualities and, when new lighting spills-over onto adjacent properties, there is the potential to interfere with certain functions, including vision, sleep, and privacy.

The brightest and most prevalent lighting source would be City required street lighting on the extension of Golden Valley Road. Residential street lighting would also be sources of substantial new lighting. The new homes within the project site can also be expected to introduce such other new lighting sources as exterior security lighting, interior lighting and aesthetic landscape lighting.

Residents in the adjacent communities both to the east (e.g., Ermine Street area) and west (e.g., Alta Knoll Drive area) would directly experience the transformation of the development areas from currently dark conditions to illuminated residential settings. For these current residents, the required street lighting and the secondary sources of lighting (i.e., exterior security lighting, interior lighting, aesthetic landscape lighting, etc.) would create new sources of substantial light which would adversely affect their nighttime views.

Direct lighting impacts from the proposed development areas on sensitive receptors south of the Santa Clara River would be largely mitigated by the intervening distances and would not be expected to be perceived as substantial new sources of lighting.

Ridgelines

Primary/Secondary Ridgelines

As discussed in Section V.I. Land Use, grading of the site is subject to the standards outlined in the Ridgeline Preservation and Hillside Development Ordinance (Unified Development Code, Chapter 17). Figure V.B-12 illustrates the existing site ridgelines in relation to the project site boundaries. The highest mesa in the northwest portion of the site is designated as a "Primary Ridgeline" while two other ridges have been classified as "Secondary Ridgelines".

The Primary Ridgeline located at the northernmost boundary of the project site would not be affected by the Proposed Project. The proposed grading plan would involve modifications to the two secondary ridgelines, as classified by the City, that extend across the project site; one primarily east of the LA

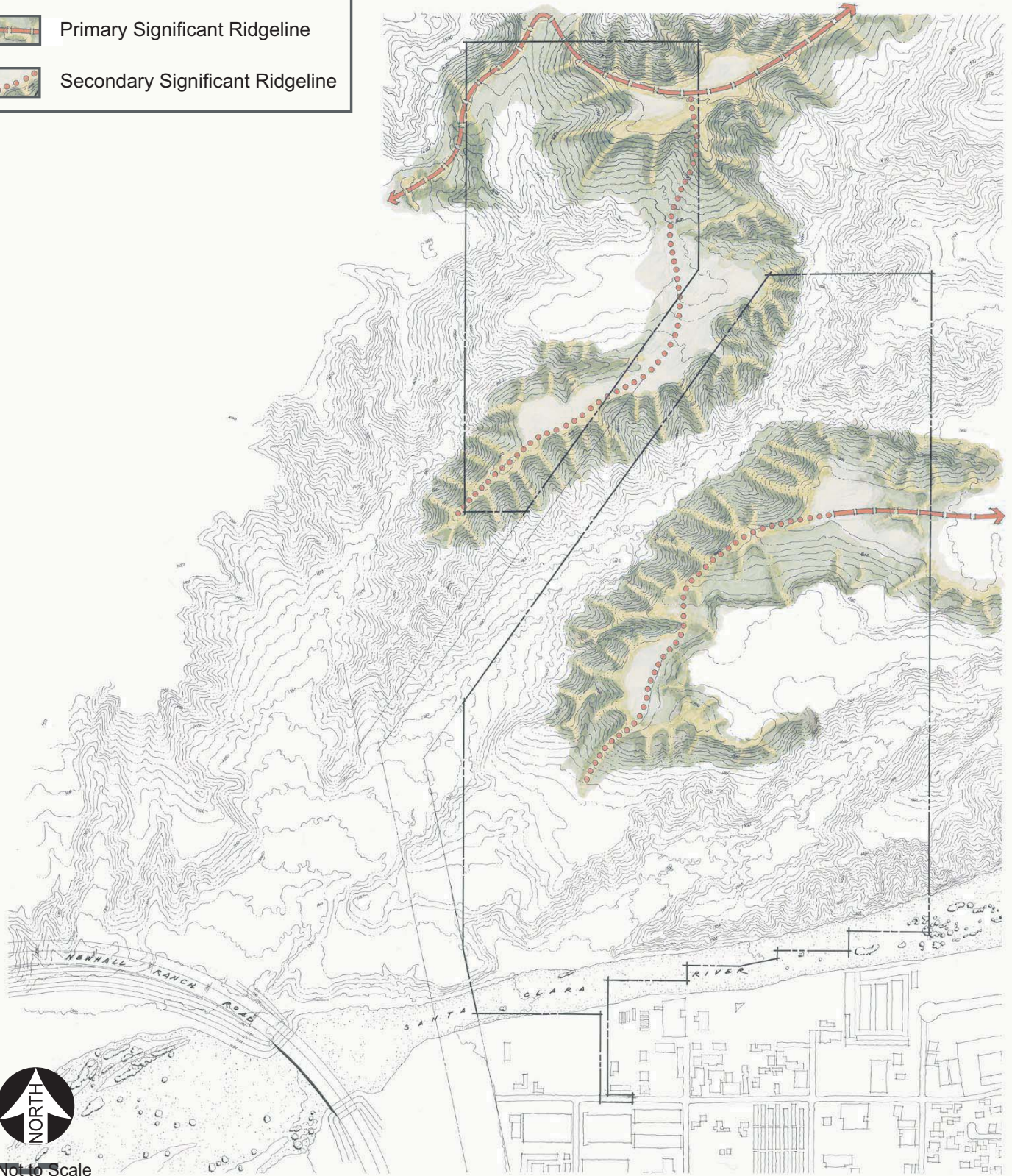
LEGEND



Primary Significant Ridgeline



Secondary Significant Ridgeline






Source: Synergy TRG Land, Inc., Sikand Engineering

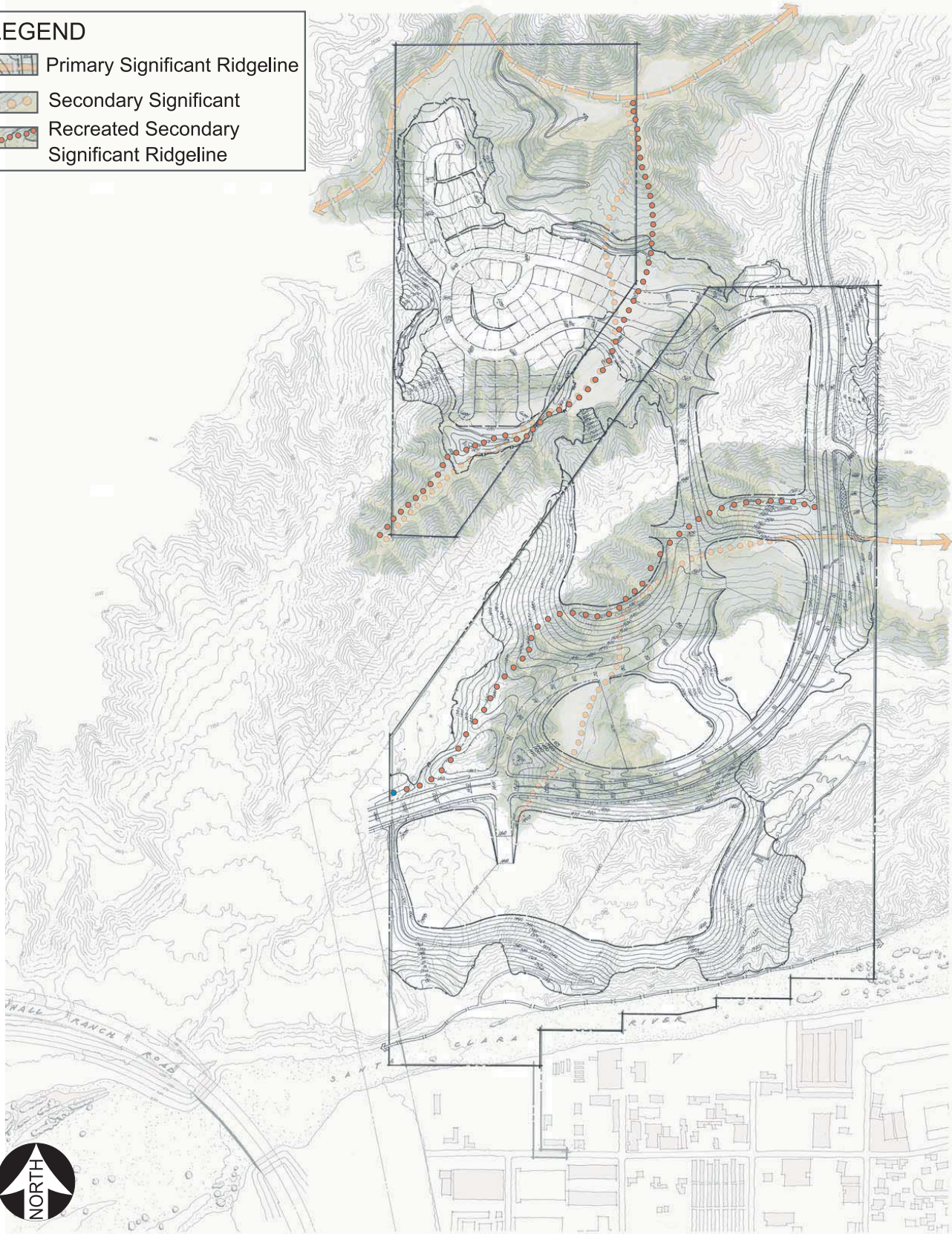


CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure V.B-12
Existing Significant Ridgeline Locations

LEGEND

-  Primary Significant Ridgeline
-  Secondary Significant
-  Recreated Secondary Significant Ridgeline



Not to Scale

Source: Synergy TRG Land, Inc., Sikand Engineering

DWP right-of-way (herein referred as the eastern ridgeline) and one to the west of the right-of-way (herein referred as the western ridgeline).

Eastern Secondary Ridgeline

The existing eastern secondary ridgeline is located in the larger polygon shaped project boundary area east of the LA DWP right-of-way as shown in Figure V.B-12. This portion of the project site consists of approximately 200 acres. The ridgeline currently traverses the site in a southwesterly and northeasterly axis ending just north of the existing Ermine Street termination. This ridgeline extends approximately 3,300 feet across the site with a beginning elevation of approximately 1,430 feet above the mean sea level (msl) and ascends to approximately 1,600 feet msl at the Ermine Street location. This secondary ridgeline exhibits scars from past farming and mining activity, which have left large stair-step terraces on the south-facing slope. Additional scarring has occurred due to off-road vehicle activity.

Project implementation would require cut and fill grading operations to prepare the project site for the proposed development. In particular in the area of the existing ridgeline, grading would be required to create four development pads for the multi-family structures and one development pad for the YMCA building and junior high school site. A range of approximately 10 to 90 vertical feet of the ridgeline would be cut with the soil used as fill to even out the site for the proposed building pads. Landform grading techniques would be implemented separating the development pads creating a re-constructed ridgeline just west and north of the existing ridge.

The ridgeline would undulate with slopes of various gradients simulating the surrounding topography. Post development conditions would result in creation of five mesas (development pads) of varying heights. From south to north, the development pads would step up in height with the image of an ascending ridge. The lowest elevation would occur on the YMCA and junior high school pad that would be separated from the next development pad ("D") by the proposed Golden Valley Road. Manufactured slopes would separate the four multi-family residential development pads, with each pad rising to a higher elevation. In between each pad would be a hill with a created peak. For example, the southern most residential pad ("D") would have an elevation of approximately 1,500 feet msl at the northern end of the site. The slope would ascend to a height of 1,550 feet msl and then descend to an elevation 1,510 feet msl where the next residential pad ("C") would begin.

Figure V.B-13 illustrates the re-created ridgeline location in comparison to the existing ridgeline. As shown, the re-created ridgeline would follow a similar southwesterly to northeasterly axis like the existing ridgeline and would have a beginning elevation of approximately 1,430 feet msl, ascending to 1,620 feet msl. The largest portion of the recreated ridgeline would provide the base for the multi-family residential pad "A". Along the southern portion of the pad, the re-created ridgeline would rise

to an elevation of approximately 1,550 feet msl and then descend to 1,530 where the development pad area would begin. The ridgeline would continue east across proposed "I" Street and continue as the southern boundary of the multi-family development pad "B". This development pad would have a slope rising to an elevation of approximately 1,590 feet msl, separating development pads "B" and "C". The ridgeline would continue across Golden Valley Road, where the slope would rise to 1,620 feet msl at the "elbow" of Ermine Street connection. In essence, the existing ridgeline would not be eliminated, but rather moved approximately 500 feet to the west and 250 feet to the north. The re-created ridgeline would extend approximately 3,000 feet across the site.

Western Secondary Ridgeline

As shown in Figure V.B-12, the existing western secondary ridgeline extends from the primary ridgeline on the north and continues generally in a southerly direction along the LA DWP right-of-way. This portion of the project site, west of the LA DWP right-of-way, constitutes approximately 45-acres. The ridgeline extends approximately 2,200 feet across the 45-acre site. As typical of the area's topography, the ridgeline undulates across the site with a beginning elevation of approximately 1,550 msl, ascending to 1,650 msl and continues northward meeting the Primary Ridgeline.

Under post-development conditions, the 96 single-family units would be constructed on the northern portion of the existing western Secondary Ridgeline, below the Primary Ridgeline. The existing Secondary Ridgeline would not change at the southern portion of the project boundary area until it reaches the southern grading limit of the 96-unit single-family development. At this juncture, the ridgeline would be modified with a recreated constructed ridge traversing the southern and eastern edge of the development and then through the LA DWP right-of-way, completing the path at the corner of the right-of-way outside the project development boundary (refer to Figure V.B-13). Within the recreated ridge there would be two peaks created; one at the southern side of the development and the other on the eastern facing slope near the LA DWP transmission towers. These manufactured slopes would peak at elevations of approximately 1,640 and 1,630, respectively. These peaks emulate the natural surrounding topography with high and low areas. The development area would be located at a lower elevation behind those manufactured peaks. Additional manufactured slopes would be provided on the northern portion of the development area, stepping up to meet the existing topography and elevation completing the line of sight for the recreated ridgeline.

Ridgeline Preservation and Hillside Development Ordinance

The ordinance allows development on ridgelines through an approved Innovative Application for Significant Ridgelines. Certain uses may be permitted on significant ridgelines with the approval of a conditional use permit. Such uses include but not limited to open space/conservation areas, parks and recreation areas, publicly and privately operated transmission facilities, public streets, public buildings,

recreational camps, riding academies or stable trails, water tanks (screened) and innovative development. The UDC defines “innovative development” as a proposed use or development that:

“demonstrates creative and imaginative site design resulting in a project that will compliment the community character and provide a direct benefit to current and future community residents of not only the proposed use or development, but the residents of the City of Santa Clarita as a whole utilizing unique grading techniques, imaginative project site design and spacing of development that significantly exceeds the minimum standards identified in the City of Santa Clarita Ridgeline Preservation and Hillside Development Guidelines.”

The project applicant has submitted an Innovative Application with the City of Santa Clarita for the Proposed Project. Encroachment onto a significant ridgeline is permitted under this process providing the project meets a set of criteria for Innovative Applications for Significant Ridgelines as established in the Ordinance (Section 17.80.040). These criteria are provided below. The review and approval of the Innovative Application is in the purview of the City Council based upon written findings on the Ordinance’s listed criterion.

Design Criteria for Innovative Applications for Significant Ridgelines:

- A The proposed use is proper in relation to adjacent uses, the development of the community and the various goals and policies of the General Plan.*
- b. The use or development will not be materially detrimental to the visual character of the neighborhood or community, nor will it endanger the public health, safety or general welfare.*
- c. The appearance of the use or development will not be different than the appearance of adjoining ridgeline areas so as to cause depreciation of the ridgeline appearance in the vicinity.*
- d. The establishment of the proposed use or development will not impede the normal and orderly development and improvement of surrounding property, nor encourage inappropriate encroachments to the ridgeline area.*
- e. It has been demonstrated that the proposed use or development will not violate the visual integrity of the significant ridgeline area through precise illustration and depiction as required in Subsection D (section 17.80.040 Development Standards), Ridgeline Preservation.*

- f. The use or development should minimize the effects of grading to insure that the natural character of ridgelines are preserved.*
- g. The proposed use or development maintains the appearance of natural ridgelines with uses or development consistent with density requirements established in section 17.80.040 (G)(1).*
- h. The proposed use or development utilizes or creates unique grading techniques, imaginative project site design and spacing of development that significantly exceeds the minimum standards identified in the City of Santa Clarita Ridgeline Preservation and Hillside Development Guidelines.*
- i. The proposed use or development should be designed to mimic the existing topography to the greatest extent possible.*
- j. The proposed use or development demonstrates creative and imaginative site design resulting in a project that will compliment the community character and provide a direct benefit to current and future community residents of not only the proposed use or development, but the residents of the City of Santa Clarita as a whole.*
- k. The proposed use or development should not alter natural landmarks and prominent natural features which enhance the character of ridgelines in their natural environment.*

Significance of Project Impacts

Scenic Vista

The project site is in a prime location on hillsides over-looking the City of Santa Clarita. The hillsides have high scenic value due to their complex landforms and abundant open space. Because they play a prominent role in visually defining the Santa Clarita Valley, these hillsides may be considered important components of the area's scenic vistas.

The Proposed Project would introduce a mixed-use residential development into the scenic vistas of the Santa Clarita Valley. However, the Proposed Project would incorporate site design and grading techniques that would minimally disrupt existing view corridor and scenic vista. The site design and grading techniques employed involve landform-grading techniques used to replicate the topographical characteristics found in the immediate surrounding natural hillsides. The existing eastern Secondary Ridgeline extends approximately 3,300 feet across the site with elevations ranging from 1350 feet msl to 1620 feet msl. Under post project conditions, the existing ridgeline would be re-created

approximately 500 feet to the west and 250 feet to the north from the existing location. The re-created ridgeline would extend approximately 3,000 feet across the site and reach an elevation of 1,620 feet msl.

The existing western Secondary Ridgeline would not change at the southern portion of the project boundary area until it reaches the southern grading limit area of the 96-unit single-family development. At this juncture, the ridgeline would be modified with a re-constructed ridge traversing the southern and eastern edge of the development and then through the DWP right-of-way, completing the path at the corner of the right-of-way outside the project development boundary. The ridgeline undulates across the site with a beginning elevation of approximately 1,550 msl, ascending to 1,650 msl and continues northward meeting the Primary Ridgeline.

The eastern (re-created) Secondary Ridgeline is a result of the construction of Golden Valley Road and would produce a series of mesas or development pads for the four multi-family development areas and the YMCA building and junior high school site. The western (re-created) Ridgeline would produce a development pad area for the single-family home development. The re-created ridgelines include manufactured berms that have the appearance of natural ridgelines with elevation peaks higher than the development pad areas. Manufactured (or super) slopes would be provided on the project site as previously described. These slopes create the sides to the development pads that include various gradients and curvature, emulating the existing topography. These slopes include peak elevations similar in height to the existing ridgelines, provide the base or side to the development pads, and include berms to camouflage portions of the development. As discussed above, the project site is not visible from the north or west and, therefore, would have no visual impact with respect to land uses in those directions. As shown in the view simulations, the above site design and grading techniques would be effective in reducing the project's visual impact as seen from locations south of the project site. In particular, the Proposed Project would not be materially detrimental to the visual character of the neighborhood or community; its appearance would not be materially different than the appearance of adjoining ridgeline areas; it would not violate the visual integrity of the significant ridgeline areas; it would minimize the effects of grading to insure that the natural character of ridgelines are preserved; it maintains the appearance of natural ridgelines with uses consistent with the City's density requirements; it uses unique grading techniques, imaginative project site design and spacing of development; its recreated ridgelines mimic the existing topography ; it does not materially alter natural landmarks and prominent natural features which enhance the character of ridgelines; the proposed development areas would be well shielded from general public view by a perimeter ridgeline system; and, the visual impacts of the project would be confined to the immediate local neighborhood.

Because the assessment of aesthetic impacts involves subjective judgments, there will always be an element of controversy regarding the determination whether a proposed change in the visual

environment constitutes an adverse physical effect. Some may consider the introduction of a residential development into undisturbed hillsides as a significant intrusion under any circumstances. In particular, some residents in the adjacent developments who are used to the project site's vacant condition may object to a new development in close proximity. Others may consider the Proposed Project to be an attractive and innovatively designed project and may wish to purchase homes there. In balance, given the effectiveness with which the project minimizes its visual impacts to the larger community of the Santa Clarita Valley, it is concluded the project would not have a substantial adverse effect on a scenic vista. The project incorporates site design and grading techniques that would minimally disrupt existing view corridors and scenic vistas. Therefore, the Proposed Project's impacts on scenic vistas would be less than significant.

Scenic Resources

The major scenic resources on the project site are the Primary and two Secondary Ridgelines and the open space. There are no outstanding scenic trees, rock outcroppings or historic building on the project site. Most importantly, the project would not affect the Primary Ridgeline. While, portions of the secondary ridgelines would be altered as discussed above, they would be recreated in essentially the same locations, would retain their basic forms and elevations, and would be contour graded to blend back into the natural adjoining hillsides. Large areas of open space would be retained by the Proposed Project, natural areas would be incorporated into the development areas, and much of the proposed development areas would be screened from view by constructed perimeter ridgelines. Further, portions immediately below the eastern Secondary Ridgeline have been disturbed with past usage (see section V.J. Mineral Resources). Past usage includes mining activities and farming on the plateau below the eastern Secondary Ridgeline (see Figure V.J-1 of Section V.J. Mineral Resources). In addition, off-road vehicle activity has occurred on and below the eastern Secondary Ridgeline. Therefore, it is concluded that the project site design and grading techniques would not substantially damage scenic resources, and, project impacts with respect to scenic resources would be less than significant.

Visual Character

As previously discussed above, the Proposed Project would not be visible from either Plum Canyon or Bouquet Canyon. Further, as demonstrated in the view simulations, incorporation of the project's site design and grading techniques would be very effective in minimizing visual effects as viewed from locations south of the Santa Clara River. However, the conversion of vacant hillsides would affect the existing visual character or the quality of the project site as viewed from the existing adjacent residential communities immediately to the east and west as the Proposed Project would alter the site's visual character from an undeveloped to a developed environment. Views of some natural features would be reduced or replaced by views of residential, institutional (junior high school) and health

related (YMCA) facilities on the site. For the Alta Knoll Drive community located to the northwest, the most visually prominent change would be the construction of an adjacent single-family residential community. Although the project's land uses would be consistent with the type and character of development for the Alta Knoll Drive community, the loss of their visual open space would be an adverse significant impact.

The introduction of adjacent multiple-family housing would constitute a substantial change in the existing visual character of the project site for residents on the edge of the adjacent residential community on the east, the Ermine Street community. Even though the multiple-family housing would be situated at a substantially lower elevation than the existing homes and there would be substantial setbacks and landscaping to soften their visual effect, the site would be transformed largely from vacant mostly undeveloped property to a more urban environment. Implementation of the Proposed Project would constitute an adverse significant visual impact for these homes as it would substantially degrade the existing visual character or the quality of the site and its surroundings. The change in visual character of the project site would represent a material change and could consequently result in a significant impact.

Light and Glare

Project development would result in the introduction of several new sources of potentially substantial light onto the project site, resulting in increased nighttime illumination. The new lighting would not be directly visible from either Plum Canyon or Bouquet Canyon, although an increase in sky "glow" may be detectable from these areas, particularly on cloudy nights. The new lighting could be perceptible from residential areas to the south; however, there is substantial distance (approximately one mile or more) between the project site and the more light sensitive residential areas in the hillsides south of the Santa Clara River. The mitigating effect of this distance would be expected to render this lighting impact less than significant.

The existing residential communities adjacent to the east and west sides of the project site would experience the greatest night lighting impact: the conversion of dark nighttime hillsides into an illuminated community. For residents in these areas, the Proposed Project would create new sources of substantial light. Therefore, this impact would be considered potentially significant and mitigation is required. The mitigation measures include: reducing street lighting to the lowest intensity necessary for security and safety purposes; use of non-glare fixtures directed downward onto the project site and aimed away from the off-site viewers; use of street lighting fixtures that cut-off light directed to the sky to reduce atmospheric light pollution; no use of exterior lighting fixtures for building facades and trees; and no use of "glowing" fixtures that would be visible from existing communities or public

roads. The proposed mitigation measures are expected to reduce night lighting impacts to a less-than-significant level.

Glare is typically a daytime problem associated with commercial buildings constructed with highly reflective building materials. As a hillside residential development buffered by berms and substantial landscaping, the Proposed Project would not be expected to generate substantial glare. Therefore, glare impacts are expected to be less than significant.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon	North and south of Golden	498 single-family DU

List of Related Projects

Map No.	Project Name	Project Location	Description
	TR 31803	Valley Rd, west of Plum Cyn Rd	
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

The Proposed Project represents infill development in an established urban area. There are existing residential communities to the northwest and east of the project site and residential communities under construction to the north (SunCal development). The Santa Clara River borders the southern portion of the project site with industrial facilities along the southern bank. Related projects within the immediate vicinity include Related Project No. 4, Riverpark, which was recently approved by City Council and is located immediately west of the project site. Related Project No. 4, Riverpark, combined with the Proposed Project would have the most significant visual changes to the immediate area with respect to scenic vistas, scenic resources and visual character due to proximity to the Proposed Project. The other related projects may not be as prominent visually when considered with the Proposed Project due to intervening topography.

Development of the Proposed Project is currently planned to build out over a period of 2-3 years, with completion scheduled for 2009. Related Project No. 4 was recently approved by City Council and is anticipated to be built out over a five-year period. Both sites are visually prominent, contain visual resources such as Primary and Secondary Ridgelines, and are part of the overall scenic vista as viewed from vantage points in the City from the east, west, and south. Both projects would alter, to varying degrees, Secondary Ridgelines, however, both incorporate site design and grading techniques that would minimize the disruption of the existing view corridors and scenic vistas. However, the change in visual character of the sites combined would represent a material change from an undeveloped to a developed environment that would result in a significant cumulative impact. With respect to the Proposed Project and the other 11 Related Projects, significant cumulative impacts would also occur as all of these properties would involve conversion of vacant land to suburban uses. There would be a cumulative loss of vacant land as viewed from public roadways and the amount of natural vegetation and landforms would decrease overall. Therefore, an overall change in visual character with all 12 Related Project sites and the Related Project site would occur and is considered cumulatively significant. The Proposed Project's incremental contribution to the significant impact with respect to change in visual character would be cumulatively considerable and significant.

Nighttime illumination and, to a less extent, daytime glare would increase in the immediate vicinity of the project site. Development of the Proposed Project and all 12 Related Projects would result in the introduction of several new sources of potentially substantial light into the immediate area, resulting in increased nighttime illumination. The new lighting from the Proposed Project and Related Project No.4, Riverpark, combined would create new lighting perceptible to residential areas to the north of the sites. New lighting from the Proposed Project and the other 11 Related Projects may not be directly visible from adjacent residences of the project site, but an increase in sky “glow” may be detectible from these areas, particularly on cloudy nights and Project and Related Project impacts would be potentially significant. Project mitigation is recommended, measures B-1 through B-6, that would reduce impacts to less than significant. With implementation of the project mitigation measures, the project’s contribution to the potentially significant impact would not be cumulatively considerable and impacts would be less than significant with respect to light and glare.

MITIGATION MEASURES

Project Mitigation Measures

Scenic Vista and Scenic Resources

With incorporation of the project’s design principles, impacts with respect to scenic vistas, scenic resources and changes in visual character would be less than significant and further mitigation is not required.

Visual Character

No feasible mitigation can be recommended to reduce the project’s significant impact to visual character.

Light and Glare

The following mitigation measures are recommended to reduce night lighting impacts to a less than significant level.

- B-1 The project applicant shall prepare and implement a Lighting Mitigation Plan. The Plan shall be submitted to the City of Santa Clarita Department of Planning and Economic Development for reviewed and approval prior to issuance of grading permits.
- B-2 Project street lighting shall be the lowest intensity necessary for security and safety purposes, while still adhering to the recommended levels of the Illuminating Engineering Society of North America.

- B-3 In order to minimize illumination wash onto adjacent areas, street lighting shall utilize non-glare fixtures directed downward onto the project site and aimed away from the off-site viewers.
- B-4 Atmospheric light pollution shall be minimized by utilizing street lighting fixtures that cut-off light directed to the sky.
- B-5 The project developer shall distribute information to prospective homebuyers recommending the use of motion detectors for private security, rather than continuous lighting systems.
- B-6 Project CC&Rs shall include the following restrictions on outdoor lighting for private residences:
- The use of exterior up lighting fixtures for building facades and trees shall be prohibited.
 - Only down lighting for exterior-building mounted fixtures shall be permitted.
 - Use of "glowing" fixtures that would be visible from existing communities or public roads shall be prohibited. A glowing fixture is a lantern style fixture, or any fixture that allows light through its vertical components.

Cumulative Mitigation Measures

Other than the mitigation for light, there is no mitigation that could be imposed on the project to mitigate cumulative impacts. However, as discussed within the text of this section, the Proposed Project is an infill development. As such, the project is in character with other development and other related project development in the project vicinity and lighting mitigation measures proposed above would further ensure compatibility with the surrounding environment.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Project impacts with respect to scenic vistas and scenic resources would be less than significant as the Proposed Project includes site design and grading techniques that would minimally disrupt existing view corridors, scenic vistas and scenic resources. As a result of project implementation, the visual character of the site would be transformed largely from vacant undeveloped property to a more urban environment. The site design and grading techniques employed would be very effective in minimizing visual effects as viewed from long distant locations, such as those south of the Santa Clara River.

However, implementation of the Proposed Project would represent a material change in character of the project site, resulting from the replacement of mostly undeveloped property and open space with urban uses. No mitigation can be proposed that would reduce the impact to less than significant as it's a change in character as views of some natural features would be reduced or replaced by views of residential, institutional (junior high school) and health related (YMCA) facilities on the site. Consequently, the demonstrable change in character of the project site would result in a significant and unavoidable impact to visual character.

Implementation of the proposed mitigation measures B-1 through B-6 would reduce night lighting impacts to a less-than-significant level by controlling lighting spillover onto adjacent properties and open space; reducing street lighting to the lowest intensity necessary for security and safety purposes; use of street lighting fixtures that cut-off light directed to the sky to reduce atmospheric light pollution; and enforcement of prohibitions on the use of exterior up lighting fixtures and "glowing" fixtures that would be visible from existing communities or public roads. Project impacts with respect to daytime glare would be less than significant.

Cumulative

Project impacts and Related Project impacts with respect to scenic vistas and scenic resources would be less than significant as the Proposed Project includes site design and grading techniques that would minimally disrupt existing view corridors, scenic vistas and scenic resources. Therefore, the Proposed Project's contribution would not be cumulatively considerable and impacts are less than significant. The Proposed Project, in combination with the 12 related projects identified in Section III of this EIR, would contribute to the alteration of the aesthetic character within a two mile radius of the of the project site from rural to more suburban. The aesthetic impacts of individual projects can often be mitigated through careful site design, avoidance of significant visual features, and appropriate building and landscape standards. The Proposed Project's incremental contribution to the Related Project's significant impact with respect to change in visual character would be cumulatively considerable. No mitigation is feasible to reduce the significant impact and impacts would be cumulatively considerable and unavoidable due to the permanent change in character of the project site and Related Project's sites. The project incremental contribution to light and glare would not be considerable and would be less than significant with recommended mitigation measures.

V. ENVIRONMENTAL IMPACT ANALYSIS

C. AIR QUALITY

ENVIRONMENTAL SETTING

Air Quality Background

The City of Santa Clarita is located within the South Coast Air Basin (Basin); named so because its geographical formation is that of a basin, with the surrounding mountains trapping the air and its pollutants in the valleys or basins below. This area includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality within the Basin is primarily influenced by a wide range of emissions sources—such as dense population centers, heavy vehicular traffic, and industry—and meteorology.

Air pollutant emissions within the Basin are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at an identified location and are usually associated with manufacturing and industry. Examples are boilers or combustion equipment that produces electricity or generates heat. Area sources are widely distributed and produce many small emissions. Examples of area sources include residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products such as barbeque lighter fluid and hair spray. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, racecars, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

Both the federal and State governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health and welfare. These pollutants are referred to as “criteria air pollutants” as a result of the specific standards, or criteria, that have been adopted for them. The national and State standards have been set at levels considered safe to protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. The national and State criteria pollutants and the applicable standards are listed in Appendix V.C of this EIR.

The criteria air pollutants which are most relevant to current air quality planning and regulation in the Basin include ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), respirable particulate matter

(PM₁₀), fine particulate matter (PM_{2.5}), and sulfur dioxide (SO₂), and lead. In addition, toxic air contaminants are of concern in the Basin. Each of these is briefly described below.

- *Ozone* is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_x)—both byproducts of internal combustion engine exhaust—undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable.
- *Carbon Monoxide* is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during the winter morning, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines—unlike ozone—and motor vehicles operating at slow speeds are the primary source of CO in the Basin, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.
- *Respirable Particulate Matter (PM₁₀) and Fine Particulate Matter (PM_{2.5})* consists of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.
- *Nitrogen dioxide* is byproduct of fuel combustion. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), which reacts quickly to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ absorbs blue light and result is a brownish-red cast to the atmosphere and reduced visibility. NO₂ also contributes to the formation of PM₁₀.
- *Sulfur dioxide* is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries.
- *Lead* occurs in the atmosphere as particulate matter. The combustion of leaded gasoline used to be the primary source of airborne lead in the Basin, although the use of leaded gasoline is no longer permitted for on-road motor vehicles. Today the primary sources of airborne lead pollution include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters.
- *Toxic Air Contaminants* refer to a diverse group of “non-criteria” air pollutants that can affect human health, but have not had ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above, but because their effects tend to be local rather than regional. There are hundreds of toxic air contaminants and exposure to these pollutants can cause or contribute to cancer, birth defects, genetic damage, and other adverse health effects.

Regulatory Setting

Air quality within the Basin is addressed through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for regulating and improving the air quality within the Basin are discussed below.

Federal

The U.S. Environmental Protection Agency (U.S. EPA) is responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The U.S. EPA also has jurisdiction over emissions sources outside state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California.

As part of its enforcement responsibilities, the U.S. EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

State

The California Air Resources Board (ARB), a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, the ARB conducts research, sets California Ambient Air Quality Standards, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The ARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

Regional

The South Coast Air Quality Management District (SCAQMD) is the agency principally responsible for comprehensive air pollution control in the Basin. To that end, the SCAQMD, a regional agency, works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments, and cooperates actively with all State and federal government agencies. The SCAQMD develops rules and regulations, establishes permitting requirements, inspects

emissions sources, and provides regulatory enforcement through such measures as educational programs or fines, when necessary.

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources to meet federal and State ambient air quality standards. It has responded to this requirement by preparing a series of Air Quality Management Plans (AQMPs). The most recent of these was adopted by the Governing Board of the SCAQMD on August 1, 2003. This AQMP, referred to as the 2003 AQMP, was prepared to comply with the federal and State Clean Air Acts and amendments, to accommodate growth, to reduce the high levels of pollutants in the Basin, to meet federal and State air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. The 2003 AQMP identifies the control measures that will be implemented over a 20-year horizon to reduce major sources of pollutants. Implementation of control measures established in the previous AQMPs has substantially decreased the population's exposure to unhealthy levels of pollutants, even while substantial population growth has occurred within the Basin. As discussed on page 2-7 of the 2003 AQMP, level of ambient pollutants monitored in the Basin have decreased substantially since 1980.

The future air quality levels projected in the 2003 AQMP are based on several assumptions. For example, the SCAQMD assumes that general new development within the Basin will occur in accordance with population growth and transportation projections identified by SCAG in its most current version of the Regional Comprehensive Plan and Guide (RCPG), which was adopted in March 1996. The 2003 AQMP also assumes that general development projects will include strategies (mitigation measures) to reduce emissions generated during construction and operation in accordance with SCAQMD and local jurisdiction regulations which are designed to address air quality impacts and pollution control measures.

Although the SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate the air quality issues associated with plans and new development projects within the Basin. Instead, the SCAQMD has prepared the *CEQA Air Quality Handbook* to assist Lead Agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects and plans proposed in the Basin.

Local

Local jurisdictions, such as the City of Santa Clarita, have the authority and responsibility to reduce air pollution through its police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City of Santa Clarita is also responsible for the implementation of transportation control measures as outlined in the AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. The City has responded to this responsibility by adopting an Air Quality

Element to its General Plan. The Air Quality Element of the City of Santa Clarita General Plan establishes goals and policies that would help to reduce regional air pollutant emissions through physical improvements, action programs, and educational programs.

In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation. The City utilizes the *CEQA Air Quality Handbook* as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

Existing Regional Air Quality

Ambient air quality is determined primarily by the type and amount of pollutants emitted into the atmosphere, as well as the size, topography, and meteorological conditions of a geographic area. The Basin has low mixing heights and light winds, which are conducive to the accumulation of air pollutants. The average daily emissions inventory for the entire Basin and the Los Angeles County portion of the Basin is summarized in Table V.C-1. As shown, exhaust emissions from mobile sources generate the majority of VOC, CO, NO_x, and SO_x in the Basin and the Los Angeles County portion of the Basin. Area-wide sources generate the most airborne particulates (i.e., PM₁₀ and PM_{2.5}).

Table V.C-1
2003 Estimated Average Daily Emissions

Emissions Source	Emissions in Tons Per Day					
	VOC	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}
South Coast Air Basin						
Stationary Sources	150.9	73.1	71.8	24.9	15.5	12.8
Area-Wide Sources	173.8	156.1	31.8	0.4	235.1	61.2
Mobile Sources	479.6	4,217.9	941.3	37.6	39.9	31.5
Natural (non-anthropogenic) Sources	3.1	89.0	4.1	--	17.5	15.5
Total Emissions	807.4	4,536.0	1,048.9	62.9	307.9	121.1
Los Angeles County – South Coast Air Basin						
Stationary Sources	94.0	55.6	48.6	23.3	10.8	9.2
Area-Wide Sources	101.1	81.4	19.3	0.2	108.0	29.0
Mobile Sources	285.7	2,547.7	562.3	28.4	22.5	17.7
Natural (non-anthropogenic) Sources	1.5	43.5	2.0	--	8.5	7.6
Total Emissions	482.3	2,728.1	632.1	52.0	149.8	63.5

Source: California Air Resources Board, November 2004.

Measurements of ambient concentrations of the criteria pollutants are used by the U.S. EPA and the ARB to assess and classify the air quality of each regional air basin, county, or, in some cases, a

specific urbanized area. The classification is determined by comparing actual monitoring data with national and State standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in “attainment” for that pollutant. If the pollutant concentration meets or exceeds the standard (depending on the specific standard for the individual pollutants), the area is classified as a “nonattainment” area.¹ If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.”

The U.S. EPA and the ARB use different standards for determining whether the Basin is in attainment. Under national standards, a large portion of the Basin is currently classified as an extreme nonattainment area for 1-hour ozone concentrations, a serious nonattainment area for PM₁₀, and a nonattainment area for PM_{2.5}. The Basin is also among the few areas in the nation that is still classified as a serious nonattainment area for CO. However, the Basin reached attainment of national standards in 2002 and levels of CO have continued to be low. This has allowed the SCAQMD to demonstrate attainment and, in March 2005, formally request redesignation as an attainment area. The U.S. EPA has 18 months to process the SCAQMD’s request. Los Angeles County is also classified as a Severe 17 nonattainment area for 8-hour ozone concentrations. This means that ambient 8-hour ozone concentrations throughout the County are not expected to be met for more than 17 years. The Basin is in attainment or designated as unclassified for all other pollutants under national standards.

Under State standards, the Basin is designated as a nonattainment area for ozone, CO (Los Angeles County only), PM₁₀, and PM_{2.5}, and an attainment area for all other pollutants.

Existing Local Air Quality

The SCAQMD monitors ambient air pollutant concentrations through a series of monitoring stations located throughout the Basin. In doing so, the SCAQMD has divided the region into 27 source receptor areas (SRAs) in which 31 monitoring stations operate. The City of Santa Clarita is located within SRA

¹ *National Ambient Air Quality Standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average above the standard is less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.*

California Ambient Air Quality Standards for ozone, CO, SO₂ (1- and 24-hour), NO₂, PM₁₀, PM_{2.5}, and visibility reducing particles are values that are not to be exceeded. Standards for all other pollutants are not to be equaled or exceeded.

13, which covers the entire Santa Clarita Valley. Ambient air pollutant concentrations within SRA 13 are monitored approximately four miles west of the Proposed Project site at 12th Street and Placerita Canyon Road. Table V.C-2 identifies the national and state ambient air quality standards for relevant air pollutants along with the ambient pollutant concentrations that have been measured in SRA 13 through the period of 2002 to 2004.

Table V.C-2
Summary of Ambient Air Quality in the Project Vicinity

Emissions Source	Year		
	2002	2003	2004
Ozone			
Maximum 1-hour concentration measured	0.169 ppm	0.194 ppm	0.158 ppm
Days exceeding national 0.12 ppm 1-hour standard	32	35	13
Days exceeding state 0.09 ppm 1-hour standard	81	89	69
Maximum 8-hour concentration	0.144 ppm	0.152 ppm	0.133 ppm
Days exceeding national 0.08 ppm 8-hour standard	52	69	52
Respirable Particulate Matter (PM₁₀)			
Maximum 24-hour concentration measured	61.0 µg/m ³	72.0 µg/m ³	36.0 µg/m ³
Days exceeding national 150 µg/m ³ 24-hour standard	0	0	0
Days exceeding State 50 µg/m ³ 24-hour standard	7	10	0
Carbon Monoxide (CO)			
Maximum 8-hour concentration measured	1.74 ppm	1.74 ppm	3.70 ppm
Days exceeding national & state 9.0 ppm 8-hour standard	0	0	0
Nitrogen Dioxide (NO₂)			
Maximum 1-hour concentration measured	0.086 ppm	0.120 ppm	0.090 ppm
Days exceeding State 0.25 ppm 1-hour standard	0	0	0
AAM	0.019 ppm	0.021 ppm	0.021 ppm
Does measured AAM exceed national 0.0534 ppm AAM standard?	No	No	No
Note: ppm = parts per million by volume µg/m ³ = micrograms per cubic meter AAM = annual arithmetic mean			
Source: California Air Resources Board, November 2004.			

Pollutants from emissions sources outside of the Santa Clarita Valley have traditionally been the primary source of the area's high ozone concentrations. With the growth in population in the area over

the past decade-and-a-half, and the associated increase in automobile traffic, much of these emissions are now generated locally.²

Existing land-uses surrounding the project site include single-family residences, mobile homes, industrial uses, commercial uses, and undeveloped lands. An existing single-family residential community is located immediately to the east of the project site. Directly south of the project site, mixed commercial and light industrial uses, and mobile home parks line the north side of Soledad Canyon between Gladding Way and Whites Canyon Road. Air pollutant emissions are generated in the local vicinity by stationary and area-wide sources, such as space and water heating, landscape maintenance from leaf blowers and lawn mowers, consumer products, and mobile sources, primarily automobile traffic. Motor vehicles and ships are the primary source of pollutants in the local vicinity.

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed national and/or state standards for CO are termed CO "hotspots." The SCAQMD considers CO as a localized problem requiring additional analysis when a project is likely to subject sensitive receptors to CO hotspots. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be sensitive receptors to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential uses are considered sensitive because people in residential areas are often at home for extended periods of time, so they could be exposed to pollutants for extended periods. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on the human respiratory function.

The SCAQMD recommends the use of CALINE4, a dispersion model for predicting CO concentrations, as the preferred method of estimating localized pollutant concentrations at sensitive receptors near congested roadways and intersections. For each intersection analyzed, CALINE4 adds roadway-specific CO emissions calculated from peak-hour turning volumes to ambient CO air concentrations. For this analysis, localized CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District and accepted by the SCAQMD. The simplified procedure is intended as a screening analysis, which identifies a potential CO hotspot. This methodology assumes worst-case conditions and provides a

² *Air Quality Element of the Santa Clarita General Plan, May 23, 2000, p. AQ-10.*

screening of maximum, worst-case CO concentrations. However, the emission factors used in the analysis have been updated to EMFAC2002 by the EIR consultant.³

Maximum existing 8-hour CO concentrations for the intersections included in the project traffic impact analysis that have sensitive receptors in close proximity and would be most affected by the traffic generated by the Proposed Project and cumulative development. The results of these calculations are presented in Table V.C-3 for representative receptor locations at 25, 50, and 100 feet from each roadway. The national 1-hour ambient air quality standard is 35.0 ppm and the State 1-hour ambient air quality standard is 20.0 ppm. The 8-hour national and state ambient air quality standard is 9.0 ppm.

**Table V.C-3
Existing Localized Carbon Monoxide Concentrations**

Intersection	CO Concentrations in Parts Per Million					
	25 Feet		50 Feet		100 Feet	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
Valencia Boulevard & Magic Mountain Parkway	8.1	4.9	7.7	4.7	7.3	4.4
Sierra Highway & Golden Valley Road	7.6	4.6	7.3	4.4	7.0	4.2
Whites Canyon Road & Soledad Canyon Road	9.5	5.7	8.9	5.4	8.1	4.9
<i>Note: National 1-hour standard is 35.0 ppm State 1-hour standard is 20.0 ppm National and State standard is 9.0 ppm</i>						
<i>Source: Christopher A. Joseph & Associates, March 2005. Calculation sheets are provided in Appendix V.C. Based on year 2004 EMFAC2002 emission factors.</i>						

As shown in Table V.C-3, under worst-case conditions, existing CO concentrations near all of the study-area intersections do not exceed national or State ambient air quality standards. Therefore, CO hotspots do not exist near these intersections.

Existing Project Site Emissions

The Proposed Project site is currently undeveloped and does not support uses that generate emissions on a regular basis. Any air pollutant emissions currently generated at the project site are generally associated with motorcycle activity and occasional DWP facility maintenance vehicles.

¹ The emission factors used in the SCAQMD's localized CO screening procedure are based on EMFAC7G, which is out of date by several years and has been superseded by newer emission factor models, the current version of which is EMFAC2002.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, a project may be deemed to have a significant adverse air quality impact if it would:

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

The thresholds discussed below are currently recommended by the SCAQMD in the *CEQA Air Quality Handbook* to translate the State CEQA Guidelines thresholds into numerical values or performance standards. As discussed previously in this EIR section, the City utilizes the *CEQA Air Quality Handbook* as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

Consistency with the Applicable AQMP

For general development projects, the SCAQMD recommends that consistency with the current AQMP be determined by comparing the population generated by the project to the population projections used in the development of the AQMP. Exceeding the AQMP population projections could jeopardize attainment of the air quality conditions projected in the AQMP and is considered to be a significant impact.

Violation of Air Quality Standards or Substantial Contribution to Air Quality Violations

Construction Period Emissions – Daily Emissions of CO, VOC, NO_x, SO_x, and PM₁₀

The SCAQMD currently recommends that projects with construction-related emissions that exceed any of the following emissions thresholds should be considered significant:

- 550 pounds per day of CO
- 75 pounds per day of VOC
- 100 pounds per day of NO_x

- 150 pounds per day of SO_x
- 150 pounds per day of PM₁₀

The SCAQMD also recommends that any construction-related emissions from individual development projects that exceed these thresholds be considered cumulatively considerable. These thresholds apply to individual development projects only; they do not apply to the combined emissions generated by a set of cumulative development projects.

Operational Emissions – Daily Emissions of CO, VOC, NO_x, SO_x, and PM₁₀

The SCAQMD currently recommends that projects with operational emissions that exceed any of the following emissions thresholds should be considered significant:

- 550 pounds per day of CO
- 55 pounds per day of VOC
- 55 pounds per day of NO_x
- 150 pounds per day of SO_x
- 150 pounds per day of PM₁₀

The SCAQMD also recommends that any operational emissions from individual projects that exceed these thresholds be considered cumulatively considerable. These thresholds apply to individual development projects only; they do not apply to the combined emissions generated by a set of cumulative development projects.

Cumulatively Considerable Net Increase of Criteria Pollutants

The SCAQMD's *CEQA Air Quality Handbook* identifies several methods to determine the cumulative significance of land use projects (i.e., whether the contribution of a project is cumulatively considerable). However, the SCAQMD no longer recommends the use of these methodologies. Instead, the SCAQMD recommends that any construction-related emissions and operational emissions from individual development projects that exceed the project-specific daily emissions thresholds identified above also be considered cumulatively considerable. The SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess the impacts associated with these emissions.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Localized CO Concentrations

The SCAQMD currently recommends that impacts to sensitive receptors be considered significant when localized CO concentrations at sensitive receptors located near congested intersections exceed the

national or State ambient air quality standards and the traffic generated by the project contributes at least 1.0 ppm to the 1-hour concentrations or 0.45 ppm to the 8-hour concentrations. These thresholds would also apply to the contribution of emissions associated with cumulative development.

Toxic Air Contaminants

The SCAQMD also recommends that projects that could emit carcinogenic or toxic air contaminants that exceed the maximum individual cancer risk of 10 in one million be considered significant and cumulatively considerable.

Project Impacts

Consistency with the 2003 AQMP

The 2003 AQMP, discussed previously, was prepared to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, to return clean air to the region, and to minimize the impact of pollution control on the economy. Projects that are considered to be consistent with the AQMP would not interfere with attainment because this growth is included in the projections utilized in the formulation of the AQMP. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended daily emissions thresholds.

Projects that are consistent with the projections of employment and population forecasts identified in the Growth Management Chapter of the RCPG are considered consistent with the AQMP growth projections, since the Growth Management Chapter forms the basis of the land use and transportation control portions of the AQMP.

As discussed in Section V.L. Population and Housing, SCAG estimates that population within the Santa Clarita Valley will increase from 213,178 persons in 2000 to 313,290 persons by 2020. The number of jobs within the City of Santa Clarita is expected to increase from 49,612 in 2000 to 64,012 in 2020. Section V.L Population and Housing concludes that implementation of the Proposed Project would not directly or indirectly induce substantial population or employment growth beyond current growth projections established by SCAG for the Santa Clarita Valley and City of Santa Clarita. Because, the Proposed Project would be consistent with the AQMP employment forecasts for the City of Santa Clarita and the Santa Clarita Valley, and it would not jeopardize attainment of State and national ambient air quality standards in the Basin and the Los Angeles County portion of the Basin.

Another measurement tool in determining consistency with the AQMP is to determine how a project accommodates the expected increase in population or employment. Generally, if a project is planned in a way that results in the minimization of vehicle miles traveled (VMT) both within the project site and

the community in which it is located, thus minimizing air pollutant emissions, that aspect of the project is consistent with the AQMP.

All of the proposed streets within the project site would include wide sidewalks (at least five feet wide) with some shade tree coverage that would encourage pedestrian activity. The proposed extension of Golden Valley Road would also include a class 1 bike trail that would connect with the existing (along Soledad Canyon Road) and planned (along the planned extension of Newhall Ranch Road) bicycle network in the project vicinity. Several pedestrian and bicycle trails are also proposed within the project site and along the Santa Clara River. The proposed junior high school and YMCA lots would be located within walking distance for project residents. A transit stop with bench is also proposed along Golden Valley Road. All of these features are consistent with the goals of the AQMP for reducing the emissions associated with new development. They are also consistent with the goals and policies adopted by the City in the Air Quality Element of the City of Santa Clarita General Plan.

In addition to these project characteristics, the future environment around the Proposed Project site would provide amenities that would help to encourage non-motor vehicle transportation by future residents, students, and employees of the project and surrounding land uses. These amenities include the following:

- Sidewalks and walking paths to most destinations in the surrounding area;
- Shade trees that provide moderate coverage of the sidewalks and pedestrian paths;
- Most destinations within the vicinity accessible by pedestrians (such as commercial uses along Soledad Canyon Road);
- A moderate number of visually interesting uses that encourage pedestrian activity (such as nearby hills and mountains);
- Most streets have enhanced safety for pedestrians (e.g., separations between streets and pedestrian paths);
- A moderate degree of pedestrian safety from crime;
- A moderate level of visually interesting walking paths;
- Moderate coverage of interconnected bikeways;
- Bicycle routes to most major destinations have paved shoulders to provide increased safety;
- Safe speed limits of 30 mph or less along some bicycle routes;
- A moderate number and variety of visually interesting uses that encourage bicycle activity; and
- A parking ordinance that requires unprotected bike racks at new commercial uses.

Based on this information, the Proposed Project would not jeopardize attainment of air quality standards in the 2003 AQMP for the Basin and the Los Angeles County portion of the Basin, and this impact would be less than significant.

Construction Period Emissions – Daily Emissions of CO, VOC, NOx, SOx, and PM₁₀

During construction, three basic types of activities would be expected to occur and generate emissions. First, the development areas would be cleared and graded to accommodate the proposed lot areas, building foundations, and roadways. Second, the roadways and utilities would be installed. Finally, the new buildings would be constructed and readied for use.

The estimated construction schedule is as follows:

- Grading: May 2007 to November 2007
- Roads and utilities: December 2007 to April 2008
- Junior high school and YMCA construction: May 2008 to April 2009
- First phase of single-family and multi-family construction: May 2008 to October 2008
- Second phase of single-family and multi-family construction: November 2008 to April 2009
- Third phase of single-family and multi-family construction: May 2009 to October 2009

Because of the construction time frame and the normal day-to-day variability in construction activities, it is difficult, if not impossible, to precisely quantify the daily emissions associated with each phase of the proposed construction activities. Nonetheless, the daily emissions that are estimated to occur on peak construction days for each of the estimated building phases have been estimated utilizing the URBEMIS 2002 computer model recommended by the SCAQMD. The results of the analysis are presented in Table V.C-4. The amount of PM₁₀ generated during the site grading phase would average approximately 4,116.33 pounds per day without any controls. However, calculations shown in Table V.C-4 assume that dust control measures would be implemented during each phase of development as required by SCAQMD Rule 403—Fugitive Dust. The Rule 403 dust control measures are estimated by the URBEMIS 2002 model to reduce site grading PM₁₀ emissions by approximately 90.8 percent to 365.75 pounds per day.

**Table V.C-4
Estimated Daily Construction Emissions**

Emissions Source	Emissions in Pounds per Day				
	VOC	NO _x	CO	SO _x	PM ₁₀
Site Grading Phase					
Fugitive Dust	--	--	--	--	365.73
Off-Road Diesel Equipment	51.48	342.89	420.96	--	14.59
Worker Trips	0.38	0.46	9.05	0.01	0.03
Total Emissions	51.86	343.35	430.01	0.01	365.75
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00
Significant Impact?	No	Yes	No	No	Yes
Roads and Utilities Construction Phase					
Off-Road Diesel Equipment	8.18	51.27	67.93	--	1.82
Construction Worker Trips	0.07	0.12	1.42	0.00	0.00
Asphalt Off-Gas	0.25	--	--	--	--
Asphalt Off-Road Diesel Equipment	4.79	28.00	40.76	--	0.81
Asphalt On-Road Diesel Equipment	0.05	0.91	0.18	0.00	0.02
Asphalt Worker Trips	0.03	0.02	0.38	0.00	0.01
Total Emissions	13.38	80.32	110.67	0.00	2.67
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00
Significant Impact?	No	No	No	No	No
School, YMCA, and First and Second Phase Residential Construction					
Building Construction Off-Road Diesel Equipment	22.41	149.49	180.52	--	5.94
Building Construction Worker Trips	4.77	5.92	116.94	0.08	0.53
Architectural Coatings Off-Gas	66.56 ^a	--	--	--	--
Architectural Coatings Worker Trips	1.50	0.81	18.11	0.00	0.35
Asphalt Off-Gas	0.71	--	--	--	--
Asphalt Off-Road Diesel Equipment	6.90	41.47	58.19	--	1.30
Asphalt On-Road Diesel Equipment	0.13	1.93	0.47	0.01	0.05
Asphalt Worker Trips	0.03	0.01	0.35	0.00	0.01
Total Emissions	102.84	199.42	374.57	0.09	8.18
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00
Significant Impact?	Yes	Yes	No	No	No
Third Phase Residential Construction					
Building Construction Off-Road Diesel Equipment	12.77	87.65	100.77	--	3.44
Building Construction Worker Trips	2.04	2.49	49.20	0.03	0.22
Architectural Coatings Off-Gas	24.96 ^b	--	--	--	--
Architectural Coatings Worker Trips	0.68	0.36	8.16	0.00	0.15
Asphalt Off-Gas	0.12	--	--	--	--
Asphalt Off-Road Diesel Equipment	2.62	15.33	22.25	--	0.45
Asphalt On-Road Diesel Equipment	0.02	0.43	0.08	0.00	0.01

Table V.C-4
Estimated Daily Construction Emissions

Emissions Source	Emissions in Pounds per Day				
	VOC	NO _x	CO	SO _x	PM ₁₀
Asphalt Worker Trips	0.02	0.01	0.25	0.00	0.00
Total Emissions	43.23	106.27	180.27	0.03	4.27
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00
Significant Impact?	No	Yes	No	No	No
<i>Note: Subtotals may not appear to add correctly due to rounding in the URBEMIS 2002 model.</i> ^a <i>Calculated assuming that up to 32 gallons of paint would be used per day (20 gallons at the school and YMCA and 12 at residential) and that each gallon of paint would generate 2.08 pounds of VOC per gallon of paint in accordance with SCAQMD Rule 1113.</i> ^b <i>Calculated assuming that up to 12 gallons of paint would be used per day and that each gallon of paint would generate 2.08 pounds of VOC per gallon of paint in accordance with SCAQMD Rule 1113.</i>					
<i>Source: Christopher A. Joseph & Associates, March 2005. Calculation sheets are provided in Appendix V.C.</i>					

As shown, construction-related daily emissions would exceed SCAQMD significance thresholds for NO_x and PM₁₀ during the site grading phase, VOC and NO_x during the peak construction phase when the school, YMCA, and first two residential phases are constructed, and NO_x during the third residential development phase. Therefore, this impact would be significant.

Operational Emissions – Daily Emissions of CO, VOC, NO_x, SO_x, and PM₁₀

Operational emissions generated by both stationary and mobile sources would result from normal day-to-day activities on the project site after occupation. Stationary area source emissions would be generated by the consumption of natural gas for space and water heating devices and cooking appliances, the operation of landscape maintenance equipment, and the use of consumer products. Mobile emissions would be generated by the motor vehicles traveling to and from the project site. During the wintertime, emissions would also be generated by the use of wood-burning fireplaces. According to an article in the Los Angeles Times on January 27, 2005, SCAQMD staff indicate that of the homes that enjoy wood fires each year, 90% of those households burn about 50 pounds of wood annually, while the remaining 10% burn more than 800 pounds per year.

The analysis of daily operational emissions has been prepared utilizing the URBEMIS 2002 computer model recommended by the SCAQMD. The results of these calculations are presented in Table V.C-5. As shown, the Proposed Project would generate daily emissions that exceed the thresholds of significance for VOC, NO_x, and CO recommended by the SCAQMD during both the summertime smog season and wintertime non-smog season. This is a significant impact.

**Table V.C-5
Estimated Daily Operational Emissions**

Emissions Source	Emissions in Pounds per Day				
	VOC	NO _x	CO	SO _x	PM ₁₀
Summertime (Smog Season) Emissions					
Water and Space Heating and Cooking Appliances	0.72	9.48	3.99	--	0.02
Landscape Maintenance Equipment	0.23	0.03	1.97	0.02	0.00
Consumer Products	47.90	--	--	--	--
Motor Vehicles	98.20	54.00	784.09	0.49	79.00
Total Emissions	147.05	63.51	790.04	0.51	79.02
SCAQMD Thresholds	55.00	55.00	550.00	150.00	150.00
Significant Impact?	Yes	Yes	Yes	No	No
Wintertime (Non-Smog Season) Emissions					
Water and Space Heating and Cooking Appliances	0.72	9.48	3.99	--	0.02
Fireplaces	167.00	1.90	184.22	0.29	25.23
Consumer Products	47.90	--	--	--	--
Motor Vehicles	66.84	71.97	685.81	0.39	79.00
Total Emissions	282.46	83.34	874.01	0.68	104.25
SCAQMD Thresholds	55.00	55.00	550.00	150.00	150.00
Significant Impact?	Yes	Yes	Yes	No	No
<i>Note: Subtotals may not appear to add correctly due to rounding in the URBEMIS 2002 model.</i>					
<i>Source: Christopher A. Joseph & Associates, March 2005. Calculation sheets are provided in Appendix V.C.</i>					

Operational Emissions – Localized CO Concentrations

The localized CO concentration impacts associated with the Proposed Project have been evaluated with the addition of traffic growth associated with cumulative development.

As was done to assess existing CO concentrations, the simplified CALINE4 screening procedure was used to predict future CO concentrations at the study-area intersections in the vicinity of the project site under the Interim Year (2015 with cumulative development projects) traffic scenario from Section V.O. Transportation. The results of these calculations are provided in Table V.C-6. The national 1-hour ambient air quality standard is 35.0 ppm and the State 1-hour ambient air quality standard is 20.0 ppm. The 8-hour national and state ambient air quality standard is 9.0 ppm.

**Table V.C-6
Predicted Future Localized Carbon Monoxide Concentrations**

Intersection	CO Concentrations in Parts Per Million					
	25 Feet		50 Feet		100 Feet	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
Valencia Boulevard & Magic Mountain Parkway	6.7	3.6	6.4	3.4	6.1	3.2
Sierra Highway & Golden Valley Road	7.1	3.8	6.7	3.6	6.2	3.3
Whites Canyon Road & Soledad Canyon Road	6.9	3.7	6.6	3.5	6.2	3.3
Valley Center & Soledad Canyon Road	6.1	3.2	5.9	3.1	5.7	2.9
Golden Valley Road & "I" Street (on site)	5.8	3.0	5.6	2.9	5.5	2.8
<i>Note: National 1-hour standard is 35.0 ppm State 1-hour standard is 20.0 ppm National and State standard is 9.0 ppm</i>						
<i>Source: Christopher A. Joseph & Associates, March 2005. Calculation sheets are provided in Appendix V.C. Based on year 2015 EMFAC2002 emission factors.</i>						

As shown, future CO concentrations near these intersections would not exceed the national and State ambient air quality standards for CO. Therefore, implementation of the Proposed Project and cumulative development would not expose any sensitive receptors located in close proximity to these intersections to substantial localized pollutant concentrations. This would be a less-than-significant impact regarding the exposure sensitive receptors to substantial pollutant concentrations.

Operational Emissions – Toxic Air Contaminants

Diesel particulate emissions, a known toxic air contaminant, would occur from trucks picking up garbage and recyclable materials, and making deliveries to the project site. To address diesel particulate emissions, statewide programs and regulations are presently being developed and implemented by the ARB and U.S. EPA to reduce the risks of exposure to diesel exhaust. These programs include emission control requirements along with subsidies for upgrading older diesel engines to low-emissions models. In light of the available information, the effects of the toxic emissions from future vehicle operations at the project site are not expected to be substantial.

Toxic or carcinogenic air pollutants are not expected to occur in any meaningful amounts in conjunction with operation of the proposed land uses at the project site. Only small quantities of common forms of hazardous or toxic substances, such as cleaning agents, which are typically used or stored in conjunction with residential and educational uses, would be present. Most uses of such substances would occur indoors. Based on the common uses expected on the site, any emission would be minor.

This would be a less-than-significant impact regarding the exposure sensitive receptors to substantial pollutant concentrations.

Operational Emissions – Airborne Odors

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source, the wind speeds and direction, and the sensitivity of the receiving location each contribute to the intensity of the impact. While offensive odors rarely cause any physical harm, they can be unpleasant and cause distress among the public and generate citizen complaints.

Odors are typically associated with the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes. The Proposed Project would include residential and institutional uses, and would not contain any of the above-listed odor producing uses. Instead potential operational airborne odors could result from cooking activities associated with the new residential units and school. These odors would be minimal, if noticeable at all; would be similar to existing residential uses in the local vicinity; and would be confined to the immediate vicinity of the new buildings. Therefore, implementation of the Proposed Project is not expected to create objectionable odors affecting a substantial number of people. This is a less-than-significant impact.

CUMULATIVE IMPACTS

Cumulative development is not expected to result in a significant impact in terms of conflicting with, or obstructing implementation of, the 2003 AQMP. The 2003 AQMP was prepared to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, to return clean air to the region, and to minimize the impact on the economy. Growth considered to be consistent with the 2003 AQMP would not interfere with attainment because this growth is included in the projections utilized in the formulation of the AQMP. Consequently, as long as growth in the Basin is within the projections for growth identified in the Growth Management Chapter of the RCPG, implementation of the 2003 AQMP will not be obstructed by such growth. As growth in the City of Santa Clarita and Santa Clarita Valley has not exceeded these projections, this impact would not be significant. Additionally, since the Proposed Project is consistent with growth projections under the RCPG, and because of the trip-reducing characteristics of the project, the project would not have a cumulatively considerable contribution to this impact regarding conflict with or obstruction of the implementation of the applicable air quality plan. This is a less-than significant cumulative impact.

Because the Basin is currently in nonattainment for ozone, CO, and PM₁₀, related projects could exceed an air quality standard or contribute a substantial increase to an existing or projected air quality exceedance. With regard to cumulative air quality impacts, the SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess these emissions. Instead, the SCAQMD recommends that a project's potential contribution to cumulative impacts should be assessed utilizing the same significance criteria as those for project specific impacts. As discussed previously, construction related

daily emissions associated with project development would exceed SCAQMD significance thresholds for NO_x and PM₁₀ during the site grading phase, VOC and NO_x during the peak construction phase when the school, YMCA, and first two residential phases are constructed, and NO_x during the third residential development phase. Therefore, the emissions generated by project construction would be cumulatively considerable and significant. Operation of the Proposed Project would also generate operational emissions of VOC, NO_x, and CO that exceed the SCAQMD's recommended thresholds. These emissions would, therefore, also be cumulatively considerable and significant.

With regard to operations of future development resulting in the exposure of sensitive receptors to substantial toxic pollutant concentrations, it is not expected that there would be a cumulatively significant impact. Cumulative development expected in the area around the Proposed Project site is expected to mainly consist of residential and commercial uses, which do not result in toxic emissions at levels that can be considered substantial. In addition, regulations and laws relating to toxic air pollutants will also protect sensitive receptors from substantial concentrations. Consequently, it is expected that future operations would result in a less-than-significant cumulative impact. Based on the discussion in this section, the contribution of the Proposed Project would not be cumulatively considerable.

Cumulative development would not have a significant impact in terms of the creation of objectionable odors affecting a substantial number of people. Projects projected to be built in the vicinity of the Proposed Project site include residential and commercial developments. The odors would be similar to existing residential uses in the vicinity and would be confined to the immediate vicinity of the new buildings. As analyzed above in this section, the project's contribution to odor impacts would not be cumulatively considerable.

MITIGATION MEASURES

Project Mitigation Measures

Construction

The following measures are recommended to reduce the potential emissions associated with construction activities to the maximum extent feasible.

C-1 The Applicant shall implement measures to reduce the emissions of pollutants generated by heavy-duty diesel-powered equipment operating at the project site throughout the project construction phases. The Applicant shall include in construction contracts the control measures required and recommended by the SCAQMD at the time of development. Examples of the types of measures currently required and recommended include the following:

- Keep all construction equipment in proper tune in accordance with manufacturer's specifications;
- Use late model heavy-duty diesel-powered equipment at the project site to the extent that it is readily available in the South Coast Air Basin;
- Use diesel-powered equipment that has been retrofitted with after-treatment products (e.g., engine catalysts or cooled exhaust gas recirculation technology) to the extent that it is readily available in the South Coast Air Basin;
- Use low-emission diesel fuel for all heavy-duty diesel-powered equipment operating and refueling at the project site to the extent that it is readily available and cost effective in the South Coast Air Basin (this does not apply to diesel-powered trucks traveling to and from the site);
- Utilize alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, and unleaded gasoline) to the extent that the equipment is readily available and cost effective in the South Coast Air Basin;
- Limit truck and equipment idling time to five minutes or less;
- Rely on the electricity infrastructure surrounding the construction sites rather than electrical generators powered by internal combustion engines to the extent feasible.
- The following measures are recommended to reduce the potential emissions associated with operational activities to the maximum extent feasible.

C-2 The Applicant shall include in construction contracts the following requirements or measures shown to be equally effective:

- Use solar or low-emission water heaters in the residential, school, and YMCA buildings.
- Provide energy-efficient natural gas heating and cooking equipment.
- Install ozone destruction catalyst on air conditioning systems, in consultation with the SCAQMD.
- Require that commercial landscapers providing services at the common areas of project site use electric or battery-powered equipment, or other internal combustion equipment that is either certified by the California Air Resources Board or is three years old or

less at the time of use, to the extent that such equipment is reasonably available and competitively priced in Los Angeles County.

Cumulative Mitigation Measures

Mitigation measures C-1 and C-2 would address the cumulative impacts associated with the Proposed Project.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The URBEMIS 2002 computer model has calculated the emissions reduction efficiencies of the measures recommended to reduce construction-related emissions. Specifically, the model assumes that the use of low emission diesel fuel would reduce emissions of NO_x by 14 percent and emissions of PM₁₀ by 63 percent. The use of diesel-powered equipment that has been retrofitted with after-treatment products would reduce emissions of NO_x by a further 40 percent (cooled exhaust gas recirculation) and PM₁₀ emissions by 80 percent (diesel particulate filters) to 85 percent (cooled exhaust gas recirculation). These results are presents in Table C-7. As shown, the recommended mitigation measures would reduce construction-related emissions of VOC, NO_x, CO and PM₁₀. However, the total emissions generated on peak construction days would continue to exceed the thresholds of significance recommended by the SCAQMD. Therefore, this would be a significant and unavoidable project-specific and cumulative impact.

Table V.C-7
Estimated Daily Construction Emissions With Mitigation

Emissions Source	Emissions in Pounds per Day				
	VOC	NO _x	CO	SO _x	PM ₁₀
Site Grading Phase					
Unmitigated Emissions	51.86	343.35	430.01	0.01	365.75
Mitigated Emissions	5.53	177.39	51.15	0.01	365.75
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00
Significant Impact?	No	Yes	No	No	Yes
Percent Reduction	89%	48%	88%	0%	0%
Roads and Utilities Construction Phase					
Unmitigated Emissions	13.38	80.32	110.67	0.00	2.67
Mitigated Emissions	1.70	41.96	12.85	0.00	0.06
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00
Significant Impact?	No	No	No	No	No
Percent Reduction	87%	48%	88%	0%	98%
School, YMCA, and First and Second Phase Residential Construction					
Unmitigated Emissions	102.84	199.42	374.57	0.09	8.18

Table V.C-7
Estimated Daily Construction Emissions With Mitigation

Emissions Source	Emissions in Pounds per Day				
	VOC	NO _x	CO	SO _x	PM ₁₀
Mitigated Emissions	76.46	106.99	159.74	0.09	1.02
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00
Significant Impact?	Yes	Yes	No	No	No
Percent Reduction	26%	46%	57%	0%	88%
Third Phase Residential Construction					
Unmitigated Emissions	43.23	106.27	180.27	0.03	4.27
Mitigated Emissions	29.39	56.43	69.56	0.03	0.42
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00
Significant Impact?	No	Yes	No	No	No
Percent Reduction	32%	47%	61%	0%	90%
<i>Source: Christopher A. Joseph & Associates, March 2005. Calculation sheets are provided in Appendix V.C.</i>					

The recommended mitigation measures would also reduce the average daily operational emissions associated with the Proposed Project, although the actual reduction would be minimal. The use of solar or low-emission water heaters, and heating and cooking appliances would only reduce the emissions from these sources by approximately 0.5 percent. The primary source of emissions associated with the Proposed Project is motor vehicles. No mitigation is available on a project-specific basis to reduce the number of vehicle trips to and from the project site and their associated emissions. The resulting average daily emissions would continue exceed the thresholds of significance recommended by the SCAQMD. Therefore, this would be a significant and unavoidable project-specific and cumulative impact.

V. ENVIRONMENTAL IMPACT ANALYSIS

D. BIOLOGICAL RESOURCES

INTRODUCTION

This section summarizes the following biological assessment, oak tree assessment and jurisdictional delineation reports prepared for The Keystone project:

- Biological Assessment of Vesting Tentative Tract No. 060258 and Associated Roadway Improvements, Thomas Leslie Corporation (TLC), prepared, December 30, 2003; revised, February 21, 2005; finalized, June 16, 2005.
- Oak Assessment Report for Vesting Tentative Tract No 060258 and Three Associated But Off-Site Roadway Construction Projects Located in Santa Clarita, California, TLC, January 3, 2005.
- Preliminary Jurisdictional Delineation of the Ermine Street Site/Tract 060258 (site), Santa Clarita, California, January 21, 2005.
- Results of Six 2005 California Gnatcatcher Protocol Surveys Performed on Vesting Tentative Tract No. 060258, June 8, 2005.

Biological surveys were conducted from June through October 2003; and March through April 2004 within the 245.8-acres project site. Additionally, there are three off-site roadways, totaling 4.93 acres, which include: 1) Golden Valley Road extension from the project site's western boundary to Newhall Ranch Road; 2) portion of project internal street "A" Street connecting the two project polygon areas from "I" Street to the single-family development area; and 3) the emergency only access road from the single-family development area to "I" Street. The latter two roadways connect the project site areas on both sides of the LA DWP right-of-way. For purposes of this section, the "project site" includes the offsite areas as these were fully evaluated relative to biological and regulatory resources. Biologists from Thomas Leslie Corporation (TLC) conducted general and focused biological surveys and prepared a Biological Assessment of the site¹ and an Oak Tree Assessment and a regulatory specialist from Vandermost Consulting Services, Inc. (VCS) conducted a jurisdictional delineation (JD).² The project site supports native habitats, including shrub lands and limited areas of non-native grasslands. Native communities include coastal sage scrub, chaparral, and willow riparian habitats. Non-native habitats

¹ Thomas Leslie Corporation. June 2005. *Biological Assessment of Tentative Tract No. 060258 and Associated Roadway Improvements, Santa Clarita, California*. Prepared for Synergy, Irvine California.

² Vandermost Consulting Services. Letter Report entitled "preliminary Jurisdictional Delineation of Ermine Street Site/Tract 60258 (site), Santa Clarita, California.

are dominated by non-native grassland and ruderal vegetation. No federally or state listed threatened or endangered plant or wildlife species were detected/identified onsite.

A summary of the Biological Assessment Report, Oak Tree Assessment Report and the Jurisdictional Delineation Report addresses existing conditions, potential impacts, and proposed mitigation, is set forth below. These reports are included in Appendix 3 of this Draft EIR.

INVESTIGATION METHODS

Literature Review

In order to assess information regarding historical and current species inventories (flora and fauna), vegetation communities, and to ascertain the need for focused biological surveys to detect the presence or absence of biologically sensitive species potentially occurring on or within the immediate vicinity of the project site, the 2004 update of the California Natural Diversity Data Base (CNDDDB) and CNDDDB velum overlay maps for Mint Canyon and Newhall USGS 7.5 minute quadrangle maps were reviewed. Other published data sources reviewed included: (1) the Federal Register listing package for each federally listed Endangered or Threatened species that exhibits potential for occurring on the project site or in the project vicinity; (2) literature from scientific sources pertaining to habitat requirements of special-status species potentially occurring on the project site; (3) other environmental or biological documentation of the project site or properties in the immediate vicinity, and (4) distributional information contained in Jameson and Peeters (1989) to determine the potential for common and special-status mammals to occur on the project site; Peterson (1990) for common bird occurrences; Stebbins (1985) and Jennings and Hayes (1994) for reptiles and amphibians; Munz (1974) for plant community descriptions occurring within the project vicinity; and Pavlik et al. (1991) and Roberts (1995) for oak tree references.

Sources used to determine the sensitive status of biological resources are: Plants – U.S. Fish and Wildlife Service (USFWS 2000 and 2003), CDFG (2000), CNDDDB (2004), CNPS (2001); Wildlife – USFWS (2003 and 2000), CDFG (2004), CNDDDB (2004); Habitats – USFWS (2003) and Holland (1986).

Field Surveys

Field studies focused on a number of primary objectives: (1) vegetation mapping; (2) floristic surveys for vascular plants; (3) special-status plant surveys; (4) focused surveys for the coastal California gnatcatcher (*Poliophtila californica californica*) and other special-status scrub-dependant avifauna; (5) focused surveys for special-status reptiles; (6) focused surveys special-status raptors; (7) tree surveys pursuant to the City of Santa Clarita Oak Tree Preservation Ordinance; and (8) delineation of areas subject to the jurisdiction of the Army Corps of Engineers (Corps) and the California Department of Fish and Game (CDFG). During performance of all of the above-mentioned surveys, observations of special-status status species were recorded along with general floral and faunal observations.

EXISTING CONDITIONS

The plant and wildlife resources that characterize The Keystone project site are discussed below. Those resources considered “common” are discussed first; resources considered of special-status by local, state, and /or federal resource agencies are discussed under the Special-Status Biological Resources heading of this document. The southern portion of the project site is located within the Significant Ecological Areas (SEA) #23 – Santa Clara River (ENEC, 1976). Elevations in the project site range from approximately 1,211 to 1,626 feet above sea level with topographic features such as hills and ridges, steep slopes, canyons, and small flats.

Plant communities

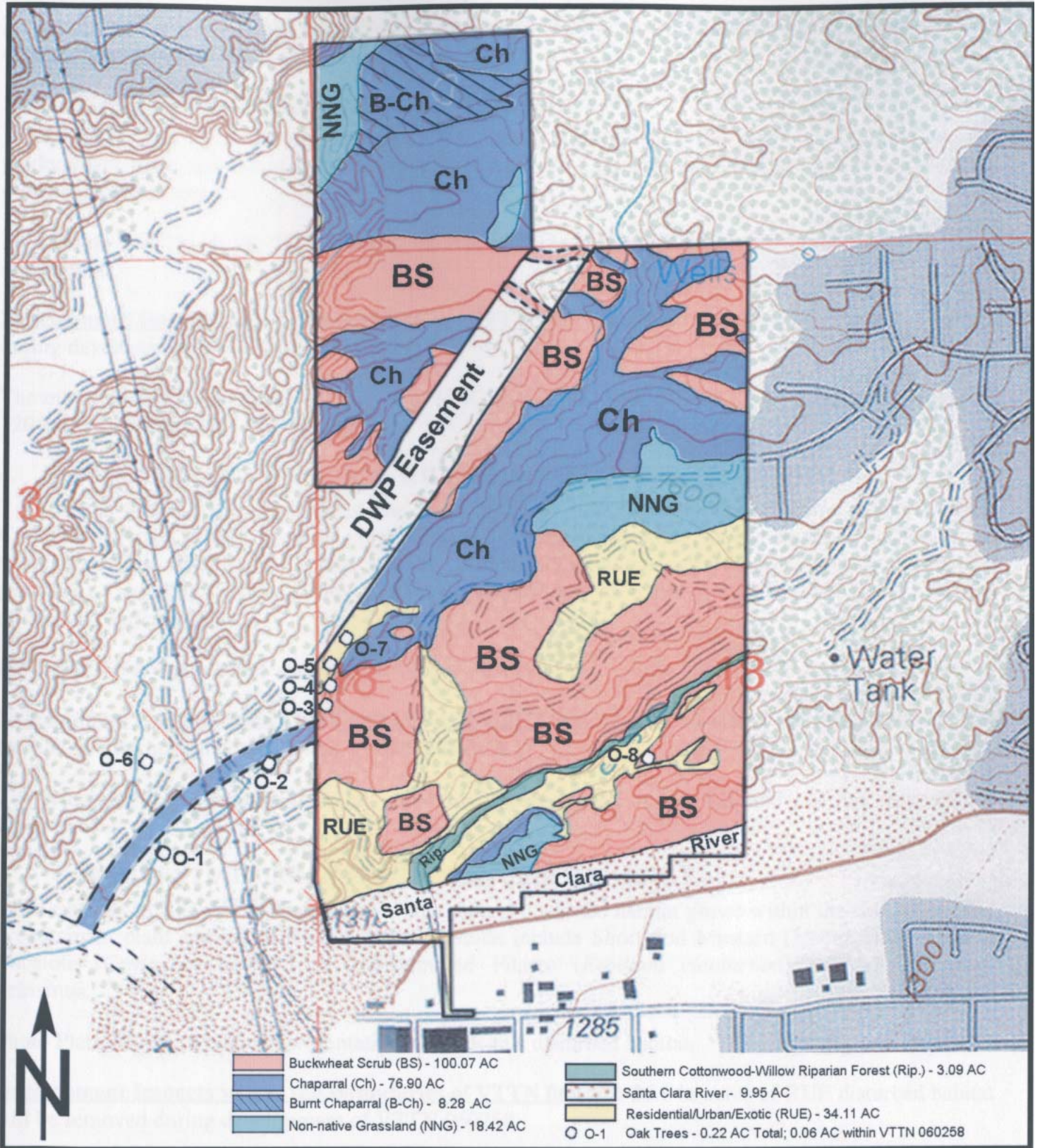
A total of seven vegetation associations were identified and characterized during the field surveys, as shown in Figure V.D-1. Plant community descriptions in this report follow Holland (1986). The plant communities are defined by their dominant species and sometimes by associate species where two habitat types may intergrade. A complete list of plant species observed on the Santa Clarita project site is provided in tabular form in Appendix B of the TLC DBA.

The seven plant communities (or types)³ present on site include the following: (1) coastal sage scrub (2) chaparral, (3) non-native grassland, (4) southern cottonwood-willow riparian forest, (5) active Wash, (6) exotic non-habitat vegetation, (7) individual oak trees. The plant communities vary in structure and quality on the site due to disturbance history and edaphic factors (i.e., topography, soil type, and aspect). Each of these communities is discussed below. Those communities that are considered of special-status by resource agencies are discussed further under the Special-Status Biological Resource heading.

Coastal Sage Scrub

This vegetation association occurs randomly across the study area. The predominant plant species are California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), California encelia (*Encelia californica*), foxtail chess (*Bromus madritensis* spp. *rubens*), Mediterranean schismus (*Schismus barbatus*) and slender wild oat (*Avena barbata*). This association totals approximately 100.07 acres (39.87 percent of the study area). [Note: Coastal Sage Scrub is denoted as Buckwheat Scrub by TLC on Figure V.D-1].

³ The oak trees occur as individuals and do not constitute oak woodland or forest and as such are treated as individual trees.



Chaparral

This habitat or vegetation association predominates in the central and northern portions of the site as well as along the proposed alignment of Golden Valley Road. Portions of this association near the northern boundary of the site have recently burned. The predominant plant species are chamise (*Adenostoma fasciculatum*) purple sage (*Salvia leucophylla*) holly-leaf cherry (*Prunus ilicifolia*) and foxtail chess. This association totals approximately 85.18 acres (34 percent of the study area).

Non-Native Grassland

This vegetation association occurs in the study area and the predominant plant species are slender wild oat, foxtail chess and fascicled tarplant. The majority of this vegetation association will remain in the natural open space. The plant association totals 18.42 acres (7.3 percent of the study area).

Southern Cottonwood-Willow Riparian Forest

This riparian vegetation association is associated with Drainage C (see VCS, 2005). This habitat occurs within the northern portion of the Santa Clara River, in the southern portion of the study area. The predominant plant species are Fremont cottonwood (*Populus fremontii*), Goodding's black willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*) and mulefat (*Baccharis salicifolia*). The riparian habitat totals 3.09 acres (1.23 percent of the study area).

Residential/Urban/Exotic Non-Habitat Vegetation

This ruderal association occurs in scattered locations of the project site. The predominant plant species are shortpod mustard (*Hirschfeldia incana*), Tocalote (*Centaurea melitensis*), red-stemmed filaree (*Erodium cicutarium*), and Mediterranean schismus. The plant association totals 34.11 acres (13.59 percent of the study area).

Wash

The Santa Clara River Wash is located along the southern limits of the project site. The Santa Clara River Wash is very sandy and contains limited vegetation along the banks. The wash includes areas which are largely unvegetated or sparsely vegetated, and covers 9.95 acres (3.96 percent of the study area).

Individual Oak Trees

An oak tree assessment was conducted in accordance to the City's Oak Tree Preservation Ordinance. Appendix 3 (B) includes the full assessment and data collected during the oak assessment field surveys. The City's Urban Forestry Division reviewed the assessment and its findings for completeness in regards to the Ordinance.

Eight oak trees are located in the project study area. Of the eight oak trees, seven are coast live oak (*Quercus agrifolia*) and one Tucker's oak (*Quercus john-tuckeri*). Five of the oak trees are located within the project site boundaries, east of the LA DWP right-of-way. Three oak trees are located outside the project boundaries in the vicinity of the future alignment of Golden Valley Road extension to Newhall Ranch Road. The oak trees combined canopy covers approximately 0.11 acre. The oak tree assessment also included an evaluation of the eight oaks to determine physical conditions and aesthetic attributes including health and vigor, structure and form.

Common Wildlife Resources

Discussed below are representative common wildlife species (i.e., those not provided a sensitivity status by regulatory agencies) that were observed on the project site during the field surveys. Because many of the common wildlife species described below can utilize a variety of plant communities, the wildlife species addressed below are described by taxonomic group rather than by habitat. A complete list of wildlife species observed in the Santa Clarita site is provided in tabular form in Appendix C of the TLC DBA. Special-status wildlife species present or potentially occurring in the project site are discussed under the Special-Status Biological Resources heading.

Amphibians and Reptiles

The Santa Clara River is ephemeral along portions of its reach with perennial discharge associated with urban runoff in various locations. Water generally occurs only after recent rains within the reach of the Santa Clara River that traverses the southern edge of the site. During years of adequate rainfall, water within the river channel may be present during spring and early summer. This aquatic resource provides habitat for amphibians and reptiles within the reach of the river that traverses the southern edge of the project site.

The expected amphibian and reptile populations on the project site are low, due in large measure to the lack of persistent or permanent water source in the onsite drainages including the Santa Clara River channel on a year-round basis. However, because some habitats in the project site are potential breeding sites a few amphibian and reptile species are likely to occur. Some amphibian and reptile species may move considerable distances from breeding sites during the non-breeding season but are known to return to their previous breeding locations once the breeding season begins.⁴ During heavy rains the western spadefoot toads (*Spea hammondi*) require ephemeral pools to breed in and attach their egg masses to plant material. This species burrows into the soil when not breeding or when no heavy rains are occurring. The western spadefoot toad is a special-status wildlife species and the only amphibian detected on the project site.

⁴ Duellman, W.E. 1999. Pattern of distribution of amphibians. A global perspective. *John Hopkins University Press, Baltimore, MD.*

However, both the western toad (*Bufo boreas*) and Pacific treefrog (*Pseudacris regilla*) are abundant locally and would be expected to occur on the project site.

Reptile species documented in the project area were western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), coastal western whiptail (*Aspidoscelis tigris*). Additional species expected to occur within the area are southern Pacific rattlesnake (*Crotalus viridis*), common kingsnake (*Lampropeltis getula*), San Diego alligator lizard (*Elgaria multicarinata*), and western skink (*Eumeces skiltonianus*).

Birds

There was a total of 41 bird species observed on the site. The habitat diversity and plant communities present on site provide both forage and nesting habitat for several locally occurring common bird species. Some species are known to be closely associated with specific plant communities while other species utilize a variety of habitat niches for foraging and breeding.⁵

Species observed on the site (many were detected in a variety of habitats included: Bell's sage sparrow (*Amphispiza belli*), bewick's wren (*Thryomanes bewickii*), California quail (*Callipepla californica*), California thrasher (*Toxostoma redivivum*), California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculatus*), wrenit (*Chamaea fasciata*), yellow-breasted chat (*Icteria virens*) northern mockingbird (*Mimus polyglottos*), morning dove (*Zenaida macroura*), and song sparrow (*Melospiza melodia*), American crow (*Corvus brachyrhynchos*), ash-throated flycatcher (*Myiarchus cinerascens*), common raven (*C. corax*), greater roadrunner (*Geococcyx californianus*), lazuli bunting (*Passerina amoena*), western kingbird (*Tyrannus verticalis*), western meadowlark (*Sturnella neglecta*), white-crowned sparrow (*Zonotrichia leucophrys*), American goldfinch (*Carduelis tristis*), Anna's hummingbird (*Calypte anna*), black-headed grosbeak (*Pheucticus melanocephalus*), black phoebe (*Sayornis nigricans*), bushtit (*Psaltriparus minimus*), Costa's hummingbird (*Calypte costae*), lark sparrow (*Chondestes grammacus*), lesser goldfinch (*Carduelis psaltria*), loggerhead shrike (*Lanius ludovicianus*), northern rough-winged swallow (*Stelgidopteryx serripennis*), western bluebird (*Sialia mexicana*), yellow warbler (*Dendroica petechia*), Bullock's oriole (*Icterus bullockii*), cliff swallow (*Hirundo pyrrhonota*), house finch (*Cardodacus mexicanus*), Nuttall's woodpecker (*Picoides nuttallii*), phainopepla (*Phainopepla nitens*), purple finch (*Cardodacus purpureus*), and western scrub jay (*Aphelocoma californica*), along with raptors (birds of prey), Cooper's hawk (*Accipter cooperii*), red-tailed hawk (*Buteo jamaicensis*), and turkey vulture (*Cathartes aura*).

⁵ Kus, B. E and P. P. Beck. 1998. An approach to monitoring bird communities to assess development of restored riparian habitat. pp. 396-406 In: Faber, P.M. (ed.) 2003. California Riparian Systems: Processes and Floodplain Management, Ecology, and Restoration. Riparian Habitat Joint Venture, Sacramento CA.

Mammals

There were only six mammal species detected on the site. The mule deer (*Odocoileus hemionus*) and coyote (*Canis latrans*) were the only large mammals, while the California ground squirrel (*Spermophilus beecheyi*), southern pocket gopher (*Thomomys bottae*), desert woodrat (*Neotoma lepida*), and Audubon's cottontail (*Sylvilagus audubonii*) were also detected.

Special-Status Biological Resources

The following is a discussion of special-status plant and wildlife species observed and potentially occurring on The Keystone project site. Results and conclusions are based on habitat types present on the site, a review of the CNDDDB (2004) and CNPS (2002) databases and other pertinent literature, known geographic ranges of these species, and data collected during general and focused field surveys. Also included in this section is a discussion of plant communities on the project site that are considered unique, of relative limited distribution, or that are under the jurisdiction of state and /or federal resource agencies.

Plant Species

Special-status plant species include those that are: (i) state or federally listed as Rare, Threatened, or Endangered; (ii) proposed for state or federal listing as Rare, Threatened, or Endangered; (iii) federal candidate species for listing, or (iv) considered Federal Species of Concern. Plants include on Lists 1, 2 or 4 of the CNPS inventory are also considered of special-status. The CNPS Lists 1, 2, and 4 species are included because the CNPS is a recognized authority by the CDFG on the status of Rare plant populations in California and because the criteria for plant species to be placed on Lists 1, 2, and 4 are similar to criteria that CDFG and USFWS use for species considered as candidates for listing or that are already listed as Threatened or Endangered (Lists 1 and 2), or have populations that are in decline such that they warrant further observation (List 4). Because CNPS List 3 species are defined by the CNPS as those plants about which more information is needed in order to assign to either Lists 1, 2, or 4 and would generally not meet the definition of "Rare, Threatened, or Endangered" as defined by CEQA, species on this list are not considered of "special-status."

The focused special-status plant surveys were conducted July through October 2003 and March through April 2004. The surveys were conducted during the blooming season of various species that may potentially occur in the region or previously reported in the CNDDDB.

Table V.D-1, Special-Status Plant Species Known to Occur on The Keystone Project Site, addresses 21 special-plant species that are known to occur in the project vicinity and were consequently the focus of on-site surveys. The list compiled is based on occurrence records of species in the project vicinity, documented geographic distributions of these species, and known habitat requirements. There were no Threatened, Endangered, candidate species for listing, nor unlisted but sensitive plant species detected within the project site during the 2003 and 2004 field surveys.

Table V.D-1
Special-status Plant species Known to occur in The Keystone project site

Scientific Name	Common Name	Status	Habitat	Flowering Period	On-Site Status
<i>Berberis nevinii</i>	Nevin's barberry	Federal: Endangered State: Endangered CNPS: List 1B	Sage scrub, chaparral, cismontane woodland, riparian scrub; sandy or gravelly substrate.	March- April	Not observed during focused plant surveys. Identifiable even when not flowering. No barberry of any species observed.
<i>Brickellia nevinii</i>	Nevin's bricklebush	Federal: None State: None CNPS: None (considered but rejected: too common).	Chaparral, coastal sage scrub; steep slopes.	September- November	Not observed during focused plant surveys.
<i>Chorizanthe parryi</i> var. <i>Fernandina</i>	San Fernando Valley spineflower	Federal: Candidate State: Candidate CNPS: List 1B	Coastal scrub sandy soils.	April-June	Not observed during focused plant surveys.
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	Federal: Endangered State: Endangered CNPS: List 1B	Alluvial sage scrub vegetation on sandy flood-deposited rives and washes.	April-June	Not observed during focused plant surveys.
<i>Navarettia fossalis</i>	Spreading navaretia	Federal: Threatened State: None CNPS: List 1B	Chenopod scrub, shallow freshwater marshes, vernal pools.	April-June	Not observed during focused plant surveys.
<i>Boykinia rotundifolia</i>	Round-leaved boykinia	Federal: None State: None CNPS: None (considered but rejected: too common)	Chaparral, riparian woodland, stream banks.	June-July	Not observed during focused plant surveys.
<i>Calochortus catalinae</i>	Catalina mariposa lily	Federal: None State: None	Openings in chaparral, valley and foothill grassland, cismontane	February-May	Not observed during focused plant surveys.

Table V.D-1
Special-status Plant species Known to occur in The Keystone project site

Scientific Name	Common Name	Status	Habitat	Flowering Period	On-Site Status
		CNPS: List 4	woodland; heavy soils.		
<i>Calochortus clavatus</i> var. <i>clavatus</i>	Club-haired mariposa lily	Federal: None State: None CNPS: List 4	Coastal sage scrub, clayish flats and slopes.	May-June	Not observed during focused plant surveys.
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender mariposa lily	Federal: None State: None CNPS: List 1B	Chaparral, especially in foothill canyons; generally found in shade.	March-May	Not observed during focused plant surveys.
<i>Calochortus plummerae</i>	Plummer's mariposa lily	Federal: None State: None CNPS: List 1B	Sage scrub, valley and foothill grassland, yellow pine forest; dry, rocky or sandy sites, granitic or alluvial soil; to 4,800 feet.	May-June	Not observed during focused plant surveys.
<i>Calystegia peirsonii</i>	Peirson's morning-glory	Federal: None State: None CNPS: List 4	Sage scrub, chenopod (saltbrush) scrub, chaparral, cismontane woodland, lower montane coniferous forest, rocky slopes.	May-June	Not observed during focused plant surveys.

Table V.D-1
Special-status Plant species Known to occur in The Keystone project site

Scientific Name	Common Name	Status	Habitat	Flowering Period	On-Site Status
<i>Harpagonella palmeri</i>	Palmer's grappling hook	Federal: None State: None CNPS: List 4	Sage scrub, clay soils; below 2,500 feet.	May-June	Not observed during focused plant surveys.
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	Short-joint beavertail	Federal: None State: None CNPS: List 1B	Chaparral, Joshua tree woodland, mohavean desert scrub, pinyon-juniper woodland, riparian woodland, sandy soil or coarse granitic loam.	April-June	Not observed during focused plant surveys.
<i>Orcuttia californica</i>	California orcutt grass	Federal: Endangered State: Endangered CNPS: List 1B	Vernal pools.	April-August	Not observed during focused plant surveys. No suitable habitat present onsite.
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	Ocellated Humboldt lily	Federal: None State: None CNPS: List 4	Openings in chaparral, cismontane woodland, lower montane coniferous forest; below 5,500 feet.	March-July	Not observed during focused plant surveys.
<i>Lotus nuttallianus</i>	Nuttall's lotus	Federal: None	Chaparral and buckwheat	March-June	Not observed during focused

**Table V.D-1
Special-status Plant species Known to occur in The Keystone project site**

Scientific Name	Common Name	Status	Habitat	Flowering Period	On-Site Status
		State: None CNPS: List 1B	communities.		plant surveys.
<i>Perideridia pringlei</i>	Adobe yampah	Federal: None State: None CNPS: List 4	Chaparral, cismontane woodland, coastal scrub	April-July	Not observed during focused plant surveys.
<i>Selaginella cinerascens</i>	Ashy spike-moss	Federal: None State: None CNPS: None (considered but rejected: too common).	Dry slopes on mesas in coastal sage scrub and chaparral.	Present and identifiable year-round.	Not observed during focused plant surveys.
<i>Senecio aphanactis</i>	Rayless ragwort	Federal: None State: None CNPS: List 2	Cismontane woodland, coastal scrub, 20-575 m.	January-April	Not observed during focused plant surveys.
<i>Malacothamnus davidsonii</i>	Davidson's bushmallow	Federal: None State: None CNPS: List 1B	Sage scrub, chaparral, riparian woodland.	June-January	Not observed during focused plant surveys.
<i>Ribes divaricatum</i> var. <i>parishii</i>	Parish's gooseberry	Federal: None State: None CNPS: List 1B	Willow thickets, coastal sage scrub, riparian woodland; perennial shrub.	February-April	Not observed during focused plant surveys.

SUMMARY OF CNPS LIST S 1, 2, 3, & 4

CNPS List	Comments
<i>List 1A – Presumed Extinct in California</i>	Thought to be extinct in California based on a lack of observation or detection for many years.
List 1B – Rare or Endangered in California and Elsewhere	Species generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.
List 2 - Rare or Endangered in California, More Common Elsewhere	Species rare in California but more common outside of California.
List 3 – Need More Information	Species that are thought to be rare or in decline, but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific list. In addition, many of the List 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
List 4 – Plants of Limited Distribution	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for List 3 species above, CNPS lacks survey data to accurately determine status in California. Many species have been placed on List 4 in previous editions of the “Inventory” and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.

Special Status Plant Species Observed On Site

There were no special-status plant species observed on the project site. There were eight oak trees observed on the project site.

Oak trees (*Quercus spp.*) *City of Santa Clarita Oak Tree Preservation and Protection Policy*. All eligible trees of the genus *Quercus* are subject to the provisions of Resolution No. 90-177 of the City of Council of the City of Santa Clarita. The oak tree surveys completed for the project site study area revealed that the eight oak trees qualified for jurisdiction under the City's ordinance.

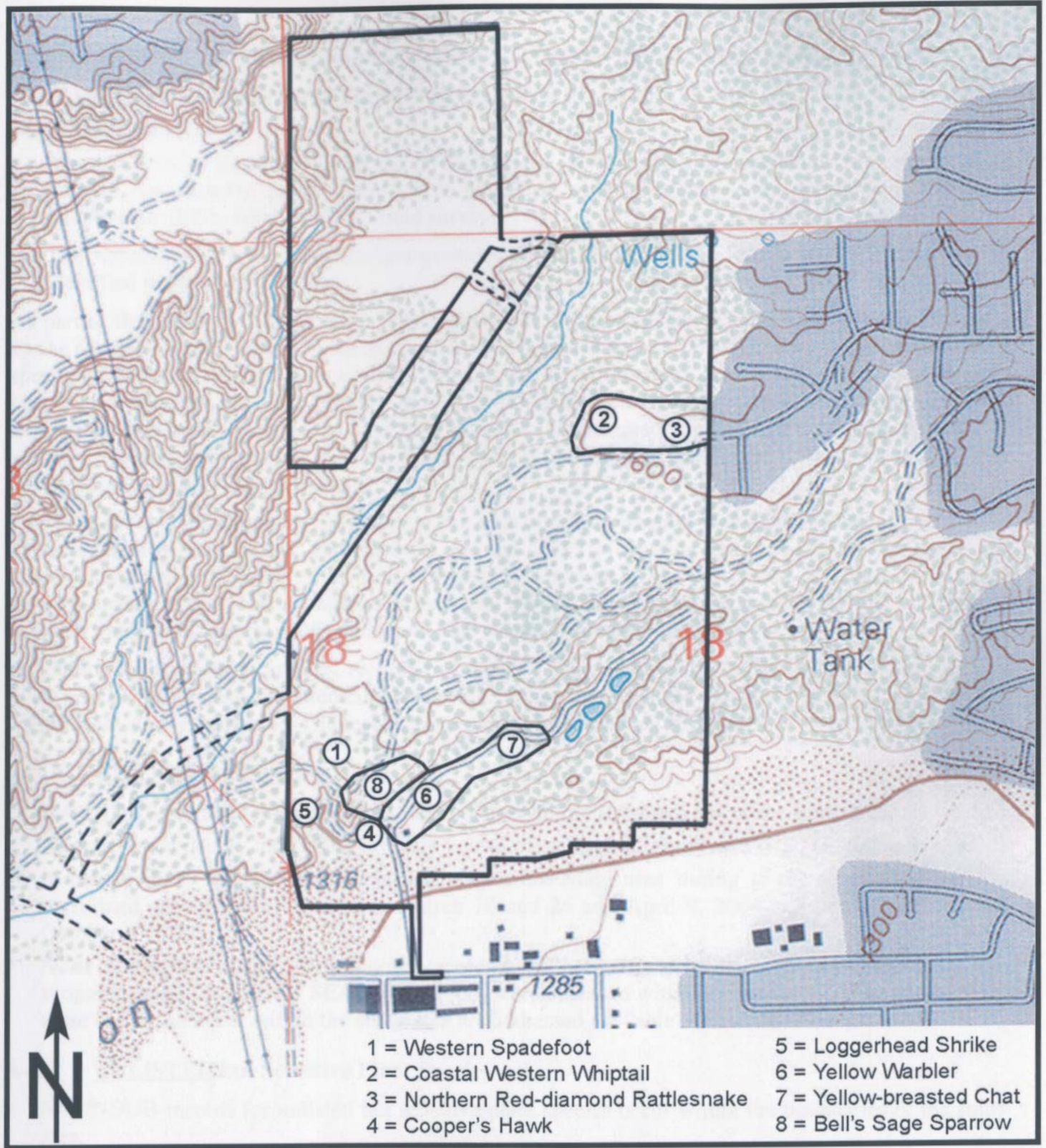
Special Status Plant Species Not Observed but which Suitable Habitat Occurs

Suitable habitat occurs on the site for nineteen special-status plant species. However, none of these species were observed on site during focused surveys that were conducted during the blooming periods of each species. Had any of these species occurred on the site during the time of the surveys were conducted they likely would have been observed.

Wildlife Species

The term special-status wildlife includes those species that are state or federally listed as Threatened or Endangered, have been proposed or are candidates for listing as Threatened or Endangered, are considered State Species of Concern, CDFG Special Animals, California Protected or Fully Protected Species, and/or are Federal Species of Concern.

Six special-status wildlife species were observed during the site surveys: western spadefoot toad, Cooper's hawk, loggerhead shrike, yellow warbler, yellow-breasted chat, and Bell's sage sparrow as shown in Figure V.D-2. However, a total of 57 potential species are addressed in this report based on an evaluation of on-site habitats compared with each species' life history requirements, occurrence records of species in the vicinity, and documented geographic distribution of each species. All special-status wildlife species that occur on the site or with at least limited potential to occur on the site are addressed in Table V.D-2, Special-Status Wildlife Species Known to Occur or Potentially Occur on The Keystone Site. Those species observed or with habitat occurring on the project site are discussed in more detail below.



Source: Thomas Leslie Corporation



CHRISTOPHER A. JOSEPH & ASSOCIATES
 Environmental Planning and Research

Figure V.D-2
 Approximate Location of Sensitive Species
 Observed On-Site

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
BIRDS				
<i>Accipiter cooperii</i>	Cooper's Hawk	Federal: None State: CSC	Open woodlands especially riparian woodland.	PRESENT. Observed onsite during focused wildlife surveys.
<i>Accipiter striatus</i>	Sharp-shinned hawk	Federal: None State: None	Woodlands; forages over chaparral and other scrublands; prefers riparian habitats and N-facing slopes, with plucking perch sites.	Not observed onsite during focused wildlife surveys.
<i>Buteo swainsoni</i>	Swainson's hawk	Federal: FSC State: Threatened	Plains, ranges, open hills, and sparse trees.	Not observed onsite during focused wildlife surveys.
<i>Aimophila ruficeps canescens</i>	Southern California Rufous-Crowned Sparrow	Federal: None State: CSC	Steep and rocky areas within coastal sage scrub and chaparral, often with scattered bunches of grass; prefers relatively recently burned areas.	Not observed onsite during focused wildlife surveys.

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
<i>Circus cyaneus</i>	Northern Harrier	Federal: None State: CSC	Coastal salt marshes, freshwater marshes, grasslands, and agricultural fields; occasionally forages over open desert and brushlands.	Not observed onsite during focused wildlife surveys.
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	Federal: Candidate State: Endangered	Riverine woodlands, thickets, and farms.	Not observed onsite during focused wildlife surveys.
<i>Falcon peregrinus anatum</i>	American peregrine falcon	Federal: Delisted (CSC) State: Endangered	Coastal estuaries, open country, cliffs to coasts.	Not observed onsite during focused wildlife surveys.
<i>Gymnogyps californianus</i>	California condor	Federal: Endangered State: Endangered	Montane and foothill regions; vast expanses of open savannah, grasslands, and chaparral with cliffs, large trees, and snags.	Not observed onsite during focused wildlife surveys.
<i>Eremophila alpestris</i>	California	Federal: None	Open habitats, grasslands along the coast, deserts near sea level to alpine	Not observed onsite during focused wildlife surveys.

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
<i>actia</i>	Horned Lark	State: CSC	dwarf shrub habitat, uncommonly in coniferous and chaparral habitats.	
<i>Elanus leucurus</i>	White-Tailed Kite	Federal: FSC State: Fully Protected	Grasslands with scattered trees, near marshes, along highways.	Not observed onsite during focused wildlife surveys.
<i>Empidonax traillii extimus</i>	Southwestern Willow Flycatcher	Federal: Endangered State: None	Low elevation sites: Riparian woodlands that contain water and low growing willow thickets. High elevation sites: large, flat, wet meadows that contain patches of willow trees.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Icteria virens</i>	Yellow-Breasted Chat	Federal: None State: CSC	Riparian woodlands with a thick understory.	PRESENT. Observed onsite June 7, 14, July 26, August 9, 23 and September 6, 2003.
<i>Buteo regalis</i>	Ferruginous hawk	Federal: FSC State: CSC	Rivers, lakes, and coasts; open tracts of sparse shrubs, and grasslands; agricultural areas during winter.	Not observed onsite during focused wildlife surveys.

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
<i>Lanius ludovicianus</i>	Logger-Head Shrike	Federal: FSC State: CSC	Open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	PRESENT. Observed onsite June 28, July 5, 26 and August 9, 2003.
<i>Athene cunicularia</i>	Burrowing Owl	Federal: FSC State: CSC	Dry grasslands, desert habitats, open pinyon-juniper, ponderosa pine woodlands below 5,300 feet elevation; berms, ditches, and grasslands adjacent to rivers, agricultural, and scrub areas.	Not observed onsite during focused wildlife surveys.
<i>Chaetura vauxi</i>	Vaux's swift	Federal: FSC State: CSC	Redwood and Douglas fir habitats.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Dendroica petechia brewsteri</i>	Yellow Warbler	Federal: None State: CSC	Riparian woodlands, montane chaparral, and mixed conifer habitats.	PRESENT. Observed onsite June 7 and 14, 2003.
<i>Falco columbarius</i>	Merlin	Federal: None	Coastlines, wetlands, woodlands,	Not observed onsite during focused

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
		State: CSC	agricultural fields, and grasslands.	wildlife surveys.
<i>Falco mexicanus</i>	Prairie Falcon	Federal: None State: CSC	Grasslands, savannahs, rangeland, agricultural fields, and desert scrub; often uses sheltered cliff ledges for cover.	Not observed onsite during focused wildlife surveys.
<i>Ixobrychus exilis hesperis</i>	Western Least Bittern	Federal: None State: CSC	Emergent wetlands with cattails and tules.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Pandion haliaetus</i>	Osprey	Federal: None State: CSC	Rivers, lakes, coasts, and mixed conifer.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Piranga rubra</i>	Summer Tanager	Federal: None	Cottonwood-willow woodland and	Not observed onsite during focused

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
		State: CSC	riparian scrub.	wildlife surveys.
<i>Strix occidentalis occidentalis</i>	California Spotted Owl	Federal: FSC State: CSC	Oak and oak-conifer habitats.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Poliophtila californica californica</i>	Coastal California Gnatcatcher	Federal: Threatened State: CSC	Coastal sage scrub, below 2,500 feet, generally avoids steep slopes and dense vegetation for nesting.	Not observed onsite during focused wildlife surveys.
MAMMALS				
<i>Lepus californicus bennettii</i>	San Diego Black-Tailed Jackrabbit	Federal: None State: CSC	Open brushlands and scrub habitats between sea level and 4,000 feet elevation.	Not observed onsite during focused wildlife surveys.
<i>Onychomys torridus</i>	Grasshopper	Federal: FSC	Grasslands, desert areas, especially	Not observed onsite during focused

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
<i>ramona</i>	Mouse	State: CSC	scrub with friable soils.	wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Antrozous pallidus</i>	Pallid Bat	Federal: None State: CSC	Nests in dry, rocky habitats, caves, crevices in rocks, arid habitats including deserts, chaparral, and scrublands.	Not observed onsite during focused wildlife surveys.
<i>Bassariscus astustus</i>	Ringtail Cat	Federal: None State: None	Mixture of forest and shrublands in close association with rocky area or riparian habitats.	Not observed onsite during focused wildlife surveys.
<i>Corynorhinus townsendii pallescens</i>	Pale Big-eared Bat	Federal: FSC State: CSC	Caves, tunnels, or other structures for roosting; vegetation and mesic edges for feeding; extremely sensitive to roosting site disturbance; maternity roosts in warm places.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Euderma maculatum</i>	Spotted Bat	Federal: FSC	Desert, scrublands, chaparral, and	Not observed onsite during focused

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
		State: CSC	coniferous woodlands.	wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Eumops perotis californicus</i>	Western Mastiff Bat	Federal: FSC State: CSC	Primarily arid lowlands, especially deserts. Open semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub and urban areas.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Macrotus californicus</i>	California Leaf-nosed Bat	Federal: None State: CSC	Desert riparian, desert wash desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis. Roosts in tunnels, caves and possible buildings and bridges.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Myotis thysanodes</i>	Fringed Myotis	Federal: FSC State: None	Dry, rocky habitats/caves, crevices in rocks, arid and chaparral habitats.	Not observed onsite during focused wildlife surveys.

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
				<i>No suitable habitat present onsite.</i>
<i>Myotis yumanensis</i>	Yuma Myotis	Federal: FSC State: None	Open forests and woodlands with water are optimal but use a variety of habitats.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Neotoma lepida</i>	San Diego Desert Woodrat	Federal: None State: CSC	Chaparral, coastal sage scrub, and pinyon-juniper woodland.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
AMPHIBIANS				
<i>Rana aurora draytoni</i>	California Red-legged Frog	Federal: Threatened State: CSC	Humid forests, woodlands, grasslands and stream sides, especially where cattails and other plants provide good cover.	Not observed onsite during focused wildlife surveys.

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
<i>Spea hammondi</i>	Western spadefoot toad	Federal: FSC State: CSC	Open areas in lowland grasslands, chaparral, and pine-oak woodlands, area of sandy or gravelly soil in alluvial fans, washes and flood plains.	PRESENT. Observed onsite June 28, 2003.
<i>Bufo californicus</i>	Arroyo Southwestern Toad	Federal: Endangered State: CSC	Washes/ streams, sandy banks, grown to willows, cottonwoods or sycamores; riparian habitats of semi-arid areas, small cobble streambeds.	Not observed onsite during focused wildlife surveys.
REPTILES				
<i>Diadophis punctatus modestus</i>	San Bernardino ring-neck snake	Federal: None State: None	Open, relatively rocky areas within valley-foothill, mixed chaparral and annual grass habitats.	Not observed onsite during focused wildlife surveys.
<i>Lampropeltis zonota pulchra</i>	San Diego mountain kingsnake	Federal: None State: CSC	Moist woods, coniferous forests, woodland and chaparral.	Not observed onsite during focused wildlife surveys.
<i>Salvadora hexalepis virgulata</i>	Coast patch-nosed snake	Federal: None	Coastal chaparral, desert scrub, washes, sandy flats, and rocky areas. Barren	Not observed onsite during focused wildlife surveys.

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
		State: CSC	creosote bush desert flats. Sagebrush semi-deserts; sea level to 7,000 feet.	
<i>Anniella pulchra pulchra</i>	Silvery Legless Lizard	Federal: FSC State: CSC	Several habitats but especially in coastal dunes, valley-foothill, chaparral, and coastal scrub habitats.	Not observed onsite during focused wildlife surveys.
<i>Phrynosoma coronatum blainvillei</i>	San Diego horned lizard	Federal: None State: CSC	Valley-foothill hardwood, conifer, and riparian habitats, pine-cypress, juniper and annual grassland habitats below 6,000 feet, open country, especially sandy areas, washes, floodplains, and windblown deposits.	Not observed onsite during focused wildlife surveys.
<i>Phrynosoma coronatum frontale</i>	California horned lizard	Federal: None State: CSC	Scrubland, grassland, coniferous forest, broad-leaf woodlands.	Not observed onsite during focused wildlife surveys.
<i>Emys marmorata pallida</i>	Southwestern Pond Turtle	Federal: FSC State: CSC	Ponds, marshes, rivers, streams, irrigation ditches.	Not observed onsite during focused wildlife surveys.
<i>Coleonyx variegatus</i>	San Diego banded gecko	Federal: None	Rocky tracts, canyon walls and sand	Not observed onsite during focused

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
<i>abbotti</i>		State: None	dunes in deserts and semi-arid areas.	wildlife surveys.
<i>Thamnophis hammondi</i>	Two-striped Garter Snake	Federal: None State: CSC	Riparian and freshwater marshes with perennial water.	Not observed onsite during focused wildlife surveys.
FISH				
<i>Catostomus santaanae</i>	Santa Ana Sucker	Federal: Threatened State: CSC	Sand, rubble, boulder bottoms; cool, clear water; feed on algae.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Gila Orcutti</i>	Arroyo Chub	Federal: None State: CSC	Slow water sections of streams with mud or sand substrates.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<i>Gasterosteus aculeatus williamsoni</i>	Unarmored threespine	Federal: Endangered	Fresh water rivers and streams in the L.A. basin; low flow areas.	Not observed onsite during focused wildlife surveys

**Table V.D-2
SPECIAL-STATUS WILDLIFE SPECIES THAT OCCUR OR
EXHIBIT POTENTIAL TO OCCUR ON THE KEYSTONE SITE**

Scientific Name	Common Name	Status	Habitat	On-Site Status
	stickleback	State: Endangered		<i>No suitable habitat present onsite.</i>
INVERTEBRATES				
<i>Streptocephalus woottoni</i>	Riverside Fairy Shrimp	Federal: Endangered State: None	Vernal pools/ swales.	Not observed onsite during focused wildlife surveys. <i>No suitable habitat present onsite.</i>
<p>Special-Status Wildlife Species Known to Occur or Potentially Occur in the Santa Clarita Area</p> <p>KEY: (nesting) = For most taxa the CNDDDB is interested in sightings for the presence of resident populations. For some species (primarily birds), the CNDDDB only tracks certain parts of the species range or life history (e.g., nesting locations). The area of life stage is indicated in parenthesis after the common name.</p> <p>Status: Federal: U.S. Fish and Wildlife Service Federally Endangered Federally Threatened FSC: Federal Species of Concern Species [Species denoted with this term primarily include those considered C2 species under the old classification system. This term is only to be used as a “term-of-art” and is not to imply any legal protection or inclusion on the Federal ESA list.] State: California Department of Fish and Game CSC: California Species of Special Concern</p>				

Special-Status Wildlife Species Observed on the Site

Western spadefoot toad (*Spea hammondi*); California Species of Special Concern

The range of this species is the central portion of northern California, the Great Valley, and Coast Ranges from San Francisco to Baja California (Stebbins 1985). In southern California, this species is most commonly found in shallow, temporary seasonal rain pools and vernal pools (seasonal pools that are typically underlain by a clay pan, hardpan, basalt, or other semi-impervious substrate and that support specific plants species that have adapted to the season and often alkaline conditions of these pool) after winter and spring rains (Sloan 1964). The western spadefoot toad is typically a nocturnal species, it can be found by checking for tadpoles and small egg masses attached to rocks or submerged vegetation in vernal or other seasonal pools (Behler and King 1979). A single individual was observed on site during the summer of 2003. None were observed during 2004.

Cooper's hawk (*Accipter cooperi*); California Species of Special Concern

This species is primarily a year-long resident where it occurs, which includes the project vicinity. It typically nests in dense woodlands near open water or riparian areas. Cooper's hawks typically prey on small birds but will also take small mammals and reptiles that it usually spots while utilizing patchy woodlands and edge habitats (CDFG 1990). Suitable dense nesting habitat is lacking on the project site; however, suitable foraging habitat is present. Cooper's hawks are relatively rare in the site vicinity and were observed foraging or moving through the site on five occasions during focused surveys. No nesting activities were detected.

Loggerhead shrike (*Lanis ludovicianus*); California Species of Special Concern

This species is a resident species in southern California. It inhabits grasslands, agriculture, chaparral, and desert scrub; it is absent only from the mountainous zones. Population declines due to urbanization have been noted. Loggerhead shrikes feed on small reptiles and insects, which they often impale on sticks or thorns before eating. The loggerhead shrike was observed on the project site during four focused surveys. Suitable nesting and foraging habitat occurs on site.

Yellow warbler (*Denroica petechia brewsteri*); California Species of Special Concern

This species prefers wet riparian thickets but can also found in cottonwood-willow areas associated with drier areas. This bird was only observed twice on the project site during focused surveys. No nesting observations were made during site surveys.

Yellow-breasted chat (*Icteria virens*)

California Species of Special Concern. This migratory songbird breeds in dense thickets associated with riparian habitats in southern California. This bird exhibits habitat requirements similar to Least

Bell's Vireo. Suitable habitat typically consists of multi-layered riparian scrub or willow woodland corridors along perennial or intermittent streams. This bird exhibits a series of distinctive calls. The yellow-breasted chat was observed on six occasions on the project site during focused surveys. No breeding was detected; however, suitable habitat occurs onsite.

Bell's sage sparrow (*Amphispiza belli belli*); California Species of Special Concern

This species exhibits a spotty distribution; with its breeding range extending along the coastal slopes from Trinity County south into northwestern Baja California. Locally, it can be found in chaparral habitats, especially chamise chaparral. This bird is largely sedentary and male sage sparrows show high site tenacity relative to breeding territories, even when the habitat is altered dramatically (Ehrlich et al. 1988). The species was commonly observed on the project site during focused surveys.

Special-Status Wildlife Species Not Observed But With Habitat Occurring On Site

Suitable habitat occurs on site for thirty-seven special-status wildlife species (Table 2). However, only seven of these species were observed on site during focused surveys. Had any additional species occurred on the site during the time of the surveys they likely would have been observed.

Arroyo chub (*Gila orcutti*); California Species of Special Concern, Federal Species of Concern; Santa Ana sucker (*Catostomus santaanae*); Federally Listed Threatened Species, California Species of Special Concern; Unarmored three-spine stickleback (*Gasterosteus aculeatus williamsoni*); Federally Listed Endangered Species, California Listed Endangered Species. The portion of the Santa Clara River that occurs within the project boundaries did not support any flowing or standing water during the surveys. Although during certain years water can be present into June or July (Gunthrie 1993, 1995, 1998), the river is typically dry during the summer months, especially during drier than normal years as was the case in 2002. However, during the rainy season (primarily winter) the watershed within the project site drains enough water into the river to deliver substantial flows through the project area. As these three special-status fish species are all known to occur in the Santa Clara River both upstream and downstream of the project site, it is expected that all three species could potentially be present within the stretch that passes through the site⁶ during times when appropriate water depths are present (Courtois 1999, Crawford 2003); however no records of any of these species have been documented for the site and there is no suitable breeding habitat associated with this portion of the wash during most years. The project fully avoids direct impacts to the Santa Clara River, ensuring that no significant impacts would occur to these species as a result of the project.

⁶ Thomas Leslie Corporation. Draft Biological Assessment of Tentative Tract No. 060258 and Associated Roadway Improvements, Santa Clarita, California. Prepared for Synergy, Irvine California.

Sensitive Plant Communities Present On Site

CDFG wildlife and Habitat Data Analysis Branch has developed a "List of California Terrestrial Natural Communities." The most recent version of this list, dated September 2003, is derived from the CNDDDB and is intended to supersede all other lists developed from the CNDDDB. It is based on the detailed classification put forth in *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995).

The primary purpose of the CNDDDB classification is to assist in the characterization and rarity of various vegetation types. For the purposes of this Draft EIR, plant communities denoted on the list as Rare in September 2003 version, or that are otherwise regulated by local, state, and /or federal resource agencies, are considered of "special-status."

One plant community, Coastal Sage Scrub (designated as "Buckwheat Scrub" by TLC) is considered sensitive by CDFG and occurs on The Keystone site, covering approximately 100.07 acres.

Jurisdictional Waters, Streambeds and Riparian Resources

The portion of the Santa Clara River and four drainage complexes that occur on site are under the authority of various federal and state regulatory agencies. Impacts to "Waters, streambeds and adjacent riparian vegetation, as defined in the regulations cited below, typically require authorizations from the agencies. The regulatory agencies and the limits of their jurisdiction are discussed below.

U.S. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a) as:

- (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (2) *All interstate waters including interstate wetlands;*
- (3) *All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect foreign commerce including any such waters:*
 - (i) *Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*

- (ii) *From which fish or shell fish are or could be taken and sold in interstate or foreign commerce; or*
- (iii) *Which are used or could be used for industrial purpose by industries in interstate commerce...*
- (4) *All impoundments of waters otherwise defined as waters of the United States under the definition;*
- (5) *Tributaries of waters identified in paragraphs (a) (1)-(4) of this section;*
- (6) *The territorial seas;*
- (7) *Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)-(6) of this section.*

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

- (8) *Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.*

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(e) as:

...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Most impacts to areas delineated as "Waters of the U.S.", if determined to be jurisdictional by the Corps, require a project to obtain approval under the authority of the Clean Water Act and its implementing regulations.

California Department of Fish and Game (CDFG)

The State of California regulates water resources under Sections 1600 to 1619 of the Fish and Game Code of California. Section 1602 mandates that:

“An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river stream or lake or dispose of debris, waste or other material ... where it may pass into any river stream, or lake ...”

Unless certain requirements are met CDFG considers most natural drainages to be streambeds unless it can be demonstrated otherwise. Streambeds are defined in the California Code of Regulations Title 14, Chapter 1, Section 1.72 as follows:

“A stream is a body of water that follows at least periodically or intermittently through a bed or channel having banks and that support fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.”

CDFG jurisdiction includes ephemeral, intermittent, and perennial watercourses, and is often extended to the limits of riparian habitats that are located contiguous to the water resource and that function as part of the watercourse system. In this analysis, the area generally corresponding to the limit of riparian habitats located contiguous to the water resource is also referred to as the “resource line.” Section 2785(e) of the Fish and Game Code of California states:

“Riparian habitat means lands which contain habitat which grows close to and which depends on soil moisture from a nearby freshwater source.”

Regional Water Quality Control Board (RWQCB)

Section 401 of the Federal Clean Water Act authorizes the State of California to certify federal permits and licenses. The State implementing regulations to conduct certifications are codified under the California Code of Regulations Title 23 Waters, Sections 3830-3869. Projects qualifying for a Corps Section 404 Permit must submit materials for review to the appropriate Regional Water Quality Control Board (RWQCB) and request a Section 401 Certification. Much of the same information (project description, potential impacts, mitigation measures) necessary to apply for Corps Section 404 and CDFG Section 1602 Permits is required for the Section 401 Certification.

Direct or indirect impacts on wetlands and riparian areas may be subject to jurisdiction of several state and federal agencies, including the CDFG, the Los Angeles RWQCB and the Corps. Areas potentially under the jurisdiction of these agencies are briefly discussed below. A jurisdictional delineation of waters and streambeds associated with the Santa Clara River has been completed and will be confirmed by the agencies, as part of the Santa Clarita Plan and subsequent permits.

Summary of Jurisdiction

The project site contains approximately 11.69 acres of Corps jurisdictional waters, of which less than 0.01 acres is wetland. CDFG jurisdiction onsite totals 16.74 acres.

There are four main drainages on-site, Drainages A, B, C, and Santa Clara River as shown in Figure V.D-3. Figure V.D-4 presents a detailed map of the drainages within the southern project site area. Drainage A is located in the northwest portion of the site and consists of Drainage A and five tributaries, Drainage A1 –A5. Jurisdiction associated with the Drainage A totals 0.27 acre of Corps jurisdiction and 0.43 acre of CDFG jurisdiction.

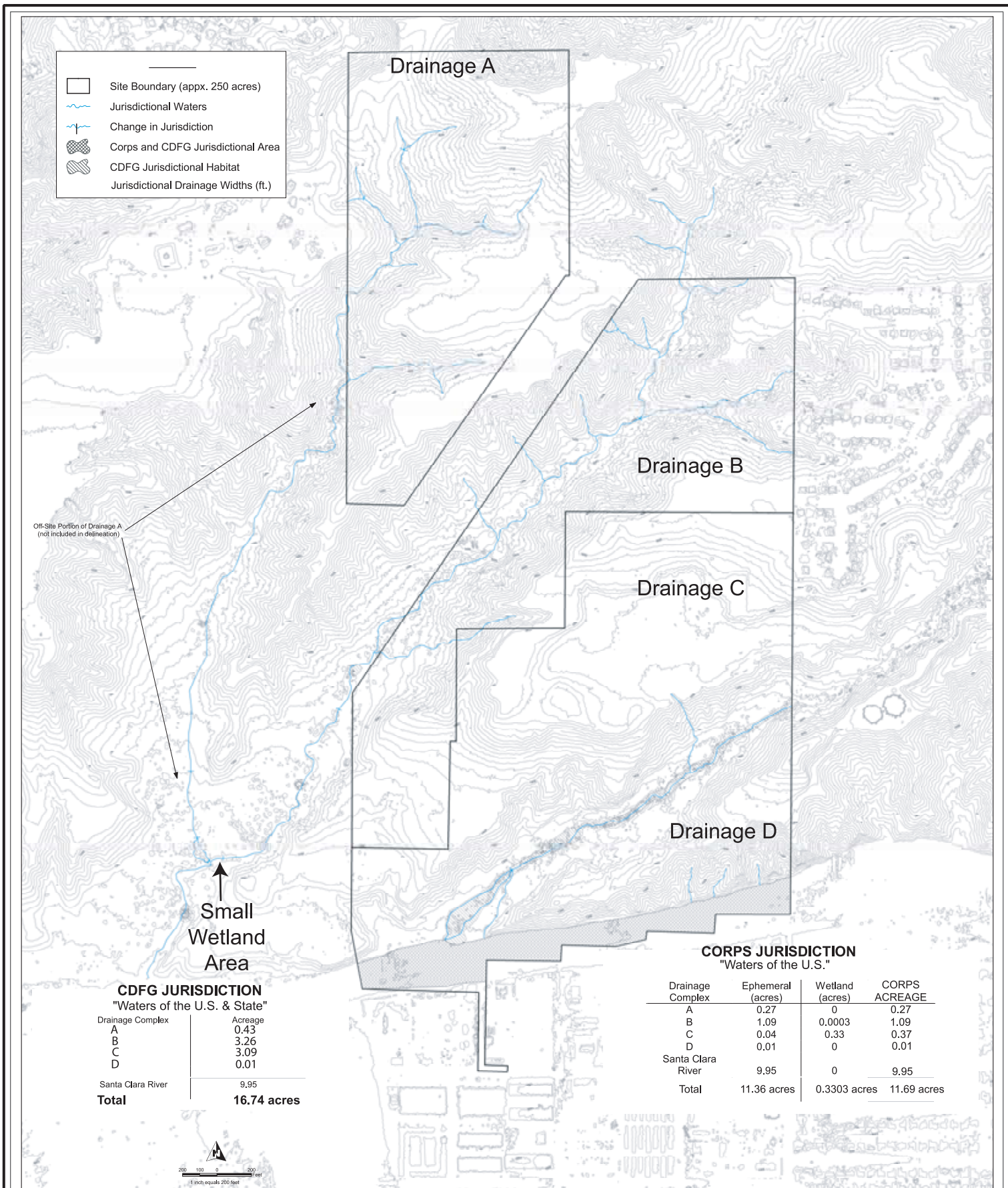
Drainage B is located in the central portion of the site. The drainage originates off-site to the northeast, flows through the site and is tributary to the Santa Clara River to the south. Drainage B and its tributaries total 1.09 acres of Corps jurisdiction, of which 0.0003 acre is wetland. CDFG jurisdiction in Drainage B totals 3.26 acres. The acres calculations include off-site portions of Drainage B, which may be impacted by the proposed extension of Golden Valley Road to the proposed Newhall Ranch Road.

Drainage C is located in the southern portion of the site. Drainage C originates off-site to the east and is tributary to the Santa Clara River to the south. There is one tributary to Drainage C, Drainage C-1, which originates in the northern hillside and is highly incised. Drainage C and its tributaries total 0.37 acre of Corps jurisdiction, of which 0.33 acre is created wetland waters. The created wetland waters have developed due to storm water and dry-weather discharge that originates offsite to the east. CDFG jurisdiction totals 3.09 acres.

The Santa Clara River occurs along the southern boundary of the site is located in the Santa Clara River. Three small drainages, located in the southeast corner of the site, are tributary to the river. Drainages D1, D2, and D3 are incised ephemeral non-wetland waters and account for 0.01 acre of Corps and CDFG jurisdiction. The Santa Clara River and its tributaries total 9.95 acres of Corps jurisdiction and 9.95 acres of CDFG jurisdiction.

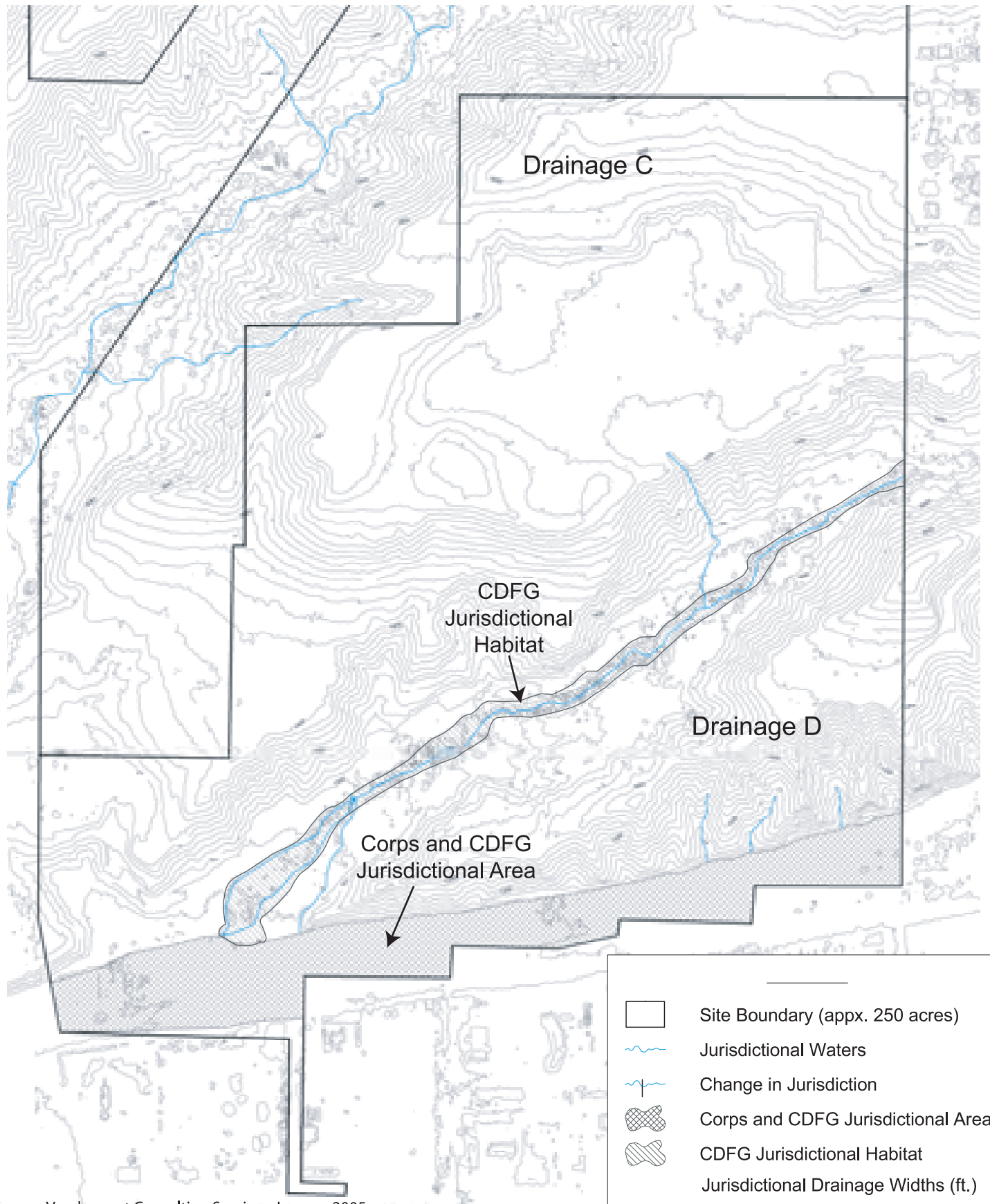
Wildlife Movement Corridors

Over the past several decades, Santa Clarita Valley has seen extensive urban development. The Keystone Project site is located within an area that exhibits extensive development. Areas to the north are generally built-out with high densities to the northwest and lower densities to the northeast. Suncal is currently grading some of the last undeveloped land to the north. South of the site, across the Santa Clara River is developed and areas to the east generally exhibit high densities. Immediately west of the site is also developed with the proposed Riverpark Project to the southwest on the only large block of undeveloped land in the vicinity of the site. The Santa Clara River, which traverses the southern boundary of the site and functions as the major east-west corridor in the vicinity of the site and also provides for regional connectivity.



Source: Vandermost Consulting Services, January 2005





Source: Vandermost Consulting Services, January 2005



Habitat used by wildlife as movement corridors link together large areas of open space that are otherwise separated by rugged terrain, changes in vegetation, by human disturbances, or by the encroachment of urban development. The fragmentation of natural habitat creates isolated “islands” of vegetation that may not individually provide sufficient areas to accommodate sustainable populations and can adversely impact genetic and species diversity. Corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic exchange with separate populations; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fire, flood, or disease) will result in population or species extinction; and (3) serving as travel paths for individual animals as they wander about or disperse from their home ranges in search of food, water, mates and other needs.

The low hills, ridgelines and canyons occurring on the project site are similar in character and biotic communities to the larger foothills extending from the Santa Clara drainage into the Angeles National Forest and northward to the San Andreas rift zone. Lower elevations on the La Libra and Sierra Pelona range support vast expanses of coastal scrub and chaparral formations, varying in composition according to slope angle, orientation soil characteristics and disturbance history. Plants and animals within this system historically would have been able to maintain populations at fairly constant carrying capacity levels because support resources are relatively evenly distributed with no particular concentration areas.

Alluvial scrub and riparian species populations are arrayed along marginal terraces and channels, so their populations tend to be rather linear, often with low within-site densities but extensively distributed geographically. Aquatic species in habitats such as this portion of the Santa Clara River are adapted to persisting in systems that periodically undergo high-energy seasonal flows, scouring, siltation and summer drying. Their populations generally are capable of rapid movement and colonization of surface water systems, with individual densities and species diversity ebbing and flowing with the seasonal changes in the river.

The major habitat corridor that traverses the southern edge of the site is the Santa Clara River. It is known to be an important migration and genetic dispersion corridor for many wildlife species occurring in the area. Its headwaters are located in the San Gabriel Mountains to the east of the project site and the river empties into the Pacific Ocean approximately 55 miles to the west. Along this stretch, the Santa Clara River is adjoined in numerous places with large open spaces and is a primary seasonal movement route for aquatic taxa, riparian obligate species (resident and migratory), and larger more mobile terrestrial animals.

It also functions as a dispersal and linkage route for juvenile and displaced individuals of species that maintain metapopulations within the low elevation ranges of coastal southern California. Existing development in the surrounding area further increases the importance of this east/west corridor as several large species such as deer, coyote, bobcat, and fox are forced toward the river channel for refuge and to access otherwise disjunct foraging areas.

Significant Ecological Area (SEA) 23 – Santa Clara River SEA

The County of Los Angeles originally designated the portion of the Santa Clara River within the project site as an SEA. Because this area is now incorporated within the City of Santa Clarita, the County no longer has SEA jurisdiction over this portion of the river. However, the City of Santa Clarita has adopted policies with respect to SEAs, including the reach of the Santa Clara River that traverses the southern edge of The Keystone Project site. The City of Santa Clarita uses the Federal Emergency Management Agency 100-year storm limit line as the limits of the Santa Clara River SEA.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

CEQA Guidelines

Significant impacts on biological resources posed by the project were determined from criteria stated in CEQA Guidelines. Appendix G (Environmental Checklist) of the CEQA Guidelines states that a project could have a significant impact on biological resources if it would:

- a) Have a substantial adverse effect, either or through habitat modification, 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;
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- c) 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;
- d) 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;
- e) Conflict with any local policies or ordinances protecting biological resources such as a tree preservation policy or ordinance.
- 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.

Section 15065(a) of the CEQA Guidelines also states that a project may have a significant effect on the environment when the project has the potential to:

- Substantially 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 climate a plant or animal community; or
- Substantially reduce the number or restrict the range of an Endangered, Rare, or Threatened species.

Thresholds Specific to City of Santa Clarita

Santa Clarita General Plan

Several policies within the City's General Plan provide for the preservation and protection of sensitive habitat and wildlife areas. In particular, Policy 5.3 of the General Plan provides for the utilization of creative site planning to avoid and minimize disturbance to Significant Ecological Areas and other sensitive habitat. Policy 3.5 of the Open Space and Conservation Element recommends that only passive and compatible recreation uses be allowed within a SEA. Policy 5.8 provides for the preservation and protection of designated wildlife movement corridors from undue encroachment and disruption. Policy 3.10 of the Open Space and Conservation Element also provides for the preservation of wildlife corridors through the use of adequate setbacks. The General Plan also discusses the provision for trails. Please see Section V.I, Land Use, for a complete discussion regarding the project's consistency with the Open Space and Conservation and Parks and Recreation Elements Goals and Policies concerning resource protection and trails.

City Oak Tree Ordinance

City of Santa Clarita Ordinance No.89-10, as well as the Oak Tree Preservation and Protection Guidelines developed by the City, provide for the protection of oak trees within the City limits. This ordinance establishes that it shall be the policy of the City to require the preservation of healthy oak trees and that removal, cutting, pruning, relocation, damage, or encroachment into the protected zone of any oak trees measuring six inches or larger in circumference (at DBH) on public or private property can only be done in accordance with a valid oak tree permit issued by the City. Impacts to trees that fall within the criteria set by the ordinance are considered potentially significant.

An oak tree report was prepared in October 2003, and a subsequent revised report dated February 21, 2005 for oak trees within the project site. This report is included in its entirety in Appendix 3 (B).

Additional Area-Specific Thresholds

Significant criteria defined in the CEQA Guidelines address relatively broad biological issues that are not always specific to the unique biological resources of a future site or location. As such, an EIR can refine the criteria used to define significance based on the unique conditions that occur on a project site when particular circumstances justify criteria more stringent than, or in addition to, thresholds of significance already in place. In the case of this project, the protection of riparian resources and the riparian/upland ecotone was considered an important issue.

The structural diversity of the various riparian and aquatic vegetation communities in the Santa Clara River drainage provides habitat for a large variety of plant and wildlife species, including a number of special-status species. Each of these species, particularly wildlife, has differing home ranges and natural history. While some species are riparian-obligate (i.e., satisfy their food source, cover, and breeding habitat almost entirely within the riparian vegetation), other species utilize both the riparian habitat and the adjacent upland habitat as part of their home range. A number of studies have reported that even the more riparian-dependent wildlife species also require adjacent upland habitats to meet home range foraging and breeding requirements (Doyle 1990; Schaefer and Brown 1992), indicating that the overall viability of riparian associated wildlife species extends beyond the riparian canopy and includes adjacent upland habitat.

Depending on the geographic region and the particular requirements of the riparian species to be protected, the characteristics, quality, and extent of upland habitat that is necessary to protect the wildlife diversity within a riparian habitat may differ. Previous studies have recommended preserving (and restoring, if necessary) a minimum of at least 100 feet of high quality upland habitat (upland preserve zone), as measured from the outer edge of the riparian habitat associated with a the Santa Clara River (“resource line”), to adequately provide for the foraging and breeding habitat needs of riparian –associated wildlife and to maintain species diversity within the riparian ecosystem, inclusive of the riparian/upland ecotone (Impacts Sciences 1997). No development or recreational uses would be appropriate in this upland habitat. Because most of the upland habitat currently adjacent to the riparian edge is comprised of agricultural and disturbed/ruderal fields and is considered of relatively low biological value. The applicant would need to revegetate these areas with appropriate native upland plant species (i.e., coastal sage scrub or scrub/grassland mix) that either historically occurred in the area or that would be of higher biological value to riparian and upland species.

Project Impacts

Construction Impacts

The following section focuses on the effects of implementation of the Proposed Project on plant communities, common and special-status plant and wildlife species, special-status habitats, and wildlife movement corridors and whether these effects exceed the threshold of significance. Because most biological resources, particularly plants and habitat types, provide cover necessary for breeding, feeding

and other essential behaviors, impacts on these resources are generally discussed in terms of the effect of project-related activities in natural habitats. However, direct impacts with respect to specific plant and wildlife resources (e.g., active nests, dens, and individual plants and animals) are also evaluated and discussed when impacts on these resources, in and of themselves, could be considered significant or conflict with local, state, and federal statutes or regulations.

The principal direct impact of implementation of the Proposed Project is to convert approximately 178.33 acres of the project site (71 percent) from an undeveloped to a developed condition. The approximate acreage and percentage of each vegetation /habitat type expected to be disturbed on the site as a result of project implementation are provided in the plant community impacts below.

Plant Communities

The following discussion provides analysis of the projects impact on plant communities found on the project site. In addition, the Proposed Project site is located within a Very High Fire Hazards Severity Zone as designated by the Los Angeles County Fire Department. A fuel modification plan must be prepared pursuant to the County Fire Department's Fuel Modification Plan Guidelines, which requires up to a 200-foot wide fuel modification area from structures.⁷ For greater discussion on fuel modification, see Section V.M.2, Fire Protection. In application of fuel modification requirements, the Proposed Project would impact a total of approximately 6.48 acres of on-site and 3.25 acres of off site native plant communities after project grading impacts. Of the approximately 6.48 acres of on-site native plant communities, approximately 4.72 acres are Chaparral, 1.03 acres of non-native Grassland, 0.70 acres of Coastal Sage Scrub and 0.03 acres of Residential/Urban/Exotic species. The impacts of the project implementation on the plant communities found on the project site are discussed below with impacts of the fuel modification requirements.

Coastal Sage Scrub

The Proposed Project site includes a total of approximately 100.07 acres of Coastal Sage Scrub (CSS). Grading for the Proposed Project would permanently impact 86.00 acres of CSS, which includes 0.70 acres of fuel modification impacts. The remaining 14.07 acres will be retained within Natural Open Space. The total loss represents about 86 percent of this habitat type on the site and would be considered a significant impact prior to mitigation. In addition, The Keystone site is within an area designated as critical habitat for the federally listed threatened coastal California gnatcatcher and CSS is considered to be a Primary Constituent Element (PCE) that could provide for breeding, foraging and dispersal for this

⁷ *Fuel Modification Plan Guidelines For Projects Located in Fire Zone 4 or Very High Fire Hazard Severity Zones, County of Los Angeles Fire Department, Fuel Modification Unit, Prevention Bureau, Forestry Division, January 1998.*

species. The loss of CSS, because it is within designated critical habitat and is a PCE, and the loss would be a significant impact.

Chaparral

The Proposed Project site includes a total of approximately 85.18 acres of Chaparral. Grading for the Proposed Project would permanently impact 57.85 acres of chaparral, which includes approximately 4.72 acres of fuel modification impacts. The remaining 27.33 acres will be retained within Natural Open Space. The total loss represents about 67.9 percent of this habitat type on the site. While chaparral is widespread and common and has no designation in the California Natural Diversity Database as a special-status habitat, The Keystone site is within an area designated as critical habitat for the federally listed threatened coastal California gnatcatcher and chaparral is considered to be a Primary Constituent Element (PCE) that could provide for breeding, foraging and dispersal for this species. The loss of chaparral, because it is within designated critical habitat and would be considered to be a PCE, would be a significant impact.

Non-Native Grassland

The Proposed Project site totals approximately 18.42 acres of non-native grassland (NNG). Grading for the Proposed Project would permanently impact 10.81 acres of NNG, which includes approximately 1.03 acres for fuel modification. The remaining 7.61 acres will be retained within Natural Open Space. The total loss represents about 58.6 percent of this habitat type on the site. NNG is not considered a PCE of the gnatcatcher Critical Habitat and the loss of NNG would not be considered a significant impact.

Southern Cottonwood-Willow Riparian Forest

The Proposed Project site totals approximately 3.09 acres of southern cottonwood-willow riparian forest. Grading for the Proposed Project would permanently impact 2.44 acres of riparian forest. The remaining 0.65 acres will be retained within Natural Open Space. The loss represents about 78.9 percent of this habitat type on the site and would be a significant impact.

Residential/Urban/Exotic Non-Habitat Vegetation Association

The Proposed Project site totals approximately 34.11 acres of residential/urban/exotic/non-habitat vegetation association. Grading for the Proposed Project would permanently impact 26.64 acres of exotic vegetation, which includes approximately 0.03 acres of fuel modification impacts. The remaining 7.47 acres will be retained within Natural Open Space. The loss represents about 78.1 percent of this habitat type on the site. Residential/Urban/Exotic vegetation is not considered a PCE of the gnatcatcher Critical Habitat and the loss of this type of land cover would not be considered significant.

Actively Scoured Santa Clara River Bottom

There are no impacts to Santa Clara River wash resulting from development. This entire area will be preserved as Natural Open Space.

Common Wildlife

Construction activity and grading operations, associated with development of the Proposed Project would temporarily disturb common wildlife species on that occupy the site. Many mobile species (e.g., avifauna) would be expected to relocate to other areas of similar habitat within the vicinity of the site. However, wildlife that disperse from the site are potentially vulnerable to mortality by predation, potential conflicts with humans (e.g. collision with automobiles etc.), and increased competition for food and territory, leading to mortality. In addition, species of low mobility (particularly amphibians and reptiles) would likely be killed during site preparations and construction.

Once grading is completed, the replacement of existing native vegetation with homes and infrastructure and ornamental landscaping would preclude reestablishment of natural communities on developed portions of the site and result in a reduction in native wildlife species diversity. A number of wildlife species would be replaced with a fauna more tolerant of, or even dependant upon, urban settings.

Because of the relatively common character and widespread distribution of many or most of the wildlife species that would be displaced or lost as a result of construction activities, such impacts are not considered significant. Furthermore, the introduction of non-native vegetation within developed portions of the site following project implementation is not expected to cause populations of common wildlife species on undeveloped portions of the site or on areas adjacent to the project site to drop below self-sustaining levels. Therefore, no significant impacts on common reptiles, amphibians, or mammals are expected to occur.

It should be noted that in the absence of mitigation, a number of bird species could be adversely affected as a result of implementation of the Proposed Project. The Proposed Project includes removal of mature trees and shrubs from the property. Construction-related activities could result in the direct loss of active nests or the abandonment of active nests by adult birds during the nesting season. Depending on the number and extent of bird nests on the site that may be disturbed or removed, the loss of active bird nests would be a potentially significant impact if clearing or grading were conducted during the nesting season. However, no significant impacts will occur to nesting bird species as all clearing will be conducted outside of the nesting season or will be preceded by nesting bird surveys to ensure that no nests are directly or indirectly affected. The Migratory Bird Treaty and the California Fish and Game Code prohibit the take — defined as destroy, harm, harass, etc. — bird nest with eggs or young.

Special-Status Plant and Wildlife Resources

Special-Status Plant Species

There was no special-status plant species observed during focused surveys conducted during the appropriate season. No significant impact to special-status plants would be associated with the project.

Oak Trees

The Proposed Project has been designed in a manner to minimize oak tree impacts. The City's Unified Development Code establishes requirements for the protection of oak trees that are two inches in diameter or greater as measured at four and one half feet above natural grade. The City requires a permit for cutting, moving, removal, or encroachment into the protective zone (drip zone plus five feet) of such trees.

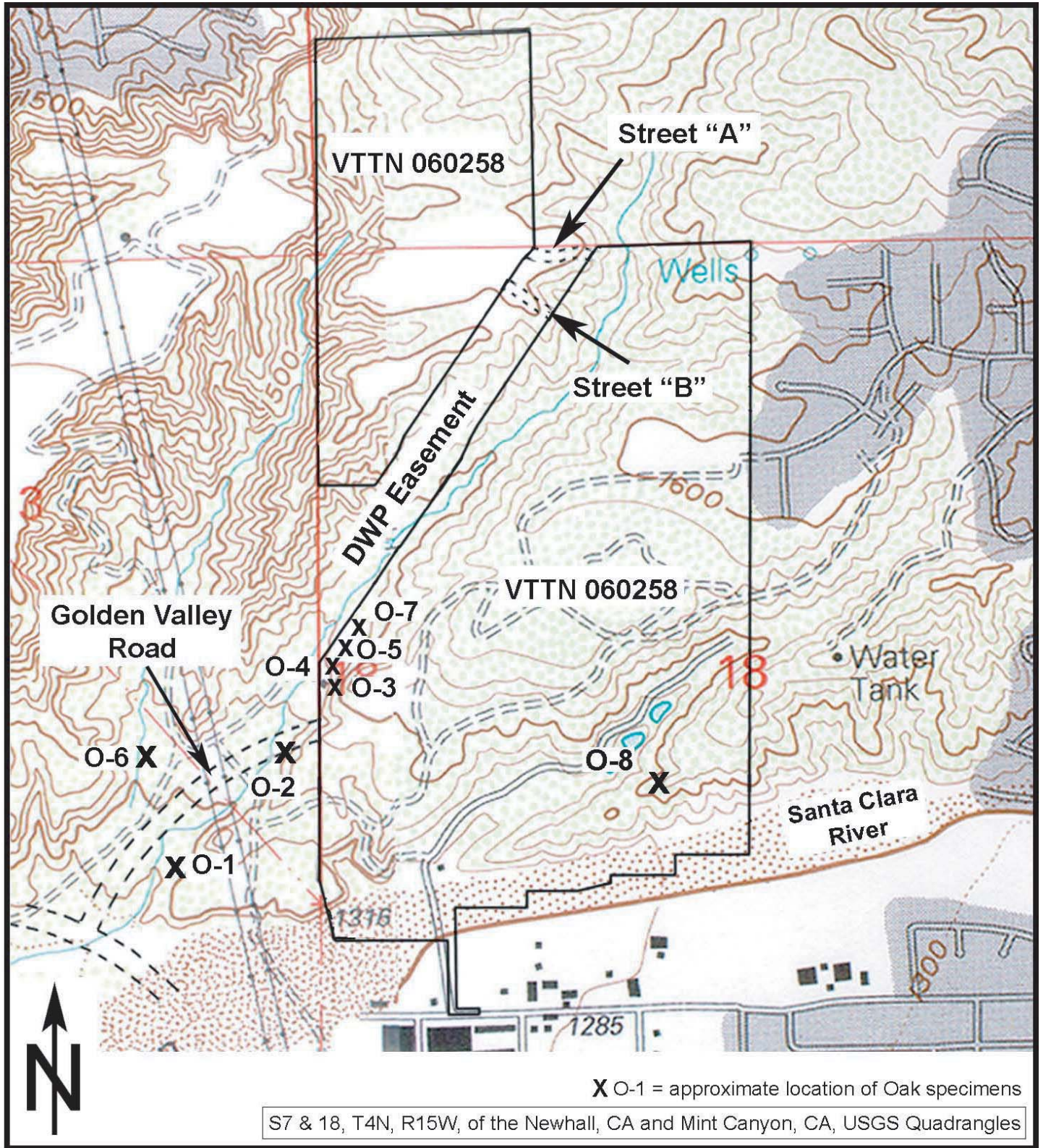
Figure V. D-5 illustrates the location of the oak trees assessed as part of this project. Of the eight oak trees, five oaks are located within the project site boundaries, area east of the LA DWP right-of-way. As shown on Figure V.D-5, one oak (Number O-8) within the project site boundaries would be removed during grading of a slope in Lot No. 115. The remaining four oak trees (Numbers O-3, O-4, O-5 and O-7) that are clustered together immediately adjacent to the right-of-way would be preserved as they are situated outside of any proposed construction area. These oaks would be preserved in situ in an open space area not proposed for development.

The remaining three oak trees are situated outside of the project site boundaries. Two of these trees (Number O-2 and O-6) are located in close proximity to the future alignment of the Golden Valley Road extension to Newhall Ranch Road. The project applicant would construct this alignment as its necessary to provide project site access. As such, one of the three trees would be preserved (O-1) in situ as it would not be within the roadway alignment.

Despite project design measures to minimize impacts on oaks, the three oak trees (Numbers O-1, O-2 and O-8) would be removed by construction of the Proposed Project and the Golden Valley Road extension. Because of the sensitivity status of oak trees in the City of Santa Clarita, the risk associated with relocation, the removal of oak trees, the relocation, and encroachment into the protected zone would be considered a significant impact.

Special-Status Wildlife

The potential direct impacts on special-status wildlife species occurring, or potentially occurring on the project site is discussed below.



Source: Thomas Leslie Corporation, March 2005



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Figure V.D-5
Location of Oak Trees

Species Observed in the Site

The Western spadefoot toad is a California Species of Special Concern and Federal Species of Concern and a single individual was observed on the project site during the 2003-focused survey. The area where the single individual was detected is located in an area proposed for development. However, because only a single individual was detected, the potential loss would not be considered a significant impact.

The Cooper's hawk is California Species of Special Concern that was occasionally observed foraging or flying over the site. No nesting was detected and potential breeding areas on the site are very limited. Development of the site would not result in significant impacts to the Cooper's hawk.

Bell's sage sparrow is a Federal Species of Concern and is still common throughout the region. One location for this species was observed during a number of survey visits. Breeding was not detected by TLC; however, suitable breeding habitat occurs on the site. Nevertheless, because this species is still common and only one occurrence would be affected by the project, the potential impact would not be considered significant.

The yellow warbler is a California Species of Special Concern that was observed on the site on two occasions. This species is still widespread and common in the region. No breeding was detected. Development of the site would not result in significant impacts to the yellow warbler.

The yellow-breasted chat is a California Species of Special Concern that was observed on the site on six occasions. This species is still widespread and common in the region. No breeding was detected. Development of the site would not result in significant impacts to the yellow-breasted chat.

The loggerhead shrike is California Species of Special Concern and Federal Species of Concern that was observed onsite on multiple occasions and constitutes a single occurrence. This species is still widespread and common in the region. No breeding was detected. Development of the site would not result in significant impacts to the loggerhead shrike.

Migratory Bird Treaty Act Compliance

Pursuant to the federal Migratory Bird Treaty Act, it is unlawful to "take" (i.e., capture, kill, pursue, or possess) migratory birds or their nests. Removal of vegetation associated with project implementation should not take place during the nesting season for most birds (January 31 to August 1) and for migratory birds (March 15 – August 15). The loss of an active nest of a migratory bird would be significant. With implementation of the recommended mitigation, this potential impact would be reduced to less-than-significant.

Jurisdictional Resources

Impacts to Corps Jurisdiction

Grading for the project would result in impacts to 1.22 acres of Waters of the United States of which 0.25 acre consists of jurisdictional wetlands. The loss of 1.22 acres of Waters of the United States is considered a significant impact prior to mitigation. With mitigation, the impacts would be reduced to less than significant.

Impacts to CDFG Jurisdiction

Grading for the project would result in impacts to 4.26 acres of CDFG jurisdiction. The loss of 4.26 acres of CDFG jurisdictional streambeds is considered a significant impact prior to mitigation. With mitigation, the impacts would be reduced to less than significant.

Impacts on Habitat Adjacent to Santa Clara River Riparian Area

As previously discussed, the upland habitat communities immediately adjacent to the river corridor are important to riparian wildlife species that also utilize these areas as part of their life history requirements. In general, upland habitat within 100 feet from the riparian wildlife species is necessary to maintain species diversity within the riparian ecosystem and adequately buffer this ecosystem from adjacent incompatible land uses.

As stated in the significance threshold criteria, providing an upland preserve area of less than 100 feet (in areas where at least 100 feet of upland habitat from the riparian resource currently occurs) of high quality habitat would be presumed to be a significant impact on the riparian ecosystem associated with the Santa Clara River. Temporary grading would be allowed in the 100-foot buffer if the area is re-vegetated with native habitats following completion of grading. With incorporation of native habitat into the 100-foot buffer area, any impacts to the Santa Clara River would be reduced to less than significant.

Significant Ecological Areas

No habitat within Santa Clara River SEA will be disturbed or converted to urban uses as result of project implementation resulting in permanent impact. Grading will be occurring in adjacent buffer areas; however, these areas will be planted with native species and will function as buffer areas upon completion of the project.

Coastal California Gnatcatcher Critical Habitat Unit 13

Pursuant to the Endangered Species Act of 1973 (as amended), the U.S. Fish and Wildlife Service has designated critical habitat for the threatened coastal California gnatcatcher, a once-common songbird

whose population has dwindled as coastal sage scrub has disappeared. Critical habitat designation refers to specific areas that are essential to the conservation of a listed species and, with respect to areas within the geographic range occupied by the species, that may require special management considerations or protection. Thus, all areas designated as critical habitat for the gnatcatcher contain one or more of the habitat components that are essential for the primary biological needs of foraging, nesting, rearing of young, intra-specific communication, roosting, dispersal, genetic exchange, or sheltering.

The coastal California gnatcatcher is a resident of scrub dominated plant communities from southern Ventura County southward through Los Angeles, Orange, Riverside, San Bernardino and San Diego Counties. The coastal California gnatcatcher is strongly associated with sage scrub in its various successional stages. The majority of plant species found in sage scrub are low-lying, drought-deciduous shrubs and sub-shrubs, including California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sages (*Salvia mellifera*, *S. apiana*) and other commonly occurring species include lemonadeberry (*Rhus integrifolia*), coast goldenbush (*Isocoma menziesii*), laurel sumac (*Malosma laurina*), boxthorn (*Lycium spp.*), cliff spurge (*Euphorbia misera*), and jojoba (*Simmondsia chinensis*).⁸ Coastal California gnatcatchers also use chaparral, grassland, and riparian plant communities where they occur adjacent to or intermixed with sage scrub.⁹ Sage scrub often occurs in a patchy, mosaic, distribution pattern throughout the range of the coastal California gnatcatcher.¹⁰

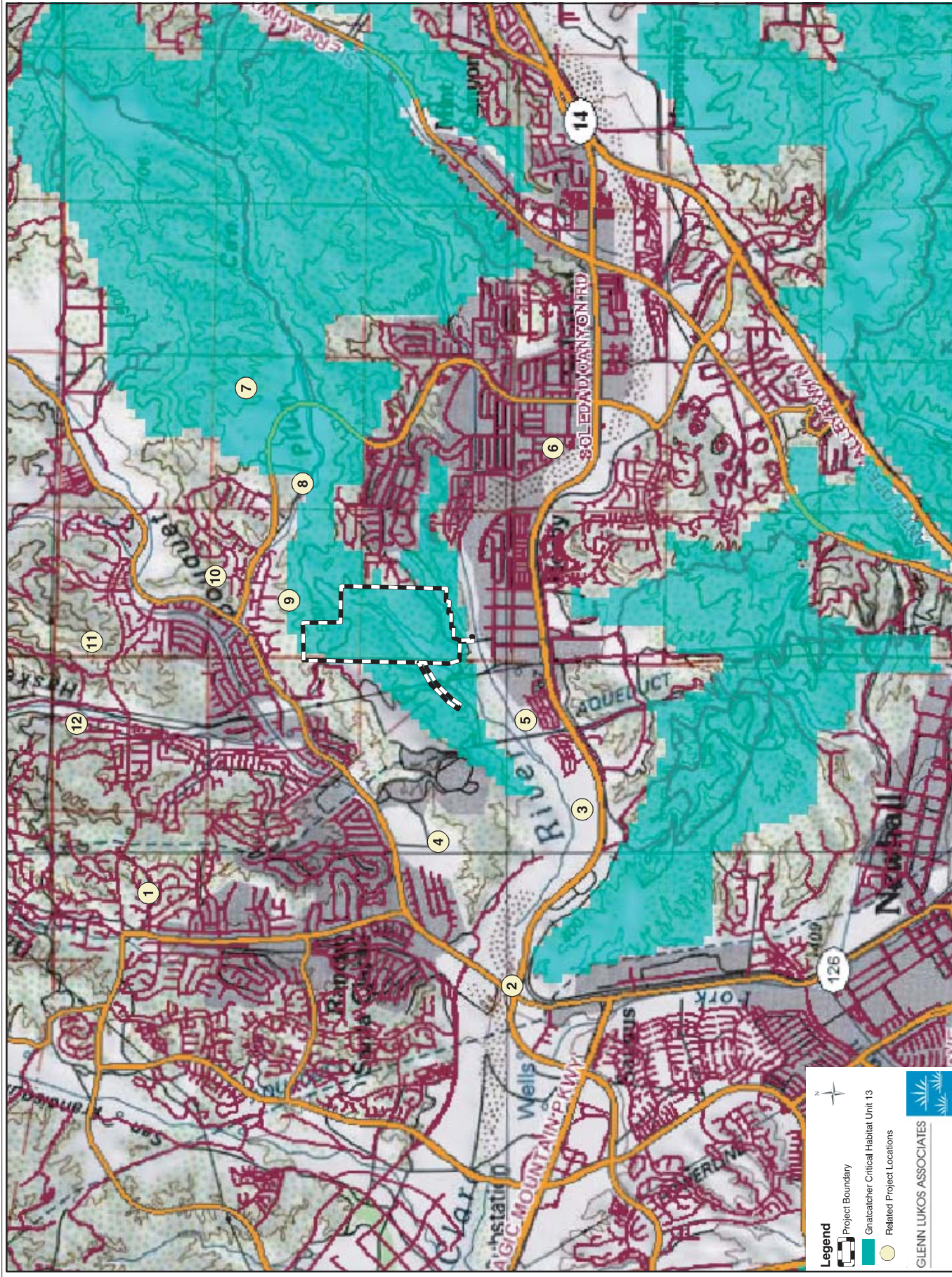
Critical habitat receives protection under Section 7 of the Endangered Species Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions authorized, funded, or carried out by a federal agency. Critical habitat does not receive protection of private lands in the absence of federal actions. Approximately 513,650 acres within the Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties are designated as critical habitat for the gnatcatcher. The Santa Clarita Valley, located in Los Angeles County, has a Coastal California gnatcatcher critical habitat area, known as Unit 13, and its location is shown in Figure V.D-6.

- Essentially, the entire Keystone site is located within Critical Habitat Unit 13 for the federally listed threatened coastal California gnatcatcher, which was not identified on the site during focused protocol surveys. As noted above, critical habitat only receives protection when there is a federal action associated with a project. In this case, the project will require a Section 404 Permit from the U.S. Army Corps of Engineers, providing the “nexus” that would bring the project impacts under

⁸ *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Guidelines, February 28, 1997, ventura.fws.gov/es/protocols/gnatcatcher_surveyguidelines.pdf*

⁹ *Ibid.*

¹⁰ *Ibid.*



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Figure V.D-6
 Location of Gnatcatcher Critical Habitat Area Unit 13

review by the Corps and U.S. Fish and Wildlife Service. Specifically, the 86.0 acres of CSS and 57.85 acres of chaparral on the site, totaling approximately 138.43 acres, are considered to comprise Primary Constituent Elements (PCEs) that could potentially provide for breeding, foraging and dispersal for this species. As noted under plant communities above, the loss of CSS and chaparral, totaling 138.43 acres combined, within Critical Habitat Unit 13 would be a significant impact in accordance with the CEQA Guidelines.

Operational Impacts

Indirect impacts on biological resources would occur to those habitat areas surrounding the project site after completion of the Proposed Project. It is expected that implementation of the Proposed Project would result in indirect impacts to biological resources in the following ways:

- An increased human and domestic animal presence in the area and noise associated with this presence;
- Increase in populations of non-native plant species;
- Increased light and glare;
- Stormwater runoff

Indirect impacts associated with Proposed Project are not quantifiable but are reasonably foreseeable. As such, the discussion that follows provides a common-sense identification of the types of secondary impacts and their relative magnitude such that decision makers and the general public are aware of the indirect impact potential associated with implementation of the Proposed Project.

Increased Human and Domestic Animal Presence

Implementation of the Proposed Project would increase human and domestic animal presence in the area. Increased recreational and other human activity around these habitats could: (1) displace a number of wildlife species, (2) increase the amount of refuse and pollutants in the area, (3) compact soils, and (4) trample ground-dwelling flora and fauna, and increased human activities adjacent to the river could also deter some animals, especially larger more secretive mammal species, such as coyote and mountain lion, from utilizing these habitats.

Site observations indicate that the river is currently used for unauthorized activities such as off-road vehicle use, equestrian activity, etc where such use is not confined to trails or established roads. Off-road vehicle use in the riverbeds can be expected to increase in proportion to population increases in the area. With no physical constraints in place to keep equestrian use on designated trails or to exclude off-road vehicles, additional recreational use increases the likelihood of intrusion into sensitive habitat areas, trampling of habitats, noise disturbances to wildlife (especially if within the breeding season of

birds and raptors) which can result in nest abandonment, and introduction of non-native plant species. Depending upon the season and location, this additional use can also cause increased erosion, siltation, and disruption of the hydrologic regime of the creek and river, possibly resulting in disturbance of downstream breeding ponds for special-status fish species, including the unarmored three-spine stickleback. Wildlife using the riparian ecosystem as movement corridors may also be disturbed and inadvertently flushed from hiding places, causing animals to avoid the area and potentially decrease use of the area as a movement corridor.

Increased use of the site by domestic animals can disturb nesting or roosting sites and disrupt the normal foraging activities of wildlife in adjacent habitat areas. Should this activity occur frequently, and over a long time period, these disturbances may have a long-term effect on the behavior of both common and special-status animals and can result in their extirpation from the area. Feral cats, as well as house cats, can cause substantial damage to the species composition of natural areas through predation, including populations of special-status species. Increased urban development can lead to higher numbers of cowbirds (which are highly adapted and attracted to urban settings) adjacent to and within the riparian areas, leading in turn to higher levels of nest parasitism of songbirds including common and sensitive bird species.

While it is acknowledged that the river already receives a certain amount of unauthorized equestrian and off-road vehicle use, as well as domestic animal use, an increase in these uses as a result of project implementation, taken together, could substantially effect the quality of these areas as wildlife habitat, would potentially interfere with movement of wildlife, and would potentially reduce the population of wildlife species, including special-status bird and fish species. Therefore, the increased use of the river areas by humans and domestic animals is considered a potentially significant impact.

Increase in Population of Non-Native Species

Non-native plant and wildlife species (e.g., tamarisk, giant cane, salt cedar, European starlings, house sparrows, red foxes, etc.) are typically attracted to developed and urban environments and potentially displace native species because of their ability to compete more effectively for resources. Non-native plants tend to be more adaptable to urban setting and adjacent open space areas and can out-compete native plants for available resources.

However, historical and ongoing development in the vicinity of the project site has like supported continual and ongoing increases and proliferation of non-native plant and wildlife species populations in remaining natural habitats. Because various levels of development essentially surround the project site, non-native and urban-adapted plant and wildlife species already occur on the project site and surrounding area (most were observed during various on-site surveys). Consequently, the Proposed Project is not exposed. Therefore, impacts on the remaining natural areas as result of potential increases in non-native plants and wildlife resulting from project implementation are not expected to be

significant. Incorporation of native planting into buffer areas along the Santa Clara River would further ensure that impacts to the river are less than significant.

Increased Light and Glare

The development of a residential community would increase the number of nighttime light and glare sources on the site over current levels, which are relatively low. Nighttime light can disturb breeding and foraging behavior and can potentially alter breeding cycles for birds, mammals, and nocturnal invertebrates. Light could deter some wildlife species, especially the larger mammals, from using the Santa Clara River as a wildlife movement corridor. If uncontrolled, such light could adversely impact the composition and behavior of the wildlife species that occur in these areas. Because of the potential disruption to breeding and foraging behavior of wildlife species remaining on, adjacent to, and in proximity to the project site, increased nighttime lighting and glare is considered a potentially significant impact.

Stormwater and Urban Runoff

Over-irrigation of landscaped areas, especially when combined with the use for chemicals, could lead to runoff that contains pesticides, herbicides, nitrates, and other contaminants. Any runoff that flows into the riparian corridor that contain high levels of nutrients, particularly fertilizers and waste products such as nitrogen and phosphorous, can result in eutrophication (excessive nutrient buildup). This in turn can result in depletion of available oxygen due to increased Biological Oxygen Demand (BOD) and reduce available dissolved oxygen for fish and other aquatic organisms. Other chemicals, pesticides, and herbicides can also adversely affect aquatic systems.

Paved surfaces could also contribute runoff into the riparian corridor during storm events. Depending on the magnitude and frequency of storm events and the overall level of the water quality, this runoff can cause increased eutrophication, depleted oxygen levels, long-term build-up of toxic compounds and heavy metals, and other adverse effects to biological resources associated with aquatic systems.

Since the use of chemicals and the extent of over-irrigation for landscaping within common and residential areas cannot be determined prior to project implementation, impacts related to stormwater and irrigation runoff could substantially affect special-status species potentially occurring downstream from the project site, substantially diminish habitat for fish, wildlife, or plants, and substantially degrade the quality of the environment. Therefore, these impacts would be considered potentially significant. A water quality program and runoff management plan, has been developed to address potential impacts associated with stormwater runoff and urban low flows and any potential impacts associated with water quality and storm runoff would be reduced to less-than-significant with implementation of the program [see Section V.H. Hydrology and Water Quality].

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Increasing urbanization of the general project area associated with the Proposed Project, in combination with the Related Projects identified below, would cumulatively impact biological resources by reducing total habitat area, limiting species diversity and restricting wildlife movement to smaller areas. Ongoing development would result in the incremental conversion of open space areas to a “built environment.” The Related Projects that occur in previously developed areas, including projects identified as Nos, 1, 2, 6, 10, 11, 12, are not expected to have a significant effect on those Biological Resources subject to significant impacts by The Keystone Project. These projects are also well removed from Critical Habitat Unit 13 and would not impact critical habitat for the coastal California gnatcatcher.

Other projects, including Nos 3, 4, 5, 7, and 8 as described below, exhibit potential for impacting biological resources, including resources impacted by The Keystone Development including: CSS, chaparral, Critical Habitat Unit 13 for the federally listed threatened coastal California gnatcatcher, southern cottonwood-willow riparian habitat, oak trees, and streams and drainage courses regulated as jurisdictional waters by the U.S. Army Corps of Engineers and the California Department of Fish and Game.

Impacts to Plant Communities

Direct impacts to Coastal Sage Scrub, Chaparral, and Southern Cottonwood Riparian Forest have been determined to be significant and with mitigation would be mitigated to a less than significant level. The loss of these habitats would add to the cumulative loss in the regions; however, with implementation of the mitigation for direct habitat loss, the cumulative impacts would also be reduced to a less-than significant level.

Impacts to Gnatcatcher Critical Habitat Unit 13

Direct impacts to Coastal Sage Scrub and Chaparral, which constitute Primary Constituent Elements (PCEs) of Critical Habitat for the coastal California gnatcatcher have been determined to be significant and with mitigation would be mitigated to a less than significant level. The loss of areas designated as Critical Habitat for the gnatcatcher would add to the cumulative loss of PCEs in the region; however, with implementation of the mitigation for direct loss, the PCEs would be replaced and the cumulative impacts would also be reduced to a less-than significant level. Therefore project and related project impacts would not be cumulatively considerable and impacts would be less than significant to Gnatcatcher Critical Habitat Unit 13.

Impacts to Corps and CDFG Jurisdiction

The loss of aquatic resources subject to the jurisdiction of the Corps and CDFG will be fully mitigated and there will be no cumulative impacts to these resources associated with the project. Therefore project and related project impacts would not be cumulatively considerable and impacts would be less

than significant. It also important to note that both the Corps and CDFG have no-net-loss policies and that every project that affects jurisdictional waters, must compensate for the loss of aquatic habitats at a minimum ratio of 1:1 ensuring no cumulative losses locally or regionally.

Related Projects

Of the 12 projects identified, six occur within or are surrounded by existing urban development as depicted on Figure V.D-7, including Related Projects identified as No, 1, 2, 6, 10, 11, 12 and are not expected to have a significant effect on Biological Resources subject to impacts by The Keystone Project. These projects are well-removed from Critical Habitat Unit 13 and would not impact critical habitat for the coastal California gnatcatcher. The remaining projects described below exhibit potential to impact CSS, chaparral, southern cottonwood-willow riparian forest, and Critical Habitat Unit 13.

Related Project No. 3, TT 062322

Related Project No. 3, TT 062322 is located north of Soledad Canyon Road and south of the Santa Clara River and includes construction of 420 town homes. This project exhibits potential for impacts to native habitats; however, the extent of potential impacts is not known. This project is not within Critical Habitat for the gnatcatcher.

Related Project No. 4, Riverpark

Related Project No. 4, Riverpark is located to the southwest of The Keystone site within one of the last remaining blocks of habitat in the area. The Riverpark project would result in the loss of CSS, Chaparral and limited amounts of highly degraded riparian habitat. The project is not within Critical Habitat for the gnatcatcher. Impacts to CSS and Chaparral were determined to not be significant and impacts to riparian habitat and oak trees, though significant are being fully mitigated.

Related Project No. 5, Aspen Investment Company,

Related Project No. 5, Aspen Investment Company, is located north of Soledad Canyon Road and south of the Santa Clara River and includes construction of eight new industrial buildings covering about 2.5 acres. This Project is not within Critical Habitat for the gnatcatcher and would not be expected to have significant impacts on native habitats.

Related Project No. 7, TT 46018

Related Project No. 7 46018, is a large development that is east and west of Plum Canyon and that would likely result in impacts to native habitats; however, the potential extent of the impacts are not known. This Project is within Critical Habitat for the gnatcatcher and any impacts to critical habitat would require consultation with the USFWS pursuant to Section 7 of the FESA. Mitigation for impacts

to designated critical habitat would be mitigated to less than significant through the Section 7 Consultation.

Related Project No. 8, TT 52763

Related Project No. 8, TT 52763 is located to the west of Plum Canyon and includes 11 residential units. This project would likely result in impacts to native habitats; however, the potential extent of the impacts are not known. This Project is within Critical Habitat for the gnatcatcher and any impacts to critical habitat would require consultation with the USFWS pursuant to Section 7 of the FESA. Mitigation for impacts to designated critical habitat would be mitigated to less than significant through the Section 7 Consultation.

Related Project No. 9, Plum Canyon TR 31803

Related Project No. 9, Plum Canyon TR 31803 is north and south of Golden Valley Road and west of Plum Canyon and includes 498 residential units. It appears that this project occurs within Critical Habitat for the gnatcatcher. As noted above, any impacts to critical habitat would require consultation with the USFWS pursuant to Section 7 of the FESA. Mitigation for impacts to designated critical habitat would be mitigated to less than significant through the Section 7 Consultation.

Related Projects Cumulative Significance Conclusion

The related projects discussed above exhibit potential to impact CSS, chaparral, southern cottonwood-willow riparian forest, and Critical Habitat Unit 13. However, impacts to critical habitat require consultation with the USFWS pursuant to Section 7 of the FESA and impacts would be less than significant for all of the related projects. For Related Project No. 4, Riverpark impacts to CSS and Chaparral were determined to not be significant and impacts to riparian habitat and oak trees, though significant are being fully mitigated. Therefore, project and related project impacts to CSS, chaparral, southern cottonwood-willow riparian forest, and Critical Habitat Unit 13 are not cumulatively considerable and impacts are less than significant.

MITIGATION MEASURES

Project Mitigation Measures

The following discussion describes measures proposed within this Draft EIR to avoid, minimize, or reduce significant or potentially significant impacts on biological resources. These measures are also designed to ensure compliance with state and federal statutes and regulations regarding special-status plant and wildlife species.

Construction Impacts

Plant Communities

The following recommended measures, D-1 through D-3, would mitigate project impacts to coastal sage scrub, chaparral and southern cottonwood willow riparian habitat:

Coastal Sage Scrub

D-1 The project will impact 86.0 acres of coastal sage scrub (CSS) (which includes 0.70 acres of fuel modification impacts), a special-status vegetation community and which is also within a designated critical habitat unit for the coastal California gnatcatcher. While the loss of 86.0 acres of coastal sage scrub would not directly affect the coastal California gnatcatcher based on the current surveys, the loss is considered a significant impact before mitigation. Mitigation shall consist of restoration or purchase of a minimum of 86.0 acres of CSS to replace the lost habitat or other equivalent mitigation as determined by USFWS in conjunction with Mitigation Measure D-10.

If restoration is determined to provide for all of the mitigation or a component of the mitigation, the following performance standards will be incorporated into a final habitat mitigation and monitoring plan (HMMP).

Standard Vegetation Monitoring procedures would be as follows:

- **First-Year Monitoring.** During the first year, monitoring would occur every month. One quantitative survey would be performed to determine planted species' growth performance. The following performance standards would be achieved at the end of the first year:
 - 25 percent coverage of native species (5 percent deviation allowed);
 - percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary, during the appropriate planting period, with the appropriate-sized stock or by seeding to ensure that these performance standards are achieved. At the end of the first year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Second-Year Monitoring.** During the second year, monitoring would occur on a quarterly basis. One quantitative survey would be performed to determine planted

species' growth performance. The following performance standards would be achieved at the end of the second year:

- 40 percent coverage of native species (< 5 percent deviation allowed);
- percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary, during the appropriate planting period, with the appropriate-sized stock to ensure that these performance standards are met. At the end of the second year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Third-Year Monitoring.** During the third year, monitoring would occur quarterly. One quantitative survey would be performed to determine planted species growth performance. The following performance standards would be achieved at the end of the year:
 - at least 55 percent coverage of native species (< 5 percent deviation allowed);
 - percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary with the appropriate-sized stock to ensure that these performance standards are achieved. If substantial non-compliance with the performance standards listed above occurs, the applicant would consult with the USFWS and CDFG to determine whether corrective measures and an extension of the five-year monitoring period would be necessary. At the end of the third year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Fourth-Year Monitoring.** During the fourth year, monitoring would occur quarterly. One quantitative survey would be performed to determine planted species' growth performance. The following performance standards would be achieved at the end of the year:
 - at least 65 percent coverage of native species (< 5 percent deviation allowed);
 - percent cover of non-native species not exceeding 10 percent;

Replanting would be performed as necessary, during the appropriate planting period, with the appropriate-sized stock to ensure that these performance standards are achieved. If substantial non-compliance with the performance standards listed above occurs, the applicant would consult with the USFWS and CDFG to determine whether corrective measures and an extension of the five-year monitoring period would be necessary. At the end of the fourth year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Fifth Year Monitoring.** During the fifth year, monitoring would occur quarterly. One quantitative survey would be performed to determine planted species' growth performance. The following performance standards would be achieved at the end of the year:
 - at least 75 percent coverage of native species (< 5 percent deviation allowed);
 - percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary, during the appropriate planting period, with the appropriate-sized stock to ensure that these performance standards are achieved. If substantial non-compliance with the performance standards listed above occurs, the applicant would consult with the USFWS and CDFG to determine whether corrective measures and an extension of the five-year monitoring period would be necessary. At the end of the fourth year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

Chaparral

- D-2** The project will impact 57.85 acres of chaparral, which is also within a designated critical habitat unit for the coastal California gnatcatcher. The 57.85 acres includes fuel modification impacted area of 4.72 acres. The loss of 57.85 acres of chaparral is considered a significant impact before mitigation. Mitigation shall consist of restoration or purchase of 57.85 acres to replace the lost functions of the Critical Habitat or mitigation as determined by USFWS in conjunction with Mitigation Measure D-10.

If restoration is determined to provide for all of the mitigation or a component of the mitigation, the following performance standards will be incorporated into a final habitat mitigation and monitoring plan (HMMP).

Standard Vegetation Monitoring procedures would be as follows:

- **First-Year Monitoring.** During the first year, monitoring would occur every month. One quantitative survey would be performed to determine planted species' growth performance. The following performance standards would be achieved at the end of the first year:
 - 25 percent coverage of native species (5 percent deviation allowed);
 - percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary, during the appropriate planting period, with the appropriate-sized stock or by seeding to ensure that these performance standards are

achieved. At the end of the first year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Second-Year Monitoring.** During the second year, monitoring would occur on a quarterly basis. One quantitative survey would be performed to determine planted species' growth performance. The following performance standards would be achieved at the end of the second year:

-- 40 percent coverage of native species (< 5 percent deviation allowed);

-- percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary, during the appropriate planting period, with the appropriate-sized stock to ensure that these performance standards are met. At the end of the second year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Third-Year Monitoring.** During the third year, monitoring would occur quarterly. One quantitative survey would be performed to determine planted species growth performance. The following performance standards would be achieved at the end of the year:

-- at least 55 percent coverage of native species (< 5 percent deviation allowed);

-- percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary with the appropriate-sized stock to ensure that these performance standards are achieved. If substantial non-compliance with the performance standards listed above occurs, the applicant would consult with the USFWS and CDFG to determine whether corrective measures and an extension of the five-year monitoring period would be necessary. At the end of the third year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Fourth-Year Monitoring.** During the fourth year, monitoring would occur quarterly. One quantitative survey would be performed to determine planted species' growth performance. The following performance standards would be achieved at the end of the year:

-- at least 65 percent coverage of native species (< 5 percent deviation allowed);

-- percent cover of non-native species not exceeding 10 percent;

Replanting would be performed as necessary, during the appropriate planting period, with the appropriate-sized stock to ensure that these performance standards are achieved. If substantial non-compliance with the performance standards listed above occurs, the applicant would consult with the USFWS and CDFG to determine whether corrective measures and an extension of the five-year monitoring period would be necessary. At the end of the fourth year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Fifth Year Monitoring.** During the fifth year, monitoring would occur quarterly. One quantitative survey would be performed to determine planted species' growth performance. The following performance standards would be achieved at the end of the year:
 - at least 75 percent coverage of native species (< 5 percent deviation allowed);
 - percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary, during the appropriate planting period, with the appropriate-sized stock to ensure that these performance standards are achieved. If substantial non-compliance with the performance standards listed above occurs, the applicant would consult with the USFWS and CDFG to determine whether corrective measures and an extension of the five-year monitoring period would be necessary. At the end of the fourth year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

Southern Cottonwood-Willow Riparian Habitat

D-3 The project will impact 2.44 acres of Southern Cottonwood-Willow Riparian Habitat, a habitat designated as sensitive in the CNDDDB and that is also regulated by CDFG. The impact is therefore considered significant. The applicant shall develop a mitigation and monitoring plan to be prepared in accordance with the most Corps recent guidelines and shall receive approval of the plan by CDFG prior to impacts to jurisdictional waters on the site. A five-year monitoring plan shall be implemented as set forth in the mitigation and monitoring plan prepared for the project.

If restoration is determined to provide for all of the mitigation or a component of the mitigation, the following performance standards will be incorporated into a final habitat mitigation and monitoring plan (HMMP).

Standard Vegetation Monitoring procedures would be as follows:

- **First-Year Monitoring.** During the first year, monitoring would occur every month. One quantitative survey would be performed to determine planted species' growth performance. The following performance standards would be achieved at the end of the first year:

- 35 percent coverage of native species (5 percent deviation allowed);
- percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary, during the appropriate planting period, with the appropriate-sized stock or by seeding to ensure that these performance standards are achieved. At the end of the first year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Second-Year Monitoring.** During the second year, monitoring would occur on a quarterly basis. One quantitative survey would be performed to determine planted species' growth performance. The following performance standards would be achieved at the end of the second year:

- 50 percent coverage of native species (< 5 percent deviation allowed);
- percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary, during the appropriate planting period, with the appropriate-sized stock to ensure that these performance standards are met. At the end of the second year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Third-Year Monitoring.** During the third year, monitoring would occur quarterly. One quantitative survey would be performed to determine planted species growth performance. The following performance standards would be achieved at the end of the year:

- at least 65 percent coverage of native species (< 5 percent deviation allowed);
- percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary with the appropriate-sized stock to ensure that these performance standards are achieved. If substantial non-compliance with the performance standards listed above occurs, the applicant would consult with the USFWS and CDFG to determine whether corrective measures and an extension of the five-year monitoring period would be necessary. At the end of the third year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Fourth-Year Monitoring.** During the fourth year, monitoring would occur quarterly. One quantitative survey would be performed to determine planted species' growth performance. The following performance standards would be achieved at the end of the year:

- at least 75 percent coverage of native species (< 5 percent deviation allowed);

- percent cover of non-native species not exceeding 10 percent;

Replanting would be performed as necessary, during the appropriate planting period, with the appropriate-sized stock to ensure that these performance standards are achieved. If substantial non-compliance with the performance standards listed above occurs, the applicant would consult with the USFWS and CDFG to determine whether corrective measures and an extension of the five-year monitoring period would be necessary. At the end of the fourth year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

- **Fifth Year Monitoring.** During the fifth year, monitoring would occur quarterly. One quantitative survey would be performed to determine planted species' growth performance. The following performance standards would be achieved at the end of the year:

- at least 90 percent coverage of native species (< 5 percent deviation allowed);

- percent cover of non-native species not exceeding 10 percent;

Replanting would be performed, as necessary, during the appropriate planting period, with the appropriate-sized stock to ensure that these performance standards are achieved. If substantial non-compliance with the performance standards listed above occurs, the applicant would consult with the USFWS and CDFG to determine whether corrective measures and an extension of the five-year monitoring period would be necessary. At the end of the fourth year, a report summarizing the revegetation site performance would be submitted to the Responsible Parties for distribution to the Resource Agencies.

Special-Status Plant and Wildlife Resources

Special-Status Plant Species

Oak Trees

The following recommended measure, D-4, would mitigate project impacts to oak trees:

D-4 While the majority of oak trees on the site will be retained in place, three oak trees (designated O-1, O-2, and O-8 in the TLC report) would be removed during grading; one (O-8) would be removed due to project construction and two would be removed due to construction of the Golden Valley Road extension from the project site boundary to Newhall Ranch Road. Appropriate approvals shall be obtained prior to oak trees being removed, subject to the Oak Tree Preservation Ordinance (Ordinance 89-1) and the City of Santa Clarita Oak Tree Preservation and Maintenance Guidelines. The applicant shall develop a detailed mitigation program for approval by the City in accordance with the Ordinance. In addition, and prior to grading, oak trees near construction/grading area that will not be removed and will be protected during the grading and construction phases of the project by appropriate fencing that extends 5 feet beyond the tree canopy's dripline, or 15 feet from the trunk, whichever is greater.

Equipment damage to the limbs, trunks and roots must be avoided. Even slight trunk injuries can result in long-term, life threatening pathogenic maladies. No storage of equipment or debris within the Protective Zone (drip line plus 5 feet) will be allowed. No dumping of construction wastewater i.e., paint, stucco, concrete, clean-up, etc. Within Protective Zones, Generally, fencing shall be placed at the Protective Zone of any oak or groups of oaks within 50 feet of proposed construction activity. Protective Fencing must remain in place during construction projects and shall not be moved or removed without prior written approval from the Department of Planning and Economic Development under the direct supervision of the Project Consulting Arborist.

Protective Fencing shall be a least 4 feet in height with a visible sign attached a 50 feet intervals which reads: (WARNING- THIS FENCE IS FOR THE PROTECTION OF THIS TREE AND SHALL NOT BE REMOVED OR RELOCATED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF SANTA CLARITA DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT)

Care should be taken to avoid placing any sprinklers within watering distance to the trunk of an oak tree. Generally, sprinklers should not reach within 15 feet of a mature oak trunk. Grass or ground covers must never be planted next to the trunks. Too much moisture near the base of an oak is generally believed to be their leading cause of death in residential settings. Oak Root Fungus is the result of over-watering. Oak trees survive and thrive on annual rainfall alone and generally do not need supplemental irrigation except during periods of drought. Watering should take place at or near the drip line. Landscape plans should leave the area within the drip line of an oak tree in a native or natural setting.

Care must be taken to limit grade changes near the trunk areas. The grade should not be lowered or raised around the trunks of trees. This can lead to plant stress from oxygen deprivation or Oak Root Fungus at the root collar.

Protective fencing shall be installed around all oaks not listed for removal. Place protective fencing at the Protective Zone (PZ). The fencing can be repositioned as needed to allow for grading near the oaks listed as "impacted". The project arborist must be present during the fence placement. Final fencing locations shall be inspected by the City prior to the commencement of development activities. Regular inspections of this fencing shall occur during site development.

An Oak Tree Information Packet including the City of Santa Clarita Oak Tree Protection and Preservation Guidelines must be available on site during construction. The property owner and contractor should be familiar with the contents of these documents.

Vehicle travel along dirt roadways to and from the site may create a heavy coating of dust on the foliage of nearby oaks. These oaks should be hosed off periodically during construction activities.

All work performed within the Protective Zone (drip line plus 5 feet) of any oak shall be accomplished by utilizing hand tools only and must be 'monitored' by the projects Oak Tree Consultant.

All roots over 1.5-inch diameter will be clean cut at a 45-degree angle and treated by the Consulting Arborist.

No oaks outside the property line (except for two oaks to be removed for construction of Golden Valley Road) are to be impacted by this construction project.

The leaf-litter build-up under the canopies of the oaks on this site is ideal for healthy tree growth and root development. Do not alter or remove if possible. A 3-inch layer of mulch may be advisable in settings where leaf-litter has been lost.

Do not remove the aluminum tags numbering each oak on this site.

No construction materials are to be stored or discarded within the Protected Zone (PZ) of any oak. Rinse water, concrete residue, liquid contaminants (paint, thinners, gasoline, oils, etc.) of any type shall not be deposited in any form at the base of an oak.

No vehicles shall be parked within the PZ of an oak. No construction vehicles are to be parked under the shade within the PZ of an oak.

Special-Status Wildlife

Migratory Bird Treaty Act Compliance

The following recommended measures, D-5 and D-6, would mitigate potential impacts on active migratory bird nests and other bird nests:

- D-5** If grubbing or clearing of vegetation is scheduled to occur during the nesting season (January 31 to August 1), then prior to issuance of grading permits the project applicant shall have a qualified biologist survey the project site for the presence of any occupied raptor nests. If such a nest is found, then no construction work shall occur within a 300-foot radius from the nest until the nestlings have fledged, or as directed by the biological monitor to ensure compliance with Section 3503.5 of the California Fish and Game Code.
- D-6** If grubbing or clearing of vegetation is scheduled to take place during the nesting season for migratory birds (March 15-August 15), then three days prior to issuance of grading permits, the Project Applicant shall have a qualified biologist survey impact areas for the presence of occupied migratory bird nests. If active nests of migratory birds are located, then no construction work shall occur within a 300-foot radius from the nest until the nestlings have fledged, or as directed by the biological monitor.

Jurisdictional Resources

The following mitigation measures, D-7 and D-8, would mitigate project impacts to Corps Jurisdiction and CDFG Jurisdiction:

Impacts to Corps Jurisdiction

- D-7** The applicant shall obtain a Section 404 Permit from the Corps prior to discharging fill into waters of the United States. The loss of 1.22 acres of waters of the United States shall be mitigated at a minimum replacement of 1:1 on the project site or in the vicinity of the site in the Santa Clara River watershed as determined through processing of the Section 404 Permit. The applicant shall develop a mitigation and monitoring plan prepared in accordance with the most recent guidelines prepared by the Corps and shall receive approval of the plan by the Corps prior to impacts to jurisdictional waters on the site. A five-year monitoring plan shall be implemented as set forth in the mitigation and monitoring plan prepared for the project.

Impacts to CDFG Jurisdiction

- D-8** The applicant shall obtain a Section 1602 Streambed Alteration Agreement from CDFG prior to impacting waters of the State. The loss of 4.26 acres of CDFG jurisdictional streambeds shall be mitigated at a minimum replacement of 1:1 on the project site or in the vicinity of the site in

the Santa Clara River watershed or as determined in the Streambed Alteration Agreement. The applicant shall develop a mitigation and monitoring plan prepared in accordance with the most recent guidelines prepared by the Corps and shall receive approval of the plan by CDFG prior to impacts to jurisdictional waters on the site. A five-year monitoring plan shall be implemented as set forth in the mitigation and monitoring plan prepared for the project.

Habitat Adjacent to Santa Clara River Riparian Area

The following mitigation measure, D-9, would mitigate impacts to habitat adjacent to Santa Clara River Riparian area:

- D-9** Temporary project grading shall be allowed within a 100 foot buffer area adjacent to the Santa Clara River Riparian Area. Upon completion of grading, the project applicant shall re-vegetate the 100-foot buffer area with native habitat. The applicant shall delineate the 100-foot buffer prior to issuance of grading permits. A palette of site-appropriate native plant species shall be submitted to the Director of Planning and Economic Development for approval prior to issuance of grading permits.

Gnatcatcher Critical Habitat

The following measure, D-10, would mitigate project impacts to the California Gnatcatcher Critical Habitat:

- D-10** The project shall require federal permits (i.e., a Section 404 Permit from the Corps) that would further require that impacts to designated critical habitat be addressed through a Section 7 Consultation with USFWS. While specific performance standards for 1:1 habitat restoration or creation to replace the loss of CSS and Chaparral have been addressed above, additional mitigation may be required for impacts to designated gnatcatcher critical habitat will be addressed and developed in consultation with USFWS during the Section 7 Consultation.

Additional Construction-Related Mitigation Measures

The following measure, D-11, would mitigate project impacts related to construction and grading activities:

- D-11** A qualified biologist shall be retained, as determined by the City of Santa Clarita, as a construction monitor to ensure that incidental construction impacts on biological resources are avoided, or minimized, and to conduct pre-grading field surveys for special-status plant and wildlife species that may be destroyed as a result of construction and/or site preparation activities. Responsibilities of the construction monitor include the following:

- a) The construction monitor shall attend pre-grade meetings to ensure that timing/location of construction activities do not conflict with mitigation requirements (e.g. seasonal surveys for plants and wildlife).
- b) Mark/flag the construction area in the field with contractor in accordance with the final approved grading plan. Haul roads and access roads shall only be sited within the grading areas analyzed in the project EIR.
- c) Supervise cordoning of preserved natural areas that lie outside grading areas identified in the project EIR (e.g., with temporary fence posts and colored rope).
- d) Conduct a field review of the staking (to be set by the surveyor) designating the limits of all construction activity. Any construction activity areas immediately adjacent to riparian areas or other special-status resources should be flagged or temporarily fenced by the monitor, at his/ her discretion.
- e) Conduct meetings with the contractor and other key construction personnel describing the importance of restricting work to designated areas. The monitor should also discuss procedures for minimizing harm/ harassment of wildlife encountered during construction.
- f) Periodically visit the site during construction to coordinate and monitor compliance with the above provisions.
- g) Construction personnel shall be prohibited from entry into areas outside the designated construction area, except for necessary construction related activities, such as surveying. All such construction activities shall be coordinated with the construction monitor.
- h) Construction personnel shall implement standard dust control measures to reduce impacts on nearby plants and wildlife. This includes replacing ground cover in temporarily disturbed areas as quickly as possible; water active sites at least twice daily; suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph; and restricting traffic speeds on all unpaved roads to 15 mph or less in areas within 200 feet of vegetation.
- i) Upon completion of construction, the contractor shall be held responsible to restore any haul roads and access roads that are outside of approved grading limits. This restoration shall be done in consultation with the construction monitor.

Operational Impacts

Increased Human and Domestic Animal Presence

The following measures, D-12 through D-17, would mitigate project impacts associated with increased human and domestic animal presence in the project site and area:

- D-12** Pets and other domestic animals shall be prohibited with fencing and signage from the open space areas and in any revegetation areas on the project site unless restrained by leash and only in designated areas.
- D-13** Fencing of sufficient height and design (i.e., ranch-rail) shall be constructed between the edge of the fuel modification zone and the river corridor to deter humans and domestic animals from entering open space habitat areas.
- D-14** Native shrubs such as laurel sumac, California coffeeberry, toyon, and coast prickly-pear shall be planted along the fence to further deter access. Final fence design shall be approved by and the City Planning and Building Services Department.
- D-15** Human access into the open space areas shall only occur in designated locations (i.e., existing and future trails). All motorized vehicles are prohibited from entering the preserved natural open space areas with the exception of emergency or maintenance vehicles. Applicant shall post signage reflecting the above requirement.
- D-16** Prohibitions against human, domestic animal, and motorized vehicle use in preserved natural open space areas shall be established by the covenants conditions and restrictions (CC & Rs) recorded with the City Planning and Building Services Department.
- D-17** Interpretative signs shall be constructed and placed in appropriate areas, as determined by the City Planning and Building Services Department that explain the sensitivity of natural habitats and the need to minimize impacts on these natural areas. The signs will state that they are entering a protected natural area and that all pedestrians must remain on designated trails, all pets are to be restrained on leash, and that it is illegal to harm, remove, and/or collect native plants and animals. The project applicant shall be responsible for installation of interpretive signs and fencing.

Lighting and Glare

The following measure, D-18, would mitigate project impacts regarding light and glare:

- D-18** All street, residential, and parking lot lighting shall be downcast luminaries or directional lighting with light patterns directed away from natural areas. Covenants, Codes and restrictions

(CC&Rs) shall require the exterior lighting within the residential area be limited to low voltage, unless such lights are shielded and pointed downward.

Increase in Population of Non-Native Species

The following measure, D-19, would mitigate project impacts with increased population of non-native species:

D-19 The only potential impacts associated with an increase in non-native species are along the interface of the Santa Clara River. Implementation of Mitigation Measures D-9 and D-17 above, would mitigate these potential impacts to a level that is less than significant.

Cumulative Mitigation Measures

Most impacts on biological resources would be mitigated to levels of insignificance as individual projects are conditioned during the local land use permitting process. The Proposed Project would similarly mitigate impacts to some of these resources to less than significant levels. In addition, the City can impose various mitigation measures within its jurisdiction related to cumulative impacts on biology. It can require that developments in the city provide similar protections for biological resources as are set forth for this project, including setbacks or “buffer” zones between development and riparian habitat as determined by site-specific assessments of those areas, revegetation, habitat enhancements, and physical improvements to minimize the likelihood of human and animal intrusion. Finally, impacts to resources subject to state and federal regulation, including U.S. Army Corps of Engineers and California Department of Fish and Game for streams and associated wetlands and riparian habitats and the U.S. Fish and Wildlife Service for Critical Habitat Unit 13 for the coastal California gnatcatcher will be subject to review and authorization that will require adequate mitigation to comply with state and federal requirements.

Impacts to Plant Communities

Direct impacts to Coastal Sage Scrub, Chaparral, Southern Cottonwood-Willow Riparian Forest and individual oak trees have been determined to be significant and with mitigation would be mitigated to a less than significant level. The loss of these habitats, in the absence of mitigation would add to the cumulative loss in the regions; however, with implementation of the mitigation for direct habitat loss would be fully compensated and the cumulative impacts would also be reduced to a less-than significant level as set forth in mitigation measures D-1, D-2, and D-5.

Impacts to Gnatcatcher Critical Habitat Unit 13

Direct impacts to Coastal Sage Scrub and Chaparral, which constitute Primary Constituent Elements (PCEs) of Critical Habitat for the coastal California gnatcatcher have been determined to be significant

and with mitigation would be mitigated to a less than significant level as set forth in mitigation measures D-1, D-2, and D-10.

Impacts to Corps and CDFG Jurisdiction

The loss of aquatic resources subject to the jurisdiction of the Corps and CDFG will be fully mitigated and there will be no cumulative impacts to these resources associated with the project with provision of mitigation measure D-8.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Project construction impacts to Plant Communities (Coastal Sage Scrub Chaparral, Southern Cottonwood-Willow Riparian Habitat) would be mitigated with measures D-1 through D-3. Impacts to Special-Status Plant Species (Oak Trees) would be mitigated with measure D-4. Impacts to Special-Status Wildlife (Active Bird Nests/Migratory Bird Treaty Act Compliance) would be mitigated with measures D-5 and D-6. Impacts to Corps Jurisdiction and to CDFG Jurisdiction would be mitigated with measures D-7 and D-8, respectively. Impacts to Habitat Adjacent to Santa Clara River Riparian Area would be mitigated with measure D-9. Impacts to Gnatcatcher Critical Habitat would be mitigated with measure D-10. Additional construction mitigation was provided with measure D-11.

For operational impacts, the project would increase human and domestic animal presence to the areas biological resources and thus measure D-12 mitigates the significant impact. Impact relating to increase in light and glare on nearby biological resources would be significant and measure D-13 provides sufficient mitigation. Finally, the project has the potential to increase the population of non-native species that could significantly impact the area's biological resources and measure D-14 mitigates the impact to less than significant. All proposed impacts to biological resources would be mitigated to a less-than-significant level with implementation of the mitigation measures, set forth above.

Cumulative

Because of the overall low value of the biological resources on the site, the proposed Keystone project's contribution to the regional loss would not be substantial. However, significant impacts to Coastal Sage Scrub, Chaparral, Southern Cottonwood-Willow Riparian Forest and individual oak trees have been determined and the loss of these habitats with project and related project implementation would add to the cumulative loss in the regions. With implementation of the mitigation for direct habitat loss would be fully compensated and the cumulative impacts would also be reduced to a less-than significant level as set forth mitigation measures D-1, D-2, D-3, and D-5. Therefore the project's contribution would not be considerable and impacts would be less than significant.

Cumulative impacts to Gnatcatcher Critical Habitat Unit 13 would be mitigated to a less than significant level as set forth in mitigation measure D-1, D-2, and D-10. The cumulative loss of aquatic resources subject to the jurisdiction of the Corps and CDFG would be mitigated with the project mitigation measures D-7 and D-8, respectively. All potential cumulative impacts to biological resources would be mitigated to a less-than-significant level with implementation of the mitigation measures set forth above. Therefore, the project's contribution would not be considerable and impacts would be less than significant.

V. ENVIRONMENTAL IMPACT ANALYSIS

E. CULTURAL RESOURCES

1. HISTORICAL

INTRODUCTION

This section of the EIR was prepared using the following primary sources of information:

- Phase 1 Cultural Resources Investigation of The Keystone Project Area in the Santa Clarita Area of Los Angeles County, California, McKENNA et al., March 15, 2005

A Phase 1 Cultural Resources Investigation for the Proposed Project was prepared by McKenna et al. to analyze the potential historical resources impacts associated with the Proposed Project. A summary of the Phase 1 Cultural Resources Investigation with respect to potential historical resources impacts is set forth below. The Phase 1 Cultural Resources Investigation, which is incorporated herein by this reference, is included in its entirety as Appendix 4(A) to this Draft EIR.

ENVIRONMENTAL SETTING

Ethnographic Background

The upper Santa Clara Valley region, including the Santa Clarita/Newhall area, was inhabited during the anthropological past by an ethnolinguistic group known as the Tataviam. This Native American Indian culture is thought to have inhabited the upper Santa Clara River drainage from about Piru eastwards to just beyond the Vasquez Rocks/Aqua Dulce area, southward as far as Newhall, and northward to the middle reaches of Piru Creek. Their northernmost boundary likely ran along the northern foothills of the Liebre Mountains (i.e., the edge of the Antelope Valley), and then crossed to the southern slopes of the Sawmill Mountains and the Sierra Pelona, extending as far east as Soledad Pass. The Tataviam's southernmost boundary ran approximately along the crest of the western arm of the San Gabriel Mountains, north of San Fernando, and westward beyond Fremont and San Fernando Pass to the Santa Susana Mountains.

Known Tataviam villages during the historic period include: piirukung and akavaya, both near modern Piru; tsavayung, Rancho San Francisco; etseng, kuvung, and huyung, on Piru Creek above Piru; tochonanga, near Newhall at the head of the Santa Clara River; and kwanung, Elizabeth Lake. A kamlus, near modern Rancho Camluos, a mixed Chumash-Tataviam population lived. Tsavayung, Rancho San Francisco, and tochonanga Newhall are recorded historical localities closest to the project area.

Culturally, the Tataviam were in most respects similar to their Fernandeano and Chumash neighbors to the south and west, respectively. In this sense, they were hunters/gathers, with subsistence emphasizing yucca, acorns, juniper berries, sage seeds, and islay. Game was also hunted, including small animals, such as rabbits/hares and rodents, probably representing more significant contributions of meat protein than larger game, such as deer.

Very little is known of the Tataviam social and political organization. Based on analogies with surrounding groups, it can be suggested that they were organized in a series of tribelets, similar to the naciones, and found to be characteristic of much of California aboriginal socio-political organization. The tribelet represented an autonomous land-holding unit, minimally controlled by a head-chief. They usually included one large “capital” village, sometimes occupied year-round, and a series of smaller, seasonally employed hamlets. Whether the Tataviam may have had exogamous clans and moieties like the Cahuilla and Serrano to the east is unknown. However, it is estimated that the Tataviam population was less than 1,000 at the time of Euro-American contact and that only two or three of the largest villages existed throughout their territory.

Although the Tataviam were one of the earliest groups contacted by Spanish missionaries, with a number of their villages briefly described by member of the Portolá expedition of 1769, a general lack of information on this group exists. By 1810, all Tataviam had been baptized at Mission San Fernando and were quickly absorbed by other groups through intermarriage. The last speaker of Tataviam died in 1916.

Historical Background

Apparently the first Euro-American identification of the Santa Clarita region occurred in the chronicles of the Portola expedition of 1769. This expedition passed through the San Fernando Valley to Newhall, to the Castaic Junction area, and then down to Santa Clara River to Ventura, on its way to Monterey. Although the region was traversed by a number of Spanish explorers in subsequent years, it initially remained isolated due to rugged topography, even though it had been suggested as a locale for a mission. Thus, with the establishment of Missions San Buenaventura in 1782, and San Fernando in 1797, late 18th-century historical events largely occurred in areas to the west and south of the upper Santa Clarita Valley proper.

As the missions increased in size and their herds grew, it became necessary for many of them to establish mission ranchos, or estancias, to allow their cattle to graze some distance from the mission vineyards and fields. With this geographical expansion of mission influence and activities, the upper Santa Clarita Valley region became important, if not pivotal, in a number of events central to the development of southern California. Rancho San Francisco, comprising the upper reaches of the Santa Clarita Valley down to Piru, served as the estancia for Mission San Fernando and was established a few years after the founding of the mission itself.

The Rancho San Francisco and the upper reaches of the Santa Clarita Valley figured in three important episodes in southern California, two of which are landmarks in the economic history of the state. The first was the discovery of gold in Placerita Canyon in 1842 by Francisco Lopez, Manuel Cota, and Domingo Bermudez. The upper Santa Clarita Valley was also the first location of true oil drilling. Petroleum exploration began about 1865, when oil seeps were discovered in Pico Canyon. This led to discoveries of oil on Rancho San Francisco and ultimately throughout the valley. Lack of a local market and cost of shipping prevented major development of this natural resource until 1876 when the Southern Pacific Railroad crossed the region. This initiated an oil boom in the area, with the development of the Newhall oil field and the establishment of the Pioneer Oil Refinery.

The third local event of historical importance in southern California was the collapse of the St. Francis Dam and the resulting flood of the Santa Clara River Valley on March 12 and 13, 1928. With the failure of the dam near midnight on March 12th, water raged down San Francisquito Canyon to Castaic Junction, which the flood effectively leveled, and then on to Fillmore, Santa Paula, and ultimately to the Pacific Ocean. The flood caused at least 336 deaths and destroyed 990 homes and many acres of orchards. It is likely that prehistoric archaeological deposits left in this area would have been washed away or covered with alluvium.

Records Search

As mentioned previously, the project site dominates the western half of Section 18. Research through the Bureau of Land Management General Land Office records revealed that the project site was subdivided and owned relatively early in California history. Some owners in the western half of Section 18 include:

Walter W. Varner (1897) – 153.99 acres

Frank G. Teachout (1895) – 153.57

Belle B. Long (1923) – 113.57 acres (p/o Teachout acres)

Dayton M. Furnivall (1917) – 146.99 acres

Joseph W. Furnivall (1917) – 158.54 acres (p/o Varner acres)

In each case these were homestead records, suggesting there should be some evidence of improvements to the property(ies). Past quadrangles show structures and roadways in the area of the project site but none on the site. The current Mint Canyon Quadrangle illustrates a single structure in the southwestern corner of the project site and the presence of at least three ponds. However, a reconnaissance of the project site revealed no evidence of structures or ponds on the site and no other evidence of historic resources.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Based on Appendix G of the CEQA *Guidelines*, a project would have a significant impact on cultural (historical) resources if the project would:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;

For purposes of CEQA, to determine whether cultural resources could be significantly affected, the significance of the resource itself must first be determined. Section 15065 of the CEQA *Guidelines* mandates a finding of significance if a project would eliminate important examples of major periods of California history or prehistory.

Environmental impacts associated with cultural resources are specifically addressed in the CEQA Guidelines Section 15064.5 which identifies significance threshold criteria for determining impacts to historical resources. Section 15064.5(b) (3) states:

“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 may be considered to be an historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the California Historic Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852) including the following:

- (A) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;*
- (B) Is associated with the lives of persons important in our past;*
- (C) 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; or*
- (D) Has yielded, or may be likely to yield, information important in prehistory or history.”*

In addition, pursuant to Section 15064.5 of the CEQA *Guidelines*, a project could have a significant effect on the environment if it “*may cause a substantial adverse change in the significance of an historical resource.*” A “*substantial adverse change*” means “*physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is impaired.*” Material impairment means altering “*...in an adverse manner those characteristics of an historical resource that convey its historical significance and its eligibility for inclusion in the California Register of Historical Resources.*” Impacts to those cultural resources not determined to be significant according to the significance criteria described above are not considered significant for the purposes of CEQA.

Project Impacts

No structures are located on the project site, and therefore, implementation of the project would not result in any significant impacts related to physical (built) structures or architectural resources. However, as discussed previously, seven historical archaeological sites have been recorded within a one mile radius of the project site.¹ No such sites have been recorded on the project site. According to the Phase I that was prepared for the project, although no evidence of historical resources was found on the project site, the project site is moderately sensitive for historical resources and unknown resources could be uncovered during project construction. To ensure that any unknown resources are not damaged or destroyed, mitigation measures E.1-1 through E.1-4 are proposed.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

¹ McKenna, et. Al, *Phase I Cultural Resources Investigation, 2005.*

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Cumulative impacts on historic resources evaluate whether impacts of the Proposed Project and 12 related projects, when taken as a whole, substantially diminish the number of extant resources within the same or similar context or property type. As previously discussed, there are no known historical resources located on the project site. It is not known at this time if future development of the 12 related project sites would involve historic resources. However, it is anticipated that historic resources that are potentially affected would be subject to the requirements of CEQA. It is further anticipated that the effects of cumulative development on historic resources would be mitigated to the extent feasible in accordance with CEQA and other applicable legal requirements. Consequently, cumulative impacts on historic resources as a result of related project development are expected to be less than significant and thus, when considered in conjunction with the Proposed Project would not be cumulatively

considerable. Therefore, the project's incremental contribution is not considerable and impacts are less than significant.

MITIGATION MEASURES

Project Mitigation Measures

Because the Proposed Project could result in significant impacts to unknown historical resources, the following mitigation measures are required:

- E.1-1** Prior to excavation and construction on the Proposed Project site, the prime construction contractor and any subcontractor(s) shall be cautioned on the legal and/or regulatory implications of knowingly destroying cultural resources or removing artifacts, human remains, bottles, and other cultural materials from the project site.
- E.1-2** If during any phase of project construction, any cultural materials are encountered, construction activities within a fifty-meter radius shall be halted immediately, and the Project Applicant shall notify the City. A qualified historic archaeologist (as approved by the City) shall be retained by the Project Applicant and shall be allowed to conduct a more detailed inspection and examination of the exposed cultural materials. During this time, excavation and construction would not be allowed in the immediate vicinity of the find. However, those activities could continue in other areas of the project site.
- E.1-3** If any find were determined to be significant by the qualified historic archaeologist, the City, and the qualified historic archaeologist would meet to determine the appropriate course of action.
- E.1-4** All cultural materials recovered from the site would be subject to scientific analysis, professional museum curation, and a report prepared according to current professional standards.

Cumulative Mitigation Measures

Other than complying with the same mitigation that is required of the Proposed Project, no further mitigation is recommended or required for cumulative projects.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Implementation of the mitigation measures prescribed above would reduce project impacts on unknown historical resources to a less-than-significant level.

Cumulative

Provided that mitigation measures are properly implemented for the Proposed Project and Related Projects, cumulative impacts on historic resources as a result of Proposed Project and Related Project development are expected to be less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS
E. CULTURAL RESOURCES
2. ARCHAEOLOGICAL RESOURCES

INTRODUCTION

This section of the EIR was prepared using the following primary sources of information:

- Phase 1 Cultural Resources Investigation of The Keystone Project Area in the Santa Clarita Area of Los Angeles County, California, McKenna et al., March 15, 2005

A Phase 1 Cultural Resources Investigation for the Proposed Project was prepared by McKenna et al. to analyze the potential archaeological resource impacts associated with the Proposed Project. A summary of the Phase 1 Cultural Resources Investigation with respect to potential archaeological resource impacts is set forth below. The Phase 1 Cultural Resources Investigation, which is incorporated herein by this reference, is included in its entirety as Appendix 4(A) to this Draft EIR.

ENVIRONMENTAL SETTING

The topography of the site slopes toward the north, away from the Santa Clara River. The terrain within the site undulates with canyons and blue line streams. The soils on the site are relatively sandy, especially near the river. Hillsides show exposed bedrock in some areas, and modern/recent debris (e.g., broken concrete and other building materials) has been illegally dumped along the access roads. The property shows signs of use by all terrain vehicles.

Archaeological Background

More information is available on the upper Santa Clara River area, although here too, less is known than for many of the surrounding regions of southern California. In general terms, the prehistory of this inland area appears to parallel that of the Santa Barbara Channel/Southern California coastal zone with William Wallace's cultural historical framework appropriate as a chronological system of reference.

Correspondingly, the earliest evidence for human occupation of this region corresponds to Wallace's Early Millingstone Period (or, alternatively, the Early Horizon), dated from about 7000 to 4000 B.P. This represents a period during which subsistence and adaptation are said to have emphasized the collecting and processing of hard seeds with inland artifact assemblage, correspondingly, dominated by manos and metates. Evidence for an Early Millingstone occupation of this specific region is very limited and has been found only at two sites. Both of these are located near Vasquez Rocks, with temporal attribution based on the presence of small number of Olivella barrel beads. Such beads have

subsequently proven to be unreliable temporal indicators, throwing doubt on human inhabitation of this region prior to 4000 B.P. Further, recent excavations at one of these putative early locales, the Escondido Canyon Site, failed to uncover evidence for occupation prior to about 2700 B.P.

The second temporal unit in Wallace's chronology is the Intermediate Period (or Middle Horizon), dated from 3500 to 1500 B.P. It is marked by a shift to the mortar and pestle, with an increased emphasis on hunting and hunting tools in artifact assemblages. Population appears to have increase during this period, with more temporary camps founded. Evidence for Intermediate Period occupation of the upper Santa Clarita Valley region is substantial in that evidence has been found at a number of sites and has been based on radiocarbon, obsidian hydration, and typological dating. Furthermore, the Intermediate Period appears to represent a time during which a substantial exploitation of mid-altitude environments first began, for example, portions of the Hathaway Ranch (located north of the study site) beginning at this time.

There is continuity in the inland regions between the Intermediate Period and subsequent times, labeled the Late Prehistoric Period, lasting from 1500 B.P. to historic contact around 200 B.P. Site complexes first occupied in the Intermediate Period continued to be inhabited, although they increased in size with more specialized and diversified sites added to the kinds of sites present. In fact, the principal distinction between Intermediate and Late Prehistoric sites in the inland regions is a change in certain diagnostic artifact types (notably, projectile points, with a shift from spear points to bow and arrow points). These artifact types, in fact, may not signify consequential changes in culture, adaptation or subsistence, although the trends begun in the Intermediate Period accelerate over time during the Late Prehistoric Period. Sometime during this period, the Tataviam can be hypothesized to have occupied this region, although it is possible that they may have appeared somewhat earlier.

During the Historic Period, the aboriginal population appears to have dropped considerably. This decline can be attributed to the effects of missionization and its attendant relocation of the aboriginal population at centralized locales along with the depredation of introduced Old World diseases. The upper Santa Clara River region appears to be one of those inland zones, like the Antelope Valley to the northeast that quickly and completely lost its aboriginal population.

Records Search

An archaeological records search was conducted at the South Central Coastal Information Center for the project site. This search included a review of all recorded historic and prehistoric archaeological sites within a one mile radius of the project area as well as a review of all known cultural resource reports. In addition, the file of historic maps, the California Points of Historical Interest (PHI), the listing of California Historical Landmarks (CHL), the California Register of Historic Resources Inventory (HRI) were also checked for the site.

The project site is split across two quadrangles: Mint Canyon and Newhall. A total of fourteen archaeological studies have been conducted within one mile of the project site, four of which include portions of the project site. One prehistoric archaeological site (CA-LAN-0295), two prehistoric isolates, and seven historical archaeological sites (CA-LAN-2105, CA-LAN-2132, and CA-LAN-2040 through -2044) have been recorded within one mile of the project area but not within the project site.² A site reconnaissance revealed no evidence of prehistoric archaeological resources.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Based on Appendix G of the CEQA *Guidelines*, a project would have a significant impact on cultural (archeological) resources if the project would:

- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- d) Disturb any human remains, including those interred outside of formal cemeteries.

Archaeological Resources

Pursuant to Section 15064.5 of the CEQA *Guidelines*, archaeological resources, not otherwise determined to be historical resources, may be significant if they are unique. Section 15064.5(c) states:

“CEQA applies to effects on archaeological sites.

- (1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a).*
- (3) If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archeological resource in Section 21083.1 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2...*
- (4) If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on resources shall not be considered a significant effect on the environment...”*

² Mckenna et al., *Phase 1 Cultural Resources Investigation, 2005.*

Pursuant to Public Resources Code Section 21083.2(g), a unique archaeological resource is defined as:

“an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria:

- (1) Contains information needed to answer important scientific questions and there is a demonstrable public interest in that information.*
- (2) Has a special and particular quality, such as being the oldest of its type or the best available example of its type.*
- (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.”*

Public Resources Section 21083.2(h) defines a non-unique archaeological resource as *“an archaeological artifact, object, or site that does not meet the above criteria.”* Non-unique archaeological resources receive no further consideration under CEQA.

Human Remains

According to Section 15064.5 of the CEQA *Guidelines*, all human remains are a significant resource. Section 15064.5(e) states:

“In the event of accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

- (1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:*
 - (A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and*
 - (B) If the corner determines the remains to be Native American:*
 - 1. The corner shall contact the Native American Heritage Commission within 24 hours.*

2. *The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased native American.*
 3. *The most likely descendent may make recommendations to the landowner or person responsible for excavation work,...*
- (2) *Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains...*
- (A) *The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.*
 - (B) *The descendent identified fails to make a recommendation; or*
 - (C) *The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner."*

Project Impacts

Prehistoric Archaeological Resources

As discussed above, one prehistoric archaeological site (CA-LAN-0295) and two prehistoric isolates have been recorded within a one mile radius of the project site. According to the Phase I that was prepared for the project, the site appears to be clear of any known, potentially significant resources and not likely to yield buried deposits. However, given the archaeological-sensitivity of the area, it is possible that during the project's construction phase, unknown prehistoric archaeological resources could be encountered. Without proper care during grading and excavation, unknown resources could be damaged or destroyed. To ensure that unknown resources are not damaged or destroyed, mitigation measures E.1-1 through E.1-4 and E.2-1 are proposed.

Human Remains

As previously discussed, Section 15064.5 of the CEQA *Guidelines* assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are spelled out under Public Resources Code Section 5097. No evidence has been

uncovered that the project would disturb any human remains. Contact with the Native American Heritage Commission resulted in no written comments and no specific concerns with respect to potential resources on the site. However, it is possible during the project's construction phase that human remains could be uncovered. Therefore, project impacts on unknown human remains would be significant.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers	Northeast corner of Bouquet	Development for a new 34,000 square

	Development Master Case 02-232	Cyn Rd and Plum Cyn Rd	foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Development of the Proposed Project in conjunction with the 12 related projects listed in Chapter III, and listed above, would result in further development of residential and commercial uses in the surrounding areas. As previously discussed, one prehistoric archaeological site (CA-LAN-0295), two prehistoric isolates, and seven historical archaeological sites (CA-LAN-2105, CA-LAN-2132, and CA-LAN-2040 through -2044) have been recorded within one mile of the project area and there is further potential that one or more of the related projects might encounter archaeological resources during the course of development. This potential is determined by such factors as whether exploitable archaeological resources (such as water, plant and animal food sources, shelter, and suitable lithic material for making tools) occur at any given related project site and the type of proposed development activities at that site. Of course, not all archaeological resources are of equal value. While some have the potential to be scientifically significant due to rarity or their ability to provide new information, CEQA requires no further consideration of a “*nonunique archaeological resource*” other than the simple recording of its existence by the lead agency, if it so elects. Therefore, the significance of cumulative impacts to archaeological resources is not determined simply by the frequency of the encounter but more to the point by the nature of that encounter. Furthermore, with archaeological resources, the mere fact of an encounter does not imply an adverse impact. With appropriate mitigation, such an encounter may lead to the recovery of scientifically highly important remains that would not even have been exposed without these activities. Thus, such encounters can easily be considered beneficial impacts of development. Because the discovery of archaeological resources is a fairly rare event and the discovery of scientifically important archaeological resources is an even more rare event, and because the discovery of rare archaeological resources may lead to their recovery rather than their destruction, it is unlikely that there would be significant adverse cumulative impact to archaeological resources. If subsurface archaeological resources and human remains are protected upon discovery as required by law, impacts to those resources would be cumulatively less than significant and would not be cumulatively considerable. Therefore, the project’s incremental increase is not considerable and impacts are less than significant.

MITIGATION MEASURES

Project Mitigation Measures

Prehistoric Archaeological Resources

Mitigation measures E.1-1 through E.1-4, listed under Cultural Resources, Historical Resources above, for the impacts to unknown resources would also be applicable to unknown prehistoric archaeological historic archaeological resources.

Human Remains

Because the Proposed Project would result in significant impacts to unknown historical resources, the following mitigation measure is required:

- E.2-1** If human remains are discovered at the project site during construction, work at the specific construction site at which the remains have been uncovered shall be suspended, and the City of Santa Clarita Department of Planning and Economic Development and County coroner shall be immediately notified. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains.

Cumulative Mitigation Measures

Other than complying with the same mitigation that is required of the Proposed Project, no further mitigation is recommended or required for cumulative projects.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Prehistoric Archaeological Resources

Implementation of Mitigation Measures E.1-1 through E.1-4 prescribed under Cultural Resources, Historic Resources above, would reduce significant project impacts on unknown archaeological resources to less-than-significant.

Human Remains

Implementation of Mitigation Measure E.2-1 prescribed above would reduce impacts on unknown human remains to a less than significant.

Cumulative

Provided that mitigation measures are properly implemented for the Proposed Project and Related Projects, cumulative impacts on prehistoric archaeological resources and human remains as a result of Proposed Project and Related Project development are expected to be less than significant.

V. ENVIRONMENTAL IMPACT ANALYSIS

E. CULTURAL RESOURCES

3. PALEONTOLOGICAL RESOURCES

INTRODUCTION

This section of the EIR was prepared using the following primary sources of information:

- Paleontologic Resource Inventory/Impact Assessment Technical Report, Paleo Environmental Associates, Inc., July 2004

A Paleontological Resource Inventory/Impact Assessment for the Proposed Project was prepared by Paleo Environmental Associates, Inc. to analyze the potential paleontological resources impacts associated with the Proposed Project. A summary of the Paleontological Resource Inventory/Impact Assessment with respect to potential paleontological resources impacts is set forth below. In addition, other resource reports, (Riverpark Draft EIR and technical appendices), were used in preparation of this EIR section. The Paleontological Resource Inventory/Impact Assessment Technical Report, which is incorporated herein by this reference, is included in its entirety as Appendix 4(B) to this Draft EIR.

ENVIRONMENTAL SETTING

Paleontologic resources of the site include rock units that immediately underlie the surface and have a potential for yielding particular types of fossil remains, because these units have yielded similar fossil remains at previously recorded fossil sites near the site. Fossils, the remains or indications of once-living organisms, are a very important scientific resource because their use in 1) documenting the evolution of particular groups of organisms, 2) reconstructing the environments in which they lived, and 3) in determining the ages of the strata in which they occur and of the geologic events that resulted in the deposition of the sediments constituting these strata.

Stratigraphic Inventory

The project site lies near the eastern end of the late Cenozoic Ventura Basin, which, in turn, is situated in the western Transverse Ranges Province, where major linear geographic features (e.g., mountains and valleys) and the underlying geologic structures (e.g., faults and folds) trend in an east-west direction. The eastern end of the basin in the parcel vicinity is composed of stratigraphic or sedimentary rock units consisting of late Cenozoic marine and stratigraphically overlying non-marine strata reflecting the final filling of the basin and its emergence above sea level.

The project Geotechnical Report provides regional surficial geologic mapping of the site and vicinity which shows that the project site is underlain by three late Cenozoic, non-marine rock units, including

the Pliocene and Pleistocene Saugus Formation, which forms the lower slopes of the hills on the project site; Pleistocene high terrace deposits and low terrace remnants, which cap the hills; Holocene younger alluvium, which floors the canyons and valleys; and Holocene stream channel deposits, which fill the modern active stream and river channels.

Paleontologic Resource Inventory and Assessment by Rock Unit

Saugus Formation

Although no previously recorded fossil site is reported as occurring the Saugus Formation on the project site, fossilized bones and teeth representing extinct species of Pliocene to early or middle Pleistocene continental vertebrates assignable to the Blancan and/or Irvingtonian North American Land Mammal Age (NALMA) have been recovered from this formation near the project site at LACMVP fossil sites 1293, 3774, 4134, 6062, 6063, and 6804, and California Institute of Technology fossil site 200. The species represented at these sites are assignable to the Chelonia (turtles and tortoises), *Gerrhonotus* (alligator lizards), the Leporidae (rabbits), *Thomomys* (pocket gophers), *Perognathus* (pocket mice), the Proboscidea (elephants), *Pliohippus* (anomalously young record, if correctly identified) and *Equus* (horses), the Tayassuidae (peccaries), the Camelidae (camels), and the Cervidae (deer). *Thomomys*, in particular, is not recorded before the Blancan. Fine-grained strata suitable for containing fossil remains were observed during the field survey conducted at the project site.

High Terrace Deposits

Although no previously recorded fossil site is reported as occurring in the high terrace deposits in the project site, fossilized remains representing an extinct species of Pleistocene bison (*Bison*), which defines the beginning of the Rancholabrean NALMA, might have been recovered at a previously recorded fossil site in this rock unit near the parcel in the Castaic area. However, this fossil site might also have been in the overlying low terrace remnants.

Low Terrace Remnants

Although no previously recorded fossil site is reported as occurring in the low terrace remnants in the parcel, fossilized remains representing an extinct species of Pleistocene bison (*Bison*) were recovered at one or two previously recorded fossil sites in this rock unit near the project site in the hills immediately northwest of the confluence of the Santa Clara River and Castaic Creek, and, if not in the underlying high terrace deposits, possibly near Castaic.

Younger Alluvium

At and near the surface, the younger alluvium probably is too young to contain remains old enough to

be considered fossilized.

Stream Channel Deposits

At and near the surface, the stream channel deposits probably are too young to contain remains old enough to be considered fossilized.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Based on Appendix G of the CEQA *Guidelines* and the City of Santa Clarita CEQA *Guidelines*, a project would have a significant impact on cultural resources if the project would:

- c) Directly or indirectly destroy a unique Paleontological resource or site or unique geologic feature.

Project Impacts

According to the *Paleontologic Resource Inventory/Impact Assessment Technical Report* that was prepared for the project, some of the geologic units found on the project have a moderate to high paleontologic-sensitivity. These units include the low terrace remnants, the high terrace deposits, and the Saugus Formation. Paleontologic resources within these units, including an undetermined number of fossil remains and unrecorded fossil sites, associated specimen data and corresponding geologic and geographic site data, and the fossil-bearing strata, could be adversely affected by earth-moving activities associated with development of the project site. Direct impacts would result primarily from earth-moving activities (particularly grading) in previously undisturbed strata, but also would result from any earth-moving activity that buried previously undisturbed strata, making the strata and their paleontological resources unavailable for future scientific investigation. Although earth-moving activities would be relatively short term, some fossil remains, unrecorded fossil sites, associated specimen data, and corresponding geologic and geographic site data, and the fossil-bearing strata could be lost. Further, easier access to fresh exposures of fossiliferous strata and the associated potential for unauthorized fossil collecting by construction personnel, rock hounds, and amateur and commercial fossil collectors could result in the loss of some additional fossil remains, unrecorded fossil sites, and associated specimen data and corresponding geologic and geographic site data. The potential loss of these paleontological resources would be significant. Therefore, project impacts on paleontological resources would be significant.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
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11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Development of the Proposed Project in combination with the 12 related projects listed in Chapter III underlain by the Saugus Formation or low terrace remnants would result in the increase in the potential for encountering paleontological resources in the area. The potential that one or more of these related projects might encounter paleontological resources during the course of development is determined by such factors as whether paleontological resources bearing strata occur at any given related project site and the type of proposed development at that site. However, not all paleontological resources are of equal value. While some have the potential to be scientifically important due to rarity or their ability to provide new information, many fossils are common and have little scientific value. Therefore, the significance of cumulative impacts to paleontological resources is not determined simply by the frequency of the encounter but more to the point by the nature of that encounter. Furthermore, the mere fact of an encounter does not imply an adverse impact. With appropriate mitigation, such an encounter may lead to the recovery of scientifically important fossil remains that would not have been exposed without those activities. Considering that the discovery of paleontological resources is fairly rare event, the discovery of scientifically important fossils is an even rarer event, and the discovery of rare fossils may lead to their recovery rather than their destruction, it is not anticipated that there would be a significant adverse cumulative impact to paleontological resources. If such subsurface paleontological resources are protected upon discovery, impacts to those resources would be cumulatively less than significant and would not be cumulatively considerable. Therefore, the project's incremental increase is not considerable and impacts are less than significant.

MITIGATION MEASURES

Because the Proposed Project would result in significant impacts to paleontological resources, the mitigation measures listed below are required. These measures comprise a paleontological resources impact mitigation program to address the direct, indirect, and cumulative adverse environmental impacts on paleontological resources that might accompany earth-moving activities (particularly grading) associated with proposed development of the project site.

E.3-1 Prior to construction, the Project Applicant shall retain the services of a qualified vertebrate paleontologist approved by the City of Santa Clarita and the Los Angeles County Vertebrate Paleontology Department (LACMVP) to implement the mitigation program during earth-moving activities in the parcel.

E.3-2 The paleontologist shall develop a formal agreement with a recognized museum repository, such as the LACMVP, regarding final disposition and permanent storage and maintenance of any fossil remains and associated specimen data and corresponding geologic and geographic site data that might be recovered as a result of the mitigation program, and the level of treatment (preparation, identification, curation, cataloguing) of the remains that would be required before the entire mitigation program fossil collection would be accepted by the

repository for storage.

- E.3-3** Prior to the start of any earth-moving activity associated with development of the parcel, the paleontologist and/or monitor shall conduct an intensive survey of the parcel, including those areas that would be buried but not otherwise disturbed by these activities. The survey, particularly with regard to areas of the parcel underlain by the Saugus Formation, shall allow for the discovery of any unrecorded fossil site and the recovery the fossil remains, the recording of associated specimen data and corresponding geologic and geographic site data, and the recognition of fine-grained strata suitable for containing smaller vertebrate fossil remains. The recovery of fossil remains during the survey might reduce the potential for a delay in earth-moving activities.
- E.3-4** The paleontologist or monitor shall coordinate with the appropriate grading contractor personnel to provide information regarding lead agency requirements for the protection of paleontological resources. Contractor personnel also shall be briefed on procedures to be followed in the event that a fossil site or remains are encountered by earth-moving activities, particularly when the monitor is not on site. The briefing shall be presented to new contractor personnel as necessary. Names and telephone numbers of the monitor and other appropriate mitigation program personnel shall be provided to the appropriate contractor personnel.
- E.3-5** Earth-moving activities shall be monitored by the monitor only in those areas of the parcel where these activities would disturb previously undisturbed strata. Monitoring shall be conducted on a full-time basis in areas underlain by Saugus Formation, half time where underlain by the low terrace remnants, and quarter time where underlain by the high terrace deposits, younger alluvium, and stream channel deposits (monitoring would not be conducted in areas underlain by younger alluvium or stream channel deposits, unless and until these activities have reached a depth at least 5 feet below grade, or in areas where exposed strata would be buried, but not otherwise disturbed). If fossil remains are encountered by these activities, monitoring shall be increased to full or half time, as appropriate, at least in the vicinity of the fossil site where the area is underlain by the fossil-bearing rock unit. With City of Santa Clarita approval, if no fossil remains are found once 50 percent of earth-moving activities have been completed in an area underlain by a particular rock unit, monitoring may be reduced or suspended in that area.

Monitoring shall consist of visually inspecting debris piles and freshly exposed strata for larger fossil remains, and periodically dry test screening sediment, rock, and debris for smaller fossil remains. As soon as practicable, the monitor shall recover all vertebrate fossil specimens, a representative sample of invertebrate or plant fossils, or any fossiliferous rock sample that can be recovered easily. If recovery of a large or unusually productive fossil occurrence is

warranted, earth-moving activities shall be diverted temporarily around the fossil site and a recovery crew shall be mobilized as necessary to remove the occurrence as quickly as possible. If not on site when a fossil occurrence is uncovered by these activities, the activities shall be diverted temporarily around the fossil site and the monitor called to the site to evaluate and, if warranted, remove the occurrence. If the fossil site is determined too unproductive or the fossil remains not worthy of recovery, no further action shall be taken to preserve the fossil site or remains, and earth-moving activities would be allowed to proceed through the site immediately. The location and proper geologic context of any fossil occurrence shall be documented, as appropriate. Any recovered rock sample shall be processed to allow for the recovery of smaller fossil remains.

Rock samples shall be processed to allow for the recovery of smaller fossil remains that normally are too small to be observed by the monitor. No more than 6,000 pounds (12,000 pounds total) of rock shall be processed from either the Saugus Formation or the low terrace remnants.

E.3-6 All fossil specimens recovered from the parcel as a result of the mitigation program, including those recovered as the result of processing fossiliferous rock samples, shall be treated (prepared, identified, curated, catalogued) in accordance with designated museum repository requirements. Rock samples from the Saugus Formation and older alluvium shall be submitted to commercial laboratories for microfossil, pollen, or radiometric dating analysis.

E.3-7 The monitor shall maintain daily monitoring logs that include the particular tasks accomplished, the earth-moving activity monitored, the location where monitoring was conducted, the rock unit encountered, fossil specimens recovered, and associated specimen data and corresponding geologic and geographic site data. A final technical report of results and findings shall be prepared by the paleontologist in accordance with any City of Santa Clarita requirement.

Although mitigation is not required under CEQA, implementation of Mitigation Measures E.3-1 through E.3-7 would provide direction in the event that paleontological resources are discovered during construction.

Cumulative Mitigation Measures

Other than complying with the same mitigation that is required of the Proposed Project, no further mitigation is recommended or required for cumulative projects.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Implementation of Mitigation Measures E.3-1 through E.3-7 prescribed above would reduce significant project impacts on paleontological resources to a less-than-significant level.

Cumulative

Provided that mitigation measures are properly implemented for the Proposed Project and Related Projects, cumulative impacts on paleontological resources as a result of the Proposed Project and Related Project development are expected to be less than significant.

V. ENVIRONMENTAL IMPACT ANALYSIS

F. GEOLOGY AND SOILS

INTRODUCTION

This section summarizes the following geotechnical report that was prepared for the Proposed Project:

- Allan E. Seward Engineering Geology Inc., Geologic and Geotechnical Report, Review of Tentative Tract Map (dated April 1, 2004), Vesting Tentative Tract 60258, City of Santa Clarita, California, Job No. 04-8035-4, June 11, 2004.

This report summarizes the field verified findings regarding existing geology, existing surficial deposits and possible geologic and surficial impacts caused by or potentially affecting the proposed development. This report for The Keystone project was peer reviewed by Leighton and Associates to determine adequacy for CEQA purposes. The full text of this report is included in the technical appendices as Appendix 5.

ENVIRONMENTAL SETTING

Topography and Other Site Conditions

The project site comprises approximately 246 acres that include portions of the low-lying Santa Clara River channel and adjacent northeast-southwest trending ridges. Portions of the ridges have been eroded into elevated plateaus. The project site is bounded by undeveloped land to the north, the Santa Clara River channel to the south, the existing residential housing Tract 44846 to the east and undeveloped land to the west. Elevations range from approximately 1,280 feet above mean sea level (msl) in the Santa Clara River channel on the southwestern portion of the project site to approximately 1,780 msl within the central portion of the site. Slopes range from gentle to moderately steep with the steepest slopes existing in the side canyons. The northern portion of the project site remains in a primarily natural state transected by power transition lines and utility access roads. Past grading has occurred on the south portion of the site due to aggregate mining activities. One oil well ("Furnivall" #1) is located within the southwestern portion of the project site.

Geologic Setting

The project site is situated in the western portion of the Transverse Ranges Geomorphic Province in the west Soledad Basin just north of the San Gabriel Fault zone. Numerous east-west trending folds and reverse faults that are the result of on-going compressional tectonics characterize this region. The Soledad Basin is roughly a rectangular-shaped southwesterly-plunging synclinal structure that extends

between the San Gabriel Fault in the Newhall-Saugus area and the San Andreas Fault near Palmdale. A thick accumulation of Cenozoic sedimentary rocks has accumulated in this structural/depositional basin and has subsequently been faulted and folded by repeated tectonic deformation. Much of the elevated portion of the project site is underlain by accumulations of ancient river channel deposits that were deposited on a series of successively lower benches cut in the underlying Saugus Formation bedrock by the ancestral Santa Clara River. These depositional Terrace Deposits exhibit crude horizontal stratification. Quaternary Alluvium covers the valley floors.

The Saugus Formation bedrock below much of the property has been uplifted and deformed by past tectonic forces such that the bedding planes are dipping towards the north at angles ranging from 3 to 16 degrees. The axial trace of a roughly east-west trending anticline is located in the southwest portion of the property in the vicinity of the proposed Golden Valley Road and Newhall Ranch road intersection. The active San Gabriel Fault is located approximately 1.5 miles south of the site. Slope movements that range in size from small debris flows and rockfalls to large, deep-seated failures have affected the property. Three landslides, Qls-1, Qls-2 and Qls-3, have been mapped on the southeast portion of the site.

Generalized Geologic/Geotechnical Subsurface Conditions and Soil Properties

Geologic Units

A general description of geologic units, including artificial fill and debris, slopewash, alluvium, residual soil, terrace deposits, landslides, and Saugus Formation bedrock is presented below..

Artificial Fill and Debris (af)

Existing non-compacted artificial fill on the project site ranges from minor spill fills generated during past grading of minor roads to large fill areas associated with the past aggregate mining activities associated with the Fred Furnivall gravel pit operations during the early 1950's. Most of this fill associated with the past aggregate mining operations has been placed at the southerly portion of the project site in the vicinity of the proposed school site. Within these fills are concentrations of cobbles and boulders within a matrix of silty sand, clayey sand, poorly graded sand, and gravels. The artificial fills have dry densities ranging from 100 to 120 pcf with moistures ranging from 10.5 to 15.3 percent. In addition the fill is loose to very dense.

Slopeswash (Q_{sw})

Swales and side-canyons tributary to the main drainage of the Santa Clara River commonly contain loose debris consisting of poorly sorted sand, silt, and bedrock fragments. These materials have accumulated via daily surface wash and periodic debris flows, and are present above levels where they are incorporated and reworked by modern stream flow. They are generally poorly consolidated. The maximum thickness of slopewash/colluvium encountered in subsurface excavations is 14 feet. Slopewash is indicated in Figure V.F-1 where it is estimated to be greater than four feet in thickness.

Alluvium (Q_{al})

Recent Holocene-age river-channel deposits are present in the lower elevations of the property, largely underlying the existing Santa Clara River and associated major tributaries (see Figure V.F-1). Based on boring data, the alluvial deposits consist of unconsolidated interbeds of poorly graded sand and silty sand with gravels and boulders.¹ Rotary wash borings RW-1, RW-2, and RW-3 explored the alluvial areas in the vicinity of the proposed school site. The granular alluvial soils were found to predominantly range from medium dense to very dense, with lenses of loose granular soils from approximately the depths of the recommended remedial removals to approximately 36 feet.²

Residual Soil

Ungraded areas of the project site are mantled by surface soils consisting of moderate- to yellowish-brown and yellowish gray silty sand with scattered pebbles. This unit is not shown on Figure V.F-1. Soil developed in the alluvial flats and in the relatively flat mesa areas has been disturbed by past agricultural and grading activities.

Terrace Deposits (Q_t)

Remnants of Quaternary-age fluvial terrace deposits mantle large portions of the study area (see Figure 4.1-1). These deposits consist primarily of poorly- to well-bedded, light gray to yellowish-orange sand, conglomerate, and sandy silts. Large boulders occur throughout the Terrace Deposits, but they are generally concentrated at the basal contact. These deposits are typically friable to poorly-indurated and are typically weathered to a depth of five to eight feet.

¹ *Allan E. Seward Engineering Geology Inc., Geologic and Geotechnical Report, Review of Tentative Tract Map (dated April 1, 2004), Vesting Tentative Tract 60258, City of Santa Clarita, California, June 11, 2004.*

² *Ibid.*

Debris Flows (dfh)

Debris flows exist at the project site on the flanks of some of the natural slopes. Subsurface exploration has not been performed within these features, although they are anticipated to be up to ten feet in thickness and consist of a loose accumulation of surficial soils and bedrock fragments.

Landslides (Qls)

Three landslides, Qls-1, Qls-2, and Qls-3 (see Figure V.F-1), were identified at the project site based on examination of field exposures and suggestive geomorphic features observed on aerial photographs and on topographic base maps, and were confirmed via subsurface explorations.³ The failure mechanism of the landslides is typically translational, and they occurred within the Saugus Formation Bedrock and Terrace Deposits. The landslides typically consist of highly fractured rock resting above a low strength slip surface. Tension cracks near the head scarp region of each landslide are commonly backfilled with rock debris and colluvial material.

Saugus Formation Bedrock (TQs)

The bedrock at the project site consists of sedimentary rocks of the late Pliocene to Pleistocene Saugus Formation. This bedrock contains fluvial and transitional lithologies of the lower Saugus Formation, including light-gray sandstone and conglomerate, greenish-gray siltstone, silty sandstone, and reddish brown and brown sandy mudstone. Low strength clay beds can be present within the reddish-brown mudstone units and are generally the result of original deposition. These clay layers were not encountered during subsurface exploration of the project site.⁴ The Saugus Formation is typically moderately indurated.

Groundwater

Groundwater beneath the project site can be grouped into two categories: (1) groundwater contained in the recent alluvium (the Alluvial Aquifer), and (2) groundwater perched, or trapped, above low permeability layers in the Saugus Formation and the Quaternary terrace deposits.

³ *Ibid.*

⁴ *Ibid.*

Alluvial Aquifer

Historic groundwater levels for the alluvium were interpolated for the project site based on records from ground water contours by Robson (1972) and observed water levels in exploratory excavations.⁵ This data indicates that historic groundwater levels have risen to within 3.3 feet of the existing ground surface along the margins of the Santa Clara River. Measured groundwater levels during subsurface investigations ranged from a minimum depth of 6 to 27 feet in the vicinity of the proposed school site and reportedly are due to an offsite storm drain outlet located up-canyon.⁶

If the recommended removal depths⁷ are achieved during construction, groundwater within the alluvial canyon at the locations of the rotary wash Borings RW-1, RW-2, and RW-3 may be encountered. Dewatering may locally be required to complete the necessary removals. It should be noted that the groundwater table will fluctuate up and down in response to natural recharge and pumping requirements. Both of these factors are altered as a result of urbanization. The liquefaction evaluation of the alluvial deposits for the project site assumed a groundwater elevation of five feet below the existing alluvial ground surface.⁸

Perched Groundwater in the Saugus Formation Bedrock and Quaternary Terrace Deposits

Perched groundwater was encountered in the Saugus Formation bedrock and Quaternary terrace deposits at the elevated portions of the project site within borings B-3, B-11, and B-12.⁹ Perched groundwater conditions can contribute to slope instability in both natural slopes and cut-slopes.

Faulting and Seismicity

The southern California region is seismically active and commonly experiences strong ground shaking resulting from earthquakes along active faults. Earthquakes along these faults are part of a continuous, naturally occurring process that has contributed to the characteristic landscape of the region.

⁵ *Allan E. Seward Engineering Geology Inc., Geologic and Geotechnical Report, Review of Tentative Tract Map (dated April 1, 2004), Vesting Tentative Tract 60258, City of Santa Clarita, California, June 11, 2004.*

⁶ *Ibid.*

⁷ *Ibid.*

⁸ *Ibid.*

⁹ *Ibid.*

The San Andreas Fault is the major expression of the boundary between the Pacific Plate and the North American Plate, and consists of northwest-striking, right-lateral faults. The faults of this system are generally historically active, as evidenced by the June 28, 1992 Landers Earthquake (magnitude 7.6).¹⁰

The subject property is within the Transverse Ranges Geomorphic Province of southern California. The Transverse Ranges consist of a series of west-trending mountains and intervening valleys, which is contrary to the northwest geomorphic trend that is typical of most of California and reflects the underlying structural (geologic) trend. These ranges are largely the result of north-south compression, which has resulted in east-west-trending folds and thrust faults. Associated faults in the vicinity of the site include the San Gabriel Fault, Santa Susana, Northridge (East Oakridge), and Sierra Madre (San Fernando) Reverse/Thrust Faults. The January 17, 1994 Northridge Earthquake (magnitude 6.8) occurred on a south-dipping thrust fault which uplifted the Santa Susana Mountains by at least 40 centimeters (cm).

During a seismic event, there are three common forms of geologic hazards that are related to earthquakes that could potentially affect the project site. These are discussed below.

Ground Rupture

Ground rupture or displacement, generally expected to occur along pre-existing faults, occurs as a fault breaks the ground surface during a seismic event. Ground rupture cannot be prevented, only mitigated; therefore, mitigation of this hazard involves avoiding construction over known existing faults. Where the locations of faults are unknown or suspected, they are investigated through subsurface exploration, delineated, and, if necessary, placed into a structural setback zone within which construction should be avoided. State of California, Department of Conservation, Division of Mines and Geology (CDMG) Publication 42 (CDMG, 1999) has included some active faults within Alquist-Priolo Earthquake Fault Zones, within which construction for human occupation is severely restricted. CDMG Publication 42 indicates that the nearest fault to the project site that is designated as an active fault zone under Alquist-Priolo Earthquake Fault Zoning criteria is the San Gabriel Fault located approximately one and a half miles south of the project site. This fault is a major structural element of Southern California. In the Newhall-Saugus area, the San Gabriel Fault is classified as active under Alquist-Priolo criteria and is included within an Alquist-Priolo Earthquake Fault Zone by the state of California.

Subsurface exploration of the project site revealed a minor fault southeast of Hollow-Stem Auger Boring HS-2 within the Saugus Formation Bedrock.¹¹ The observed minor fault consists of an

¹⁰ *Ibid*, Appendix D, Figure D-1: Fault and Earthquake Epicenter Location Map.

approximately 0.25-inch thick silty clay gouge lined with caliche having approximately eight inches of apparent reverse separation. This minor fault is not classified as active on the California Fault Map¹² and was not considered a seismic source in the probabilistic seismic hazard assessment for California.¹³ Review of the aerial photographs did not reveal any evidence of photo lineaments or obvious geomorphic expression, such as aligned saddles, swales, linear drainage or other topographic features usually indicative of active faults. Furthermore, the faults, shears and fractures are carbonate lime. This type of carbonate is not present in modern or pre-Holocene alluvium. It is, therefore, most likely precipitated under soil climates that predate Holocene time, i.e., prior to the last 11,000 years, the time period typically used in California to assess fault activity. The faults and shears are generally planar and continuous without the “flowering upward” structure characteristic of relatively young faults. These planar faults are interpreted to be features that formed under high confining pressure caused by a once thick cover of sediments, now long since stripped away.¹⁴ Based on the corroborating evidence provided by the lack of geomorphic expression and lineaments, the presence of carbonate deposits along faults, shears and fracture planes, and the lack of flowering-upward structures, the last displacement of these minor faults within this small fault zone took place in pre-Holocene time and, therefore, a setback zone is not required.

Ground Motion

Ground motion is generated during an earthquake when two blocks of the earth’s crust suddenly slip past each other. Ground motion is generally greatest near the epicenter of an earthquake, and then decreases with increasing distance and increases with increasing magnitude. Measurement of ground motion is modified by a number of criteria, including focal depth, proximity to projected or actual fault rupture, fault mechanism, duration of shaking, local structure, source direction of the earthquake, underlying earth material characteristics, and topography. The combination of these factors makes it difficult to accurately predict potential ground motions at a given site in the geographically and

¹¹ *Allan E. Seward Engineering Geology Inc., Geologic and Geotechnical Report, Review of Tentative Tract Map (dated April 1, 2004), Vesting Tentative Tract 60258, City of Santa Clarita, California, June 11, 2004.*

¹² *State of California, Department of Conservation, Division of Mines and Geology, 1994.*

¹³ *State of California, Department of Conservation, Division of Mines and Geology and the United States Geological Survey, 1996.*

¹⁴ *Allan E. Seward Engineering Geology Inc., Geologic and Geotechnical Report, Review of Tentative Tract Map (dated April 1, 2004), Vesting Tentative Tract 60258, City of Santa Clarita, California, June 11, 2004.*

topographically complex southern California region. The following faults are anticipated to have the greatest potential impact to the project site relative to strong ground motion:

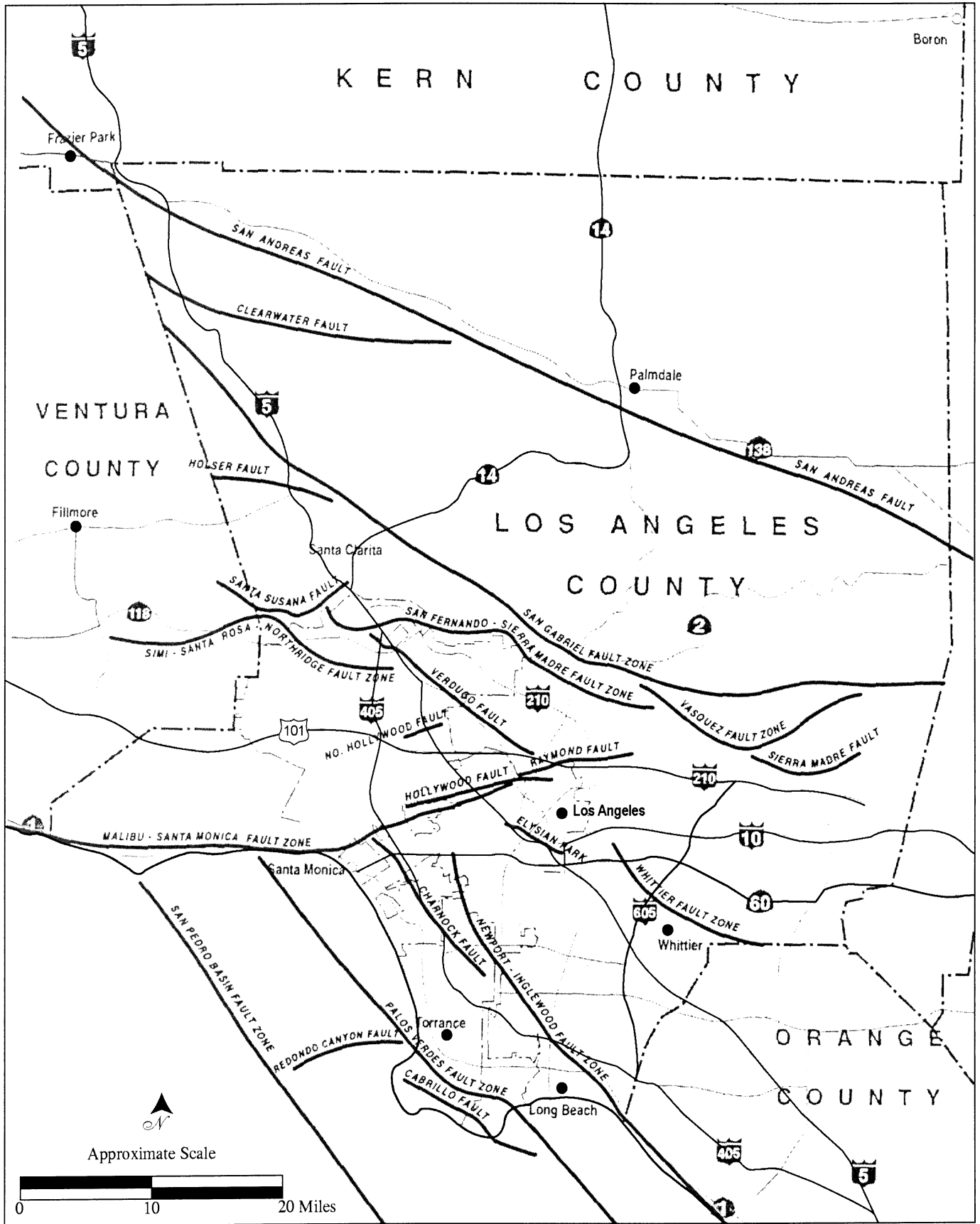
San Andreas Fault	San Fernando Fault
Santa Susana Fault	Sierra Madre Fault
Holser Fault	San Gabriel Fault
San Cayetano Fault	Oak Ridge Fault
Stevenson Ranch Fault	

The locations of these faults are shown in Figure V.F-1, Regional Fault Locations.

The California Building Code (CBC), 2001 edition (ICBO & CBSC, 2002), is the currently adopted building code for the state of California. The CBC incorporates the effects of ground shaking in its requirements. For complex structures, additional guidelines and explanations can be found in the current edition of the Recommended Lateral Force Requirements and Commentary, published by the Structural Engineers Association of California.

The peak ground acceleration (PGA) within the Proposed Project site depends on the soil conditions and distance from seismogenic faults (i.e., faults capable of generating earthquakes). Potential ground motions from future earthquakes on nearby faults have been evaluated utilizing the procedures outlined in the CDMG Guidelines described in Special Publication 117.¹⁵ Based on a probabilistic seismic

¹⁵ *State of California, Department of Conservation, Division of Mines and Geology, 1997a.*



Source: Department of Regional Planning, County of Los Angeles, 1990.



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Figure V.F-1
Regional Fault Map

hazard analysis, a peak horizontal acceleration of 0.70g was estimated as the design basis ground motion (i.e., the ground acceleration that has a ten percent chance of exceedance in 50 years) for use in the liquefaction assessment of the project site, excluding the proposed school site, based on Uniform Building Code requirements.¹⁶ For the liquefaction assessment of the proposed school site, a peak horizontal ground acceleration of 0.84g (i.e., the ground acceleration that has a ten percent chance of exceedance in 100 years) was estimated as the design basis earthquake, based on California Geological Survey Note 48 requirements.¹⁷

Ground Failure

Ground failure is a general term describing seismically-induced secondary permanent ground deformation caused by strong ground motion. This includes liquefaction and lateral spreading, settlement of poorly consolidated materials, differential materials response, slope failures, sympathetic movement on weak bedding planes or non-causative faults, shattered ridge effects, and ground lurching. Liquefaction and lateral spreading are the processes in which water-saturated, usually loose-to-moderately dense, fine-to-medium sands temporarily lose strength due to strong ground motion and behave as a viscous fluid. The loose sand grains rearrange into a more stable orientation in order to transfer the overburden pressure; the sediment/water mixture loses strength and may flow like a viscous fluid if a gradient is present. As water escapes from the collapsing void space between the grains, the sediment settles and water escapes to the surface. When a buried sand zone is liquefied, the overburden pressure forces the excess water to the surface, commonly causing sand boils and sand volcanoes. The State of California has issued "Seismic Hazard Zones" maps for portions of the state that show where there is a potential for permanent ground displacements due to liquefaction or earthquake induced landslides.¹⁸ The placement of a site within a liquefaction zone does not mean, however, that the site is subject to liquefaction or permanent ground displacements due to liquefaction. It means that conditions that may result in the occurrence of liquefaction exist, previously existed, or could possibly exist in the future at the site.

Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California, was published by the California Department of Conservation, Division of Mines and Geology (1997). This

¹⁶ *Allan E. Seward Engineering Geology Inc., Geologic and Geotechnical Report, Review of Tentative Tract Map (dated April 1, 2004), Vesting Tentative Tract 60258, City of Santa Clarita, California, June 11, 2004.*

¹⁷ *California Geological Survey, 2004a.*

¹⁸ *State of California, Department of Conservation, California Geological Survey, 2004b.*

publication, as its name suggests, provides guidelines for use by geotechnical consultants in evaluating liquefaction potential, among other seismically induced hazards. In addition, recommended procedures for the implementation of these guidelines were published by the Southern California Earthquake Center (2002). Much of the Santa Clarita Valley is within a zone of potential liquefaction and subsequent settlement hazards. During the 1994 Northridge earthquake, a peak ground acceleration in excess of 0.5g was experienced in many parts of the Santa Clarita Valley and some liquefaction was reported. Similarly, there is the potential for permanent deformation of the ground surface and liquefaction at the project site during a seismic event.

Differential materials response refers to the different responses various materials display when subjected to seismic waves. Where materials with different densities or strengths are in contact, differential response to the seismic energy may cause distress along the contact. The combination of dynamic compaction and differential settlement along the contact is a source of future potential hazard along cut/fill and bedrock/alluvium contacts.

Earthquake-induced slope failures include activation and reactivation of landslides, rock falls, debris flows and surficial failures. Review of the Seismic Hazard Zones map and associated report for the Newhall Quadrangle indicates that much of the slope areas on the project site are within designated areas requiring investigation to evaluate potential earthquake-induced landslides.¹⁹ The potential for earthquake-induced slope failures to adversely impact the Proposed Project is considered less than significant, provided that the proposed mitigation measures are implemented into the project design and during construction activities.

Soil Compressibility and Hydroconsolidation

Based upon consolidation test data developed for the Proposed Project, the compressibility of the subsurface soils is considered to be typically low to moderate within the depths tested, which ranged from four feet to 36 feet. Based upon laboratory data developed for the Proposed Project, no significant hydroconsolidation effects due to water incursion are expected at the project site after the recommended removals are completed.

Expansion Potential

The alluvial soils at the project site are predominantly granular. The Terrace Deposits also typically have a very low to low expansion potential. Based on expansion index tests, low to medium expansive

¹⁹ *State of California, Department of Conservation, 1995 and 1997b.*

Saugus Formation bedrock materials were identified at the project site. The medium expansive materials typically consist of the siltstone and mudstone units.

Potential Corrosivity of Soils

Soils Electrical Resistivity and pH

Selected samples of on-site soils were tested for resistivity and pH. Soil electrical resistivity values of selected shallow soils suggest that on-site soils classified as moderately corrosive to ferrous metals exist at the project site; pH data show no significant acidity of tested soils.

Soluble Sulfate and Chloride Content in Soils

Selected samples of on-site soils were collected and tested for sulphates and chloride content. Based upon test results, concrete exposure to sulfates in shallow soils classifies as negligible (per 2001 UBC Classification).

Soils Shear Strength

Direct Shear tests were performed on samples of on-site Alluvium (Qal), Terrace Deposits (Qt), and Saugus Formation Bedrock (TQs). Remolded samples of on-site soils were also tested for shear strength. Tests results are presented in Appendix B of the Allan E. Seward Engineering Geology, Inc., geotechnical report.

Shrinkage, Bulking, and Subsidence

The following bulking and shrinkage factors are based on judgment and in-situ densities compared to an average of 94 percent relative to the maximum dry density as determined by the American Society for Testing and Materials (ASTM) D 1557 test. For the materials encountered at the project site, shrinkage (decrease in volume) or bulking of those materials, when excavated, placed, and compacted as controlled fill is estimated to be as shown in Table V.F-1.

**Table V.F-1
Shrinkage, Bulking and Subsidence Factors**

Material Type	Shrinkage (%)	Bulking (%)
Artificial Fill (af)	20-25%	
Alluvium (Qal)	15-18%	
Slopewash (SW)	15-20%	
Upper Qt (0-8 ft depth)*	12-15%	
Qt (> 8' depth)	3-6%	
Upper TQs (0-3 ft depth)*	5-8%	
TQs (> 3ft depth)		2-5%
* = Denotes typical upper weathered zones in Terrace Deposits (Qt) and Saugus Formation Bedrock (TQs) that are prone to shrinkage.		

Rippability

The bedrock encountered at the project site consists primarily of siltstone and sandstone of the Saugus Formation. This formation is generally excavated using typical grading equipment and techniques. Heavy, single-shank ripping may be required, however, within the more indurated portions.

Debris Flow Hazard

Debris flow hazards exist on south-facing slopes on the south portion of the project site and within the Los Angeles Department of Water and Power line easement in the central portion of the project site.

Hillside Development

On November 24, 1992, the City adopted a Ridgeline Preservation and Hillside Development Ordinance. The provisions of the City's Ridgeline Preservation and Hillside Development Ordinance are intended to implement and define the goals and policies of the General Plan in relation to land use, densities, open space, and community image in furtherance of the General Plan. The intent of the ordinance is to regulate the development and alteration of hillside areas and ridgelines, to minimize adverse effects of hillside development, and to provide for the safety and welfare of the citizens of Santa Clarita while allowing for reasonable development of hillside areas. The provisions of the

Ordinance are applicable to those parcels of land which have average slopes of ten percent or more. The Proposed Project has hillside areas with slopes in excess of ten percent.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance to State CEQA Guidelines, a project would have a significant effect on the environment if it will:

- 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.
 - ii) Strong seismic ground shaking.
 - iii) Seismic-related ground failure, including liquefaction.
 - iv) Landslides.
- b) Result in substantial wind or water soil erosion or the loss of topsoil.
- 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.
- 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.
- 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.

The Proposed Project is evaluated relative to all criteria above except for Criterion e) regarding septic tanks because the project does not propose to use septic tanks for wastewater disposal.

Project Impacts

Grading would involve movement of 5.4 million cubic yards of cut and fill and 1.8 million cubic yards of remedial grading (alluvial grading, recompaction and slope buttressing as required). Mass grading by balanced cut and fill techniques would be used to create level building pads for the Proposed Project at a variety of grades between the Santa Clara River and the crest of the ascending ridges. Infrastructure for the Proposed Project is anticipated to include graded roadways and flood control channels.

Earthquakes, Landslides, Mudslides, Ground Failure, or Similar Hazards

Earthquakes

Subsurface exploration of the project site revealed a minor fault southeast of hollow-stem auger Boring HS-2 in the Saugus Formation bedrock;²⁰ however, it is not classified as active on the California Fault Map,²¹ nor was it considered a seismic source in the probabilistic seismic hazard assessment for California, and a setback zone is not required. Review of aerial photographs did not reveal any lineaments or other evidence of Holocene activity. Also, no evidence of fault offset of the overlying Quaternary Terrace Deposits has been observed. Therefore, impacts related to the exposure of people or structures to potential substantial adverse effects from known earthquake faults are less than significant.

Landslides/Mudslides

Three landslides, Qls-1 through Qls-3, have been mapped on the southeast portion of the project site; however, they do not encroach into the development area, but are located above the proposed multi-use trail at the southeastern corner of the project site. These typically represent a translational type of failure within the Saugus Formation and Terrace Deposits that failed along a low strength clay bed. The landslides typically consist of highly fractured rock resting above a low strength slip surface. Voids created by dilation of the bedrock (grabens) are commonly backfilled with rock debris and colluvial material. Development within areas of the project site affected by landslides would result in a significant impact unless mitigated. Debris flow hazards exist on south facing slopes on the south portion of the project site and on south facing slopes in the central portion of the project site. Unless

²⁰ *Allan E. Seward Engineering Geology Inc., Geologic and Geotechnical Report, Review of Tentative Tract Map (dated April 1, 2004), Vesting Tentative Tract 60258, City of Santa Clarita, California, June 11, 2004.*

²¹ *State of California, Department of Conservation, Division of Mines and Geology, 1994.*

mitigated, debris flow hazards could result in a significant geotechnical impact. With proposed mitigation, impacts would be less than significant.

Ground Failure

The potential for adverse impacts to the Proposed Project from liquefaction and other secondary seismic effects is considered to be low to non-existent; provided the recommendations set forth in the referenced reports are incorporated into the grading plan and implemented during construction. Without mitigation, impacts associated with potential liquefaction at the project site would be significant. With proposed mitigation, impacts would be less than significant.

Transition Lots

If left unmitigated, proposed building pads located in transition zones between cut and fill, or between differing geologic lithologies (for example, either side of a fault plane), may experience cracking and movement of the slab due to differing compressibility of the fill as compared to the bedrock material. Therefore, with proposed mitigation, impacts would be less-than-significant.

Groundwater

Historic groundwater levels on the project site have ranged from 3.3 to 24.8 feet of the existing ground surface along the margins of the Santa Clara River. Perched ground water was encountered in the Saugus Formation bedrock and Quaternary terrace deposits at the elevated portions of the project site. Perched ground water conditions can contribute to slope instability in proposed natural and proposed cut-slopes. Groundwater may be encountered during grading removals and would result in a significant geotechnical impact. With proposed mitigation, impacts would be less than significant.

Ground water and soil moisture conditions can vary seasonally or for other reasons. Complete knowledge of the subsurface groundwater conditions at the project site is not available and it is possible that seepage could be encountered while stripping and excavating during site preparation in some areas (e.g., in drainages or along terrace/bedrock contacts on the site). In the event seepage is encountered and not mitigated, a significant geotechnical impact under Criterion a) could occur. Water collecting on graded pads would aggravate seepage and groundwater-related problems, thus subjecting structures and persons to geologic hazards and constituting a significant environmental impact unless mitigated. Without mitigation, instabilities may result in a significant impact under Criterion a) if no consideration is given for soil types and on-site geotechnical considerations. With proposed mitigation, impacts would be less than significant.

Soil Corrosivity

Based on resistivity test data, on-site soils that classify as moderately corrosive to ferrous metals exist at the project site. Sulfate concentrations were negligible per UBC (2001) classification, and pH was near neutral. Chloride concentrations were very low. Unless mitigated, soil corrosivity impacts to buried metals associated with the Proposed Project would result in a significant impact. Therefore, with mitigation proposed, impacts would be less than significant.

Wind or Water Erosion of Soils

The largely undeveloped project site has some vegetation, particularly within the riverbed; however, large portions of the project site are currently disturbed and subject to wind and water erosion during the rainy season. Wind and water erosion of the project site would increase during construction activities unless mitigated, and this would result in a significant construction-related impact. With proposed mitigation, impacts would be less than significant.

Once developed, site erosion and sedimentation would decrease substantially compared to existing conditions because the project site would be covered with non-erosive surfaces, including pavement, structures, and permanent vegetation, all which would reduce the amount of exposed soil subject to wind and water erosion. Furthermore, implementation of the existing provisions in the City's grading requirements for planting and irrigation of constructed slopes in conjunction with drainage recommendations provided in the section "Surface Drainage and Erosion Control" would provide sufficient mitigation against potential erosion within the project site. Therefore, the project would result in a long-term decrease in onsite erosion. As a result, long-term project impacts would be less than significant.

Unstable Earth Condition or Changes in Geologic Substructure

All existing artificial fill (af) on the project site is considered unsuitable for support of proposed engineered fills and/or structures. Development over the existing undocumented fill would result in a significant geotechnical impact unless mitigated. Based upon consolidation test data developed for the Proposed Project, the compressibility and hydroconsolidation of the subsurface soils within the depths tested ranging from four feet to 20 feet are considered to be typically low to moderate; however, unless removed, the soils above this depth may be subject to compressibility, which would result in a significant impact. With proposed mitigation, impacts would be less than significant.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	<u>HH Seco II LLC</u> Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	<u>Development for a new 40,000 square foot commercial shopping center</u>
2	<u>Rice Development</u> Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	<u>Aspen Investment Company</u> Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	<u>Rodgers Development</u> Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Geotechnical impacts are site specific in nature and each development site is subject to, at minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the locality and/or region. Because the development of each site, including bank stabilization, would have to be consistent with City of Santa Clarita requirements for projects in the City, the requirements of the Los Angeles County Department of Public Works for projects in unincorporated Los Angeles County, and the Uniform Building Code as they pertain to protection against known geologic hazards, impacts of cumulative development would be less than significant given known geologic considerations.

MITIGATION MEASURES

Project Mitigation Measures

The Proposed Project may result in potential impacts associated with geotechnical resources prior to mitigation. Therefore, the Project Applicant has committed to implementing the following mitigation measures for the Proposed Project to ensure that future development of the project site is safe from geotechnical hazards (earthquakes, landslides, mudslides, ground failure or similar hazards), wind or water erosion of soils, unstable earth conditions in geologic substructure and that it would not adversely affect adjacent properties.

General

- F-1** All project site development shall be performed according to the recommendations identified in the referenced report, (Allan E. Seward Engineering Geology, 2004).
- F-2** Mitigation measures for geotechnical resources shall be implemented so as not to conflict with mitigation measures as section set forth in Section V.D, Biological Resources, of this EIR.

Earthwork

- F-3** All grading shall be accomplished under the observation and testing of the Project Soils Engineer, Engineering Geologist and/or their authorized representatives in accordance with the recommendations contained herein, the current Uniform Building Code requirements and "Recommended Earthwork Specifications" as presented in Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004).

Site Preparation

- F-4** During site preparation, the site shall be cleared and stripped of organics (vegetation), topsoil, roots, undocumented artificial fill, rubble, construction debris and other unsuitable materials, as

applicable, and the site shall be graded to provide a firm base for compacted fill. All organics shall be removed from the site for proper disposal. The Geotechnical Engineer and/or his representatives shall observe the excavated areas prior to placing compacted fill.

Removal and Benching

- F-5** In order to provide a uniform firm bottom prior to placing fill, all unconsolidated alluvium, slopewash, colluvial soils and severely weathered terrace deposits and bedrock shall be removed from areas to receive fill. The estimated depths of removals (excluding landslides) range from 3 to 36 feet as shown on Figure V.F-1. The exact depth and extent of necessary removals will be determined in the field during the grading operations when observations and more location specific evaluations can be performed.
- F-6** All existing artificial fill (af) shall be removed and replaced with compacted fill. Removals at the locations of exploratory trenches shall be extended to the bottom of the trench backfill if the adjacent removal depths are shallower than the trench.
- F-7** In areas to receive compacted fill where the surface gradient is steeper than 5:1 (h:v), the soil mantle, colluvium and unsuitable material shall be removed and such areas benched horizontally into competent material prior to or in conjunction with fill placement (see Appendix E, Fill Over Natural Slope, Figure E2 of the referenced report, Allan E. Seward Engineering Geology, 2004).

Preparation of Bottom Areas

- F-8** After the ground surface to receive fill has been exposed, it shall be ripped to a minimum depth of 6 inches, brought to optimum moisture content or above, thoroughly mixed to obtain a near uniform moisture condition and uniform blend of materials, and then compacted to the required relative compaction per the ASTM D 1557 laboratory maximum density.

Dewatering During Removals

- F-9** Where recommended removals encounter groundwater, water levels shall be controlled by providing an adequate excavation bottom slope and sumps for pumping water out as the excavation proceeds, or groundwater may be lowered by installing shallow dewatering well points prior to grading. Partial removals of soils above the water table and soil improvement below the water table (e.g., shallow compaction grouting) may be another option. The determination as to which measures are to be used shall be made by the project Civil Engineer. Dewatering may be needed depending on the season when the removals are performed. All

discharges from dewatering operations, if any, shall comply with the National Pollutant Discharge Elimination System Permit (NPDES) requirements of project construction.

Over-Excavation

F-10 A minimum five-foot thick over-excavation shall be performed on all cut-lots, transitional lots (transitions between bedrock, fill, terrace deposits and alluvium), and streets. This overexcavation will result in reduction of potential differential settlements or differential material response to seismic events and provide a uniform base for structural support of buildings. If the maximum depth of fill exceeds 15 feet on a cut/fill transition lot, then the thickness of the fill cap shall be one-third of the deepest fill thickness below any proposed structure (see Appendix E, Cut Lot and Cut Fill Lot (Transitional), Figure E3, of the referenced report, Allan E. Seward Engineering Geology, 2004). If excavation of the native soils (i.e., bedrock) exposes expansive materials, then the lot over-excavation shall be deepened to at least eight feet.

Fill Materials

F-11 On-site soils that are free of debris, over-size rocks, topsoil and organic matter may be used as sources for compacted fills. Rock or similar irreducible material with a maximum dimension greater than eight inches may not be placed in the fill. Rocks or hard fragments larger than four inches shall not compose more than 25 percent of the fill and/or lift. Any large rock fragments over eight inches in size, may be incorporated into the fill as rockfill in windrows after being reduced to the specific maximum rock fill size, see Figure E4, Rock Disposal, in Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004). Where fill depths are too shallow to allow large rock disposal, special handling or removal may be required depending upon on-site field decisions made during grading operations by the project Geologist/Geotechnical Consultant see “Recommended Earthwork Specifications” in Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004).

Fill Compaction

F-12 All fill material shall be placed in uniform lifts not exceeding eight inches in its loose state and compacted to a minimum of 90 percent relative compaction as determined based on the latest ASTM Test Designation D-1557. Additional field compaction requirements are presented in Appendix E, “Recommended Earthwork Specifications” of the referenced report (Allan E. Seward Engineering Geology, 2004). Appendix E also includes recommended specifications for placement of trench backfill.

- F-13** For fills deeper than 40 feet, the portion of fill below 40 feet depth shall be compacted to a minimum of 93 percent relative compaction. These areas shall be delineated at the Grading Plan stage.

Proposed Fill Slopes

- F-14** Fill slope inclinations shall not be steeper than 2:1 (h:v). The fill material within approximately one equipment width (typically 15 feet) of the slope face shall be constructed with cohesive material obtained from on-site soils. The finished fill-slope face shall be constructed by over-building the slope and cutting back to the compacted fill material. Stability fills are recommended where cut-slope faces will expose fill-over bedrock, alluvium over bedrock or Quaternary terrace deposits over bedrock conditions. These fills shall be constructed with a keyway at the toe of the fill slope with a minimum equipment width, but not less than 15 feet, and a minimum depth of 3 feet into the firm undisturbed earth. Following completion of the keyway excavations, the Project Engineering Geologist shall observe and approve the keyway bottom prior to backfilling with certified engineered fill.
- F-15** Where fill slopes are constructed above natural ground with a gradient of 5:1 (h:v) or steeper, all topsoil, colluvium, and unsuitable material shall be removed and a keyway shall be constructed at the toe of the fill slope with a minimum width of 15 feet, and a minimum depth of 3 feet into firm undisturbed earth (see Appendix E, Fill Slope Over Natural Slope diagram, Figure E5 of the referenced report, Allan E. Seward Engineering Geology, 2004). Following completion of the keyway excavations, the project Engineering Geologist/Geotechnical Engineer or designated representative shall observe and approve the keyway bottom prior to backfilling with compacted fill.
- F-16** Where fill slopes toe out on relatively level natural ground, the removals shall be performed to a minimum 1:1 (h:v) projection from the toe of slope to the recommended removal depth, (see Appendix E, Fill Slope Toeing Out on Flat Alluviated Canyon, Figure E6 of the referenced report, Allan E. Seward Engineering Geology, 2004).
- F-17** Where sliver fill-slopes are proposed, the slope shall be constructed with a minimum 15-foot width Stability Fill throughout, which is keyed in at the toe of slope (see Appendix E, Stability/Buttress Fill and Backdrains Detail, Figure E7 the referenced report, Allan E. Seward Engineering Geology, 2004).

Landslides

- F-18** Three landslides are located within or in the vicinity of the proposed development area of the project. These landslides shall be mitigated as recommended in Table 1 of Geologic and Geotechnical Report – Addendum No. 1 Revised Tentative Tract Map of the referenced report, (Allan E. Seward Engineering Geology, 2004).
- F-19** Landslides Qls-1, Qls-2 and Qls-3 shown in figure 4.1-1 should be included on the Final Map as Restricted Use Areas.

Proposed Cut-Slopes

- F-20** Eighteen proposed cut-slopes ranging in height from 25 feet to 120 feet are proposed on the project site and are designated as CS-1 through CS-18. Recommended mitigation, if necessary, for each slope as presented in Cut-Slope Summary (Table 2.1 of the referenced report, Allan E. Seward Engineering Geology, Inc., 2004), shall be followed. This determination shall be made by the Geologist/Geotechnical Consultant prior to grading activities. It has been conservatively assumed for the purposes of stability analysis that weak bedding planes may occur anywhere in the proposed cut-slopes. If any of the smaller proposed cut-slopes (less than 25± feet in height) have adverse geologic grading configurations (fill over cut), they shall be mitigated, if necessary, with a standard 15- to 20-foot wide key (depending on the proposed cut-slope height) and benching similar to a Stability Fill. A “Typical Fill above Cut-Slope” detail is shown on Figure E8 within Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004). This determination shall be made by the project Geologist/Geotechnical Consultant prior to grading activities.
- F-21** All permanent cut-slopes shall be constructed at a slope ratio not steeper than 2:1 (h:v). All permanent cut-slopes exposing Terrace Deposits or Alluvium shall be constructed as a stability fill. Temporary cut slopes in competent rock may be constructed as steep as 1.5:1 (h:v). Potential unstable subsurface conditions exposed during construction, such as adverse bedding, joint planes, zones of weakness or exposed seepage, may require either flatter slopes than specified above or construction of benches. An Engineering Geologist shall observe all backcuts during the grading operations and provide appropriate recommendations, if necessary.

Natural Slopes

- F-22** Natural slopes within the proposed Tentative Tract 60258 have gradients ranging from 5:1 (h:v) to 1.1:1 (h:v). A 75-foot high approximately 1:1 (h:v) gradient slope located westerly of Lot 99 within the DWP easement was identified by the referenced report, (Allan E. Seward

Engineering Geology, 2004) as the most critical slope. The referenced report illustrates the geologic conditions of this slope on Section 13 – 13' and provides slope stability analysis indicating that this natural slope satisfies the City of Santa Clarita factor of Safety requirements. All natural slopes that are relatively steep and have accumulations of soil and slopewash are prone to debris flow hazard.

V.F-23 A fill over natural condition is proposed along the southern edge of the proposed school site (Lot 102) above the Santa Clara River. The natural slope is approximately 90-feet in height with gradients up to 1.1:1 (h:v). A fill slope up to 40 feet in height is proposed to ascend above the natural slope. The referenced report, (Allan E. Seward Engineering Geology, Inc., 2004), recommends a twenty foot horizontal bench to set back the fill slope from the descending natural slope. The horizontal bench is recommended to extend laterally a distance of approximately 450 feet. The recommended bench is color coded yellow on the Geologic/Geotechnical Map as well as on Cross Section 3-3' Plate II within the referenced report, (Allan E. Seward Engineering Geology, Inc., 2004).

Exploratory Trench and Boring Backfill

F-24 All of the exploratory trenches and borings previously excavated for this project shall be overexcavated and backfilled with compacted fill in accordance with the earthworks recommendations of the referenced report, (Allan E. Seward Engineering Geology, Inc., 2004).

Drainage Control

F-25 Wherever groundwater seepage is observed, the condition shall be evaluated by the Engineering Geologist and Geotechnical Engineer prior to covering with fill material.

F-26 Surface drainage control design shall include provisions for positive surface gradients to ensure that surface runoff is not permitted to pond, particularly above slopes or adjacent to building foundations or slabs. Surface runoff shall be directed away from slopes and foundations and collected in lined ditches or drainage swales via non-erodible drainage devices, which shall discharge to paved roadways or existing watercourses. If these facilities discharge onto natural ground, means shall be provided, as directed by the project Civil Engineer, to control erosion and to create sheet flow.

F-27 It should be expected that, even with the construction of carefully planned and designed erosion control measures, some erosion may occur during the first few wet seasons after the project is completed. Site grading should be inspected, particularly after heavy, prolonged rainfall, to

identify erosion areas at an early stage. Maintenance work shall be done as soon as practical to repair these areas and prevent their enlargement.

- F-28** Planting and irrigation standards within the City of Santa Clarita Grading Code shall be adhered to in order to prevent soil erosion.
- F-29** Fill slopes and stability fills, as applicable, shall be provided with subsurface drainage as necessary for stability as determined by the project Geologist/Geotechnical Consultant. A typical backdrain detail is shown on Figure E7, Appendix E of the referenced report (Allan E. Seward Engineering Geology, Inc, 2004). Also, subdrains along the bottom of canyon fills shall be constructed. A typical canyon subdrain detail is presented on Figure E9 of the referenced report.
- F-30** All final grades shall be sloped away from the building foundations to allow rapid removal of surface water runoff. No ponding of water shall be allowed adjacent to the foundations. Plants and other landscaped vegetation requiring excessive watering shall be avoided adjacent to the building foundations. Should landscaping be constructed, an effective water-tight barrier shall be provided to prevent water from affecting the building foundations.

Shrinkage, Bulking and Subsidence

- F-31** The Project Engineer shall design pad grades with sufficient flexibility to accommodate a possible shortage of fill of up to 10 percent of the total yardage graded due to potential shrinkage of fill and potential subsidence due to dewatering.

Foundation Settlement Consideration

- F-32** The structural design shall include seismic geotechnical parameters in accordance with UBC requirements for Seismic Zone 4. These parameters will be provided at the Grading Plan stage.
- F-33** Shallow spread footings for foundation support of residential structures can adequately be placed on compacted engineered fill as stated in Mitigation Measures F-13 and F-14. Support for heavier structures, if applicable, shall be addressed at the Grading Plan stage. Minimum specifications for continuous (wall) foundation dimensions are 12 inches wide and 12 inches deep below lowest adjacent grade for single-story residential structures. Tentatively, an allowable bearing capacity of 1,500 pounds per square-foot can be used for (minimum-sized) shallow foundations constructed in certified compacted fill. This tentative allowable bearing value shall be confirmed by further field and laboratory testing by the Project Geologist of the

site soils before use in design plans. Lateral resistance of footing walls shall be provided at the Grading Plan stage.

- F-34** If, during grading operations, the resulting cut-fill transition is steep, as determined by the project Geologist/Geotechnical Consultant, at depth below the building area, the geometry of the transition shall be reviewed during grading operations by the Soils Engineer on a site-specific basis to evaluate the need for additional over excavation removals and/or additional foundation reinforcement. As a general guideline, steep cut/fill transitions would include slope gradients steeper than 4:1 (h:v) and overall variations in fill thickness of greater than 15 feet, which occur within 20 feet of final pad grade. The determination of need for over excavation of materials shall be guided by Figure E3 (Appendix E), “Cut Lot (Transitional)” and “Cut-Fill Lot (Transitional)” of the referenced report, (Allan E. Seward Engineering Geology, Inc., 2004), which provides a foundation grading detail for locations where foundations will straddle transition zones between cut and fill materials.
- F-35** To minimize significant settlements, the upper soils in areas to receive fills shall be removed and replaced with compacted fill. Some minor settlements will be expected due to loads from high fills (e.g., thicker than 30 feet). Currently, locations of proposed high fills are in the vicinity of Lots 10-21, 30-34, 38, 39, 42-56, 77, 97, 99, 102, and 102A. Most of the settlements due to the load of added fill will occur during and shortly after rough grading is complete. However, since lenses of relatively compressible clayey soils exist below recommended removal depths, some of the fill settlements will not occur until the ground water table is lowered below the compressible clay lenses. Ground water table lowering is usually the result of pumping from water wells. (Note: the Proposed Project would not directly withdraw groundwater.) Alternatively, the project site may be temporarily surcharged with earth fill sufficient to simulate the load increase on the compressible clay lenses due to lowering of the ground water table, as determined by the project Geologist/Geotechnical Consultant.
- F-36** At other alluvial removal areas, potential settlements in Alluvium shall be minimized by the removals and recompaction recommended in the referenced report, (Allan E. Seward Engineering Geology, Inc., 2004). Also, potential effects from localized seismically induced settlements will be attenuated by the recompacted upper layers and proposed additional fills, see Appendix C in the referenced report, (Allan E. Seward Engineering Geology, 2004).

Excavation, Shoring and Backfill Recommendations

- F-37** Excavations deeper than 3.5 feet shall conform to safety requirements for excavations as set forth in the State Construction Safety Orders enforced by the State Division of Industrial Safety, CAL OSHA. Temporary excavations 12 feet or lower shall be no steeper than 3/4:1 (h:v).

For excavations to 20 feet in height, the bottom 3.5 feet may be vertical and the upper portion between 3.5 and 20 feet shall be no steeper than 1.5:1 (h:v). Excavations not complying with these requirements shall be shored. Excavation walls in sands and dry soils shall be kept moist, but not saturated at all times.

- F-38** Parameters for design of cantilever and braced shoring shall be provided at the Grading Plan stage.
- F-39** The bases of excavations or trenches shall be firm and unyielding prior to foundations or utility construction. On-site materials other than topsoil or soils with roots or deleterious materials may be used for backfilling excavations. Densification (compaction) by jetting may be used for on-site clean sands or imported equivalent of coarser sand provided they have a Sand Equivalent greater than or equal to 30 as determined by ASTM D2419 test method. Specifications for placement of trench backfill shall be adhered to and are presented in Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004).

Expansive Soils Considerations

- F-40** The measures presented in Table E1, Minimum Foundation and Slab Recommendations for Expansive Soils, in Appendix E of the referenced report, (Allan E. Seward Engineering Geology, 2004), shall be implemented to minimize the effects of soil expansion potential. It is anticipated that compacted fill from the on-site materials will have a very low to medium expansion potential. The expansion potential of the site soils exposed at rough grade shall be tested again after site grading is complete and the final foundation design shall be based on those expansion test results.

Corrosivity and Chemical Attack Considerations

- F-41** On-site soils classify as severely corrosive to corrosive to buried metals per County of Los Angeles classification. Sulfate concentrations are negligible per UBC (1997) classification, and pH was near-neutral (reported as 7.2 in the referenced report, Allan E. Seward Engineering Geology, Inc., 2004). Pending additional testing, either Type I or II cement may be considered for use in concrete placed in contact with the ground. Mitigating measures for soil corrosivity shall be finalized by the Project Engineer based on additional confirmatory tests that shall be performed at the Grading Plan stage. Final recommendations for concrete shall be in accordance with the latest UBC requirements, and a corrosion specialist shall provide mitigating recommendations for potential corrosion of metals in contact with on-site soils prior to issuance of a Grading Permit.

Cumulative Mitigation Measures

No cumulative geology and soil impacts were identified; therefore, no cumulative mitigation measures are recommended.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Project impacts after implementation of the mitigation measures, F-1 through F-41 would mitigate project impacts on earthwork activities (such as site preparation, cut and fill operations , slope cut preparation, landslide areas); drainage control; soil shrinkage, bulking and subsidence; foundation settlement, shoring activities, etc., as listed above would reduce impacts to less than significant.

Cumulative

Geotechnical impacts are site specific in nature and each development site is subject to, at minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the locality and/or region. Therefore, no cumulative impacts are identified and impacts would be less than significant.

V. ENVIRONMENTAL IMPACT ANALYSIS

G. HAZARDS

INTRODUCTION

This section summarizes the following Phase I environmental site assessment reports prepared for The Keystone project:

- (A) Phase 1 Environmental Site Assessment, 117-acre site, R.T. Frankian & Associates Geotechnical Engineering and Engineering Geology (May 7, 2003)
- (B) Phase 1 Environmental Site Assessment, 17-acre site, R.T. Frankian & Associates Geotechnical Engineering and Engineering Geology (November 10, 2003)
- (C) Phase 1 Environmental Site Assessment, 75-acre site, R.T. Frankian & Associates Geotechnical Engineering and Engineering Geology (November 26, 2003)
- (D) Phase 1 Environmental Site Assessment, Parcel Map No. 2812, R.T. Frankian & Associates Geotechnical Engineering and Engineering Geology (May 6, 2004)
- Memorandum, Applicability of Phase I Environmental Site Assessment Portion of Vesting Tentative Tract No. 060258, Proposed Keystone Project, R.T. Frankian & Associates Geotechnical Engineering and Engineering Geology, Mark Frankian, Project Engineer, March 18, 2005

The purpose of this section is to disclose and discuss the potential for environmental safety issues that could occur on the project site, and to identify feasible mitigation measures that would reduce any identified significant impacts to a less-than-significant level. The Phase I reports included field surveys, as well as records, historical aerial photo, and database reviews. The Phase I reports are included in Appendix 6 to this Draft EIR.

ENVIRONMENTAL SETTING

Physical Project Site Conditions

The Santa Clara River forms the southern boundary of the project site and the northwestern portion of the project site includes a south-facing slope, with generally steep topography on the north and south, a sloping terrace divided by two moderately-sized canyons in the central portion, and a relatively steep

ridge in the southeast that is surrounded by a moderately-sized canyon on the north and the Santa Clara River on the south. There are existing residential communities to the northwest and east of the project site and residential communities under construction to the north. Further to the west, the property is undeveloped; however a residential and commercial development project has recently been approved by the City Council for a development (Riverpark project). Approximately 15 acres of the southern portion of the project site is situated in the Santa Clara River flood plain with an additional 0.5 acre "L"-shaped lot extending southerly over the remaining area of the River to Santa Clara Street. A LA DWP right-of-way divides the site diagonally into two portions. Approximately 45 acres are located west of the right-of-way and 201 acres are to the east.

The project site is located in the Santa Clara River Hydrologic Unit. The area of the project site adjacent to the Santa Clara River is underlain by Recent to Quaternary-age river alluvium and terrace deposits consisting of silts, sands, and gravels. The alluvium and terrace deposits overly sedimentary rocks of the Pliocene age Saugus formation at depth. Saugus formation bedrock crops out in higher portions of the project site. Several relatively small landslides are located in the southeast portion of the project site on a north-facing slope. One groundwater well is believed to be located on-site, although its location has not been determined. The depth to static water level is believed to be less than 75 feet below ground surface (bgs). The regional groundwater gradient is expected to be to the south toward the Santa Clara River and then to the west along the Santa Clara River valley.

Phase I Environmental Site Assessment

Four reconnaissance site visits were conducted between May 7, 2003 and May 6, 2004, by R.T. Frankian & Associates (RTFA) staff to observe and document existing project site conditions. Figure V.G-1 illustrates the location of each site reconnaissance visit. Of particular importance was the portion of the project site that contained former underground storage tanks (USTs).¹

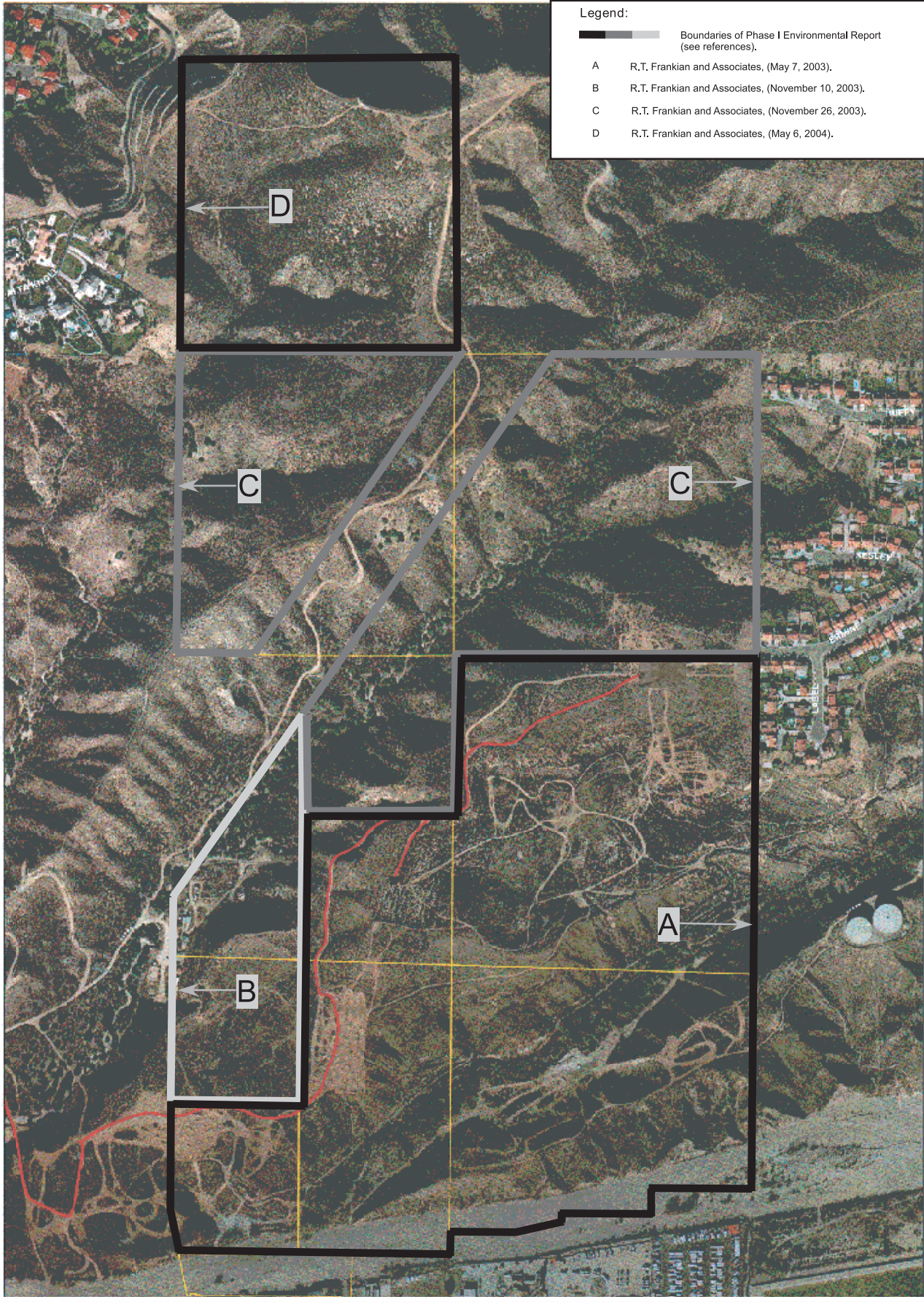
During the site reconnaissance of the 17-acre parcel, "several dozen unlabelled 55-gallon drums" were observed. Some of the drums were sealed and some were open and had collected rain water. At least one drum was on its side and staining was observed. RTFA also observed the presence of scattered rubbish, construction debris, automobile parts, car batteries, and broken electronic components. Soil staining was observed in two locations. Soil stockpiles of unknown origin were also observed. The soil stockpiles were observed to be clean and relatively free of trash. No staining was observed. One water well was believed to exist on-site. This well was previously used for domestic water use. A

¹ *R.T. Frankian and Associates, Phase I Environmental Site Assessment.*

Legend:

Boundaries of Phase I Environmental Report
(see references).

- A R.T. Frankian and Associates, (May 7, 2003).
- B R.T. Frankian and Associates, (November 10, 2003).
- C R.T. Frankian and Associates, (November 26, 2003).
- D R.T. Frankian and Associates, (May 6, 2004).



septic system was also believed to exist on-site.

During the site reconnaissance of the 40-acre parcel, RTFA observed the presence of miscellaneous trash and rubble, and household debris in isolated areas of the project site. Soil stockpiles of unknown origin were also observed. RTFA performed a site reconnaissance of the 75-acre parcel. During the site reconnaissance, soil stockpiles, construction debris, and miscellaneous trash and rubble were observed. The soil stockpiles were observed to be clean and relatively free of trash.

RTFA performed a site reconnaissance of the 117-acre parcel. During the site reconnaissance, RTFA observed soil stockpiles, scattered trash, construction debris, automobile parts, broken electronic components, and commercial equipment. The soil stockpiles were observed to be clean and relatively free of trash. No staining was observed. A fruit tree grove was also observed. There was no evidence of the use of fertilizers or pesticides in the fruit tree grove. RTFA also identified an abandoned oil well in the southwest corner of the project site.

Although not a recognized environmental condition, RTFA identified an active stream on the project site. RTFA recommended that the project site be evaluated relative to the potential for a flood plain or wetland to exist on-site (refer to Section V.D. Biological Resources).

At the time of the site visit, no USTs, pits, ponds, stressed vegetation, significant debris, or significantly stained soil was observed. Except for the former residence located on the 17-acre parcel, no buildings were observed within the project site.

Record Search of Adjacent Properties

Government database reports, prepared by Environmental Data Resources (EDR), of available federal, State, and county agency databases were reviewed to identify the presence of any government regulated properties, either on-site or adjacent to the project site, that could potentially result in hazardous on-site conditions. Given the area of the project site, the search radii of investigation for the federal and State agency lists were extended up to 2.0 miles in accordance with the ASTM Standards for Environmental Site Assessments. A complete copy of the EDR report is provided as an appendix to the Phase I Site Assessments found in Appendix 6 of this Draft EIR.

Based on the review of governmental database provided by EDR, there is a low potential for environmental impact to the project site from the listed off-site properties in the search vicinity. The pertinent findings of the government database review are summarized below.

- The project site is not identified in the EDR report.

- The project site is not located within 1.0 mile of an NPL (Federal Superfund) site.
- There are numerous properties within 0.25 mile of the southern project site boundary identified in the EDR reports. Most of the properties are located on Ruether Avenue, Santa Clara Street, or Furnivall Avenue, south of the project site and parallel to the Santa Clara River and Soledad Canyon Road. Most of the properties are listed on the HAZNET or Los Angeles County HMS Lists as waste generators, which does not indicate that a release has occurred. Two properties are listed on the leaking underground storage tank list (LUST); however, the cases were closed by the regulatory agency in 1996 and 1997. Two sites are listed on the CHMIRS for releases of chemicals. Two sites are listed on UST related databases. Based upon their locations relative to the project site and the regional groundwater flow direction, there is a low potential for environmental impact to the project site from these listed facilities.
- Properties that could not be mapped by EDR are listed as “orphans”. These orphan sites were identified as potentially within the search vicinity. Of the listed unmapped properties, many are located south of the Santa Clara River in the vicinity of Soledad Canyon Road. It should be noted that most are listed as generators of hazardous wastes. These uses have a low potential for environmental impact to the project site as these uses and resulting activities are permitted and monitored by regulatory agencies that impose specific operating procedures.

Previous Oil Production Operations

With regard to oil production, such activities are typically associated with certain hazardous substances. Substances that are commonly found in oil fields include total petroleum hydrocarbons and aromatic volatile organic compounds. Total petroleum hydrocarbons (TPH) are associated with crude oil production, storage, processing, and transport. These are the primary substances potentially present in on-site soils. The most frequently occurring volatile organic compounds (VOCs) found in soils at oil fields are xylenes and ethylbenzene, followed by toluene and benzene (benzene, toluene, ethylbenzene, and xylenes together are referred to as “BTEX”), all of which are commonly found in crude oil. The most frequently occurring semi-volatile organic compounds (SVOCs) are phenanthrene and 2-methylnaphthalene and naphthalene, also typical of crude oil. Other SVOCs which could be found in small quantities include acenaphthene, acenaphthylene, benzo(a)anthracene, benzo(b)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, benzyl alcohol, chrysene, fluoranthene, ideno(1,2,3-c,d)pyrene, and pyrene. Organic vapors may also be detected in an oil field. It is possible that petroleum hydrocarbon-contaminated soils associated with oil fields and abandoned

wells are capable of generating methane gas through anaerobic biodegradation. Other potentially toxic organic vapors may also be generated, such as benzene.

To determine the presence of known active or abandoned oil and gas wells within the project site and surrounding vicinity, Division of Oil, Gas and Geothermal Resource (DOGGR) maps (Map 252, April 2002) was reviewed. Based on the review of this map, one oil well was located on or near the southwestern corner of the site. The DOGGR map indicated that the oil well on the site was drilled in 1963. In 1963 drilling mud used as part of the drilling operation was sometimes placed on the ground surface adjacent to the drilling area. Based upon the DOGGR map (number 252), the site was observed to identify the location of the oil well and associated drilling mud. Based upon the site reconnaissance survey and review of the aerial photographs, there was no visual evidence of the oil well or any associated drilling mud.² Based on the project site oil production history, there is a low potential that the project site has been historically affected by oil and gas production.

Electrical Transmission Facilities

The project site is adjacent to Los Angeles DWP transmission lines. High voltage electrical transmission lines create electromagnetic fields (EMFs) and because of on-going debate over the potential health effects of EMFs, they are discussed in this section. Electromagnetic fields are created as electrical charges (current), pass through conductors and are formed in association with alternating current (AC) electrical power, which serves most of our electrical needs. AC electrical power does not flow steadily in one direction, but alternates back and forth 60 times each second; therefore, it is referred to as 60-hertz (Hz) electrical power. Two kinds of fields associated with 60 Hz power are electrical fields that result from the strength of the charge, and magnetic fields that result from the motion of the charge. Taken together, these are referred to as electromagnetic fields. The strength of an electromagnetic field is affected by the distance from the source, the voltage of the object creating it, and the electrical/physical environment in which the conductor is placed.

In analyzing the impacts of EMFs, it is useful to look at the various EMF levels associated with typical household appliances as a benchmark example. The most common unit of measurement of the strength of magnetic fields is the gauss (G). Since the gauss is a large unit of measurement, the milligauss (mG), or 1/1,000 of a gauss, is used to report the strength of magnetic fields associated with most objects. For comparison purposes, the typical American home has a background magnetic field level (away from any appliances) ranging from 0.5 mG to 4 mG. Table V.G-1, Magnetic Field Levels for

² *Phase I Environmental Site Assessment, 117-acre site, RTF&A, May 7, 2003.*

Common Household Appliances, contains a listing of the magnetic field levels associated with various household appliances at varying distances.

The magnetic fields associated with the large power lines are also a function of the height and distance of the transmission line from the receptor as well as the power loads, expressed as amperage or amps, on those lines and the amount of time that electricity is actually being transmitted over those lines. Typical magnetic field levels for electrical power lines are shown in Table V.G-2. According to the United States Environmental Protection Agency (U.S. EPA), the magnetic field of a typical 230 kV transmission line would probably be less than 120 mG at a distance of 20 feet, 15 mG at a distance of 100 feet, and less than 2 mG at a distance of 300 feet. From these examples, it is clear that, as the distance from the source of the magnetic or electric field increases, the level of exposure is reduced substantially.

**Table V.G-1
Magnetic Field Levels for Common Household Appliances**

Appliance	Distance from Source			
	6 inches	1 foot	2 feet	4 feet
BLENDER				
Lowest 30 mG ¹	5 mG	-	-	-
Median 70 mG	10 mG	2 mG	-	-
Highest	100 mG	20 mG	3 mG	-
CAN OPENER				
Lowest 500 mG	40 mG	3 mG	-	-
Median 600 mG	150 mG	20 mG	2 mG	-
Highest	1,500 mG	300 mG	30 mG	4 mG
REFRIGERATORS				
Lowest	-	-	-	-
Median 2 mG	2 mG	1 mG	-	-
Highest	40 mG	20 mG	10 mG	10 mG
COLOR TV				
Lowest	-	-	-	-
Median	7 mG	2 mG	-	-
Highest		20 mG	9 mG	4 mG
Vacuum Cleaners				
Lowest 100 mG	20 mG	4 mG	-	-
Median 300 mG	60 mG	10 mG	1 mG	-
Highest	700 mG	200 mG	50 mG	10 mG
<i>1 mG = milligauss</i>				
<i>Note: The dash (-) indicates that the magnetic field measurement at this distance from the operation appliance could not be distinguished from background measurements taken before the appliance had been turned on.</i>				

Source: United States Environmental Protection Agency, Office of Radiation and Indoor Air, *EMF In Your Environment, Magnetic Field Measurements of Everyday Electrical Devices, December 1992*

Exposure to 60 Hz EMFs produces weak electrical currents inside the body by a process called induction. According to a Library of Congress Congressional Research Service Issue Brief, "... a growing amount of research indicates that these currents may alter the binding of molecules to receptors on the surface of the cell membrane [which] may disrupt membrane signaling events, and trigger abnormal biochemical reaction." Just what this finding means in terms of the effects of EMFs on overall human health has been the focus of a number of research efforts. Although many studies have been done on this topic to date, their findings are inconclusive. For example, the Journal of the American Medical Association states:

"Some, but not all, epidemiological studies of health among populations exposed to ambient low-power frequency EMF show associations between exposure to EMF and health effects. However, because of the poor and inconsistent exposure assessment in these studies, the absence of an appropriate dose-response relationship, and absence of supporting laboratory evidence, any conclusion of human health risks at this time is premature."

**Table V.G-2
Typical Magnetic Field Levels For Electrical Power Lines**

Types of Transmission Line	Maximum Right-of-Way	Distance from Transmutation Lines			
		50 inches	100 feet	200 feet	300 feet
115 Kilovolts (kV)					
Average Usage	30	7 mG	2 mG	0.4 mG	0.2 mG
Peak Usage	63	14 mG	4 mG	1.8 mG	0.8 mG
230 Kilovolts (kV)					
Average Usage	58	20 mG	7 mG	1.8 mG	0.8 mG
Peak Usage	118	40 mG	15 mG	3.6 mG	1.6 mG
500 Kilovolts (kV)					
Average Usage	87	29 mG	13 mG	3.2 mG	1.4 mG
Peak Usage	183	62 mG	27 mG	6.7 mG	3.0 mG

Source: United States Environmental Protection Agency, Office of Radiation and Indoor Air, *EMF in Your Environment, Magnetic Field Measurements of Everyday Electrical Devices, December 1992.*

In addition, the British National Radiological Protection Board concludes:

“The epidemiological findings that have been reviewed provide no firm evidence of the existence of a carcinogenic hazard from exposure of paternal gonads, the fetus, children, or adults to the extremely low frequency electromagnetic fields that might be associated with residence near major sources of electricity supply, the use of electrical appliances, or work in the electrical, electronic, and telecommunications industry.”

Because it is not possible to establish a clear relationship between EMF exposure and human health effects, there are no generally accepted criteria for determining acceptable or hazardous levels of electromagnetic fields.

The California Public Utilities Commission (CPUC), in its on-going investigations of EMFs, has also noted that recent studies have failed to establish that an EMF health hazard actually exists, or that there is a clear cause-and-effect relationship between utility property or operations and public health or that some degree of exposure limitation, such as the 2 mG level considered by the CPUC at one time, is appropriate to protect public health. Thus, rather than establish new regulations, such as setbacks or exposure levels based on specific EMF levels, the CPUC has elected to continue research efforts regarding potential health hazards and examine ways to minimize EMF exposures along existing or future transmission line rights-of-way.

Regulatory Controls

There are no federal regulations for restricting human exposure to power line EMFs; however, seven states have established limits on electric field strengths at the edge of power line rights-of-way, and two have established limits on magnetic field strength. In addition, some state utility commissions have issued their own EMF guidelines. There are no similar requirements in California; however, the California State Board of Education requires that schools be sited more than 100 feet from the edge of the right-of-way of 100-110 kV lines; 150 feet from 220-230 kV lines; and 250 feet from 345 kV lines. Neither the City of Santa Clarita nor the County of Los Angeles have standards for EMF exposure or guidelines for new development in proximity to sources of EMFs, nor do they anticipate adopting standards or guidelines in the near future.

On-Site Magnetic Field Levels

No portion of the high-voltage LA DWP right-of-way or transmission lines transverse the project site. Additionally, no habitable structures are proposed within any setback areas for the off-site transmission

lines. Therefore, it is unlikely that the DWP power lines raise any significant health problems to the project site.

Agricultural Activities

During farming activities, pesticides are commonly used for pest control. A pesticide is any substance used to kill crop pests, such as insects, rodents, weeds, and fungi. They are inherently toxic and, used improperly, can have adverse effects on human health and the environment. This section describes the regulatory environment in which pesticides are controlled and applied, effects of pesticides, and historic data regarding on-site agricultural activity.

Regulatory Environment

Pesticides are regulated by the Federal Government under the 1947 Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). FIFRA establishes registration and labeling requirements for pesticides, herbicides, and other economic poisons. Registration requires documentation that the pesticide will not damage human health or the environment, if used as intended. FIFRA prohibits the sale of any economic poison that has not been registered by the U.S. Environmental Protection Agency (EPA). The California Department of Food and Agriculture (CDFA) is the principal agency responsible for the regulation of pesticide sales and use in the state. Specifically, it registers and classifies pesticides, licenses professional agricultural pest control operations and advisors, monitors pesticide residues in food samples, and promulgates pesticide use and worker safety regulations. Section 11501 of the California Food and Agricultural Code requires pesticide applications to be confined to their target and to avoid contamination of non-target properties; violations can result in either civil penalties or a revocation of a pesticide use permit.

The California Department of Health Services (DHS) has an advisory role with respect to pesticide use and exposure. It conducts studies and investigates cases of pesticide exposure, conducts toxicological evaluations and risk assessments, and provides educational programs for physicians on diagnosing and treating pesticide poisonings. On a local level, if the U.S. EPA determines that a pesticide has the potential to cause human injury or environmental damage, its use is restricted and a permit from the local agricultural commissioner is required for its purchase and use. Furthermore, restricted pesticides are only available for retail sale to and use by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification. Pesticides may be applied either by broadcast spraying (spraying a fine mist over the target, usually from an aircraft or a land vehicle) or by topical application (placing the pesticide directly on or in the vicinity of the target). Broadcast spraying can result in the dispersion of pesticides into adjacent non-target areas

(especially during windy conditions); therefore, some pesticides that are applied in this manner are strictly regulated.

Effects of Pesticides

Pesticides exert adverse effects on living organisms, including non-target organisms, such as non-pest plants and animals in or near a treated area. The four variables that determine the degree to which a non-target organism is affected include the chemical and physical properties of pesticides, their mode of application, their route of entry, and rate of absorption into the blood stream.

The chemical and physical properties of a pesticide determine the potential toxic effects it can have on humans. Every pesticide is divided into one of two classes by the U.S. EPA based on its toxicity, its intended use, and its environmental impact. A pesticide listed for general use is considered to present little or no danger to either the applicator or the environment, if it is used as directed.

On-Site Agricultural Activity

To determine the extent of historic on-site agricultural production, a review of historic photos was conducted. From these photos and time periods, durations and location of on-site agricultural activities can be determined. The earliest photo depicting on-site agricultural activity was from 1928. The aerial photographs (Fairchild, 1" = 500') show the project site primarily as undeveloped land. The terraces in the center of the project site appear to be cultivated. The area south of the project site along the south side of Soledad Canyon Road is also cultivated.

A 1947 aerial photograph (Tubis, 1" = 666') and the 1952 aerial photograph (Pacific Air, 1" = 555') shows the terraces in the center of the project site as cultivated. The cultivated areas are not visible on the 1968 aerial photograph (Teledyne, 1" = 666').

Based on the review of aerial photographs, farming activity occurred within the project site area east of the LA DWP right-of-way (the 201-acre polygon project area) on two plateaus in the southern portion of the site prior to 1928 until sometime between 1952 and 1968. (See Section V.J, Mineral Resources, Figure V.J-1 for location of the past farming and mining activities on site). The northern plateau (within the area east of the LA DWP right-of-way – 201 acre portion of the site) consisted of approximately 10 acres. The southern most farmed area or plateau totaled approximately 20 acres. The aerial photographs reveal that mining activities occurred on the southern plateau from sometime in the 1950's/1960's.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance to State CEQA Guidelines, a project is considered to have a significant effect on the environment if it will:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- 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?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- 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?
- 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?
- 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?
- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- 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?

The Proposed Project includes residential, educational and recreational (YMCA) uses which would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within a quarter mile of a school. Therefore, Criterion c) is not addressed below. Criteria e) and f) are not addressed below as the Proposed Project is not located within two miles or the vicinity of an

airstrip. Impacts to adopted emergency response plans (Criterion g)) are addressed in Section V.M.2, Police Protection. Wildland fires (Criterion h) is addressed in Section V.M.1 Fire Protection. There is no known EMF exposure threshold level for biological effects, and the City of Santa Clarita has no threshold of significance for EMFs.

Project Impacts

Routine Transport, Use or Disposal of Hazardous Materials/Risk of Upset

Construction

Clearance of the project site may expose construction workers to hazardous materials or substances present in trash and debris on the project site. However, the services of properly trained and qualified hazardous waste handlers shall be used to perform hazardous waste cleanup or abatement, transportation and disposal prior to construction and appropriate protocol will be followed to ensure that construction workers are not exposed to toxic substances. Therefore, hazardous materials impacts relative to exposure to hazardous substances during disposal would be less than significant with mitigation.

Oil Production Operations

Crude oil is not listed as a hazardous material in the California Health and Safety Code (Division 20, Chapter 6.5, Article 13, Management of Used Oil). In general, crude oils that have been removed from the ground and placed in pits or sumps have to be certified as non-hazardous according to the California Health and Safety Code. Spilled crude oil which enters either surface or ground water would be subject to clean-up regulations specified by the Regional Water Quality Control Board (RWQCB). There are no established regulatory clean-up levels for dissolved Total Petroleum Hydrocarbons (TPH) in groundwater; rather, clean-up levels are usually determined by appropriate regulatory agencies on a case-by case basis.

If development is to occur on the project site in the areas where oil production has occurred, each area must be remediated per state law. The methods of remediation could include any of the following: stabilization; on-site incineration; off-site landfilling; bioremediation; and use in cold-batch asphalt. It should be noted that, as documented in the Phase I Environmental Site Assessment (see Appendix 6 (A), former oil well (and drill) site within the project site has been abandoned. Furthermore, based on a review of records, the oil well (and drill site) has been abandoned in accordance with applicable regulations. Based upon the site reconnaissance survey and review of the aerial photographs, there was

no visual evidence of the oil well or any associated drilling mud.³ The site assessment report indicated that the former oil well and drill site had been abandoned in 1964 in accordance with applicable regulations. However, the Phase 1 Environmental Site Assessment report (Appendix 6 (A)) did not map the exact location of the oil well and referred to the area as the “southwest” portion of the site.

It is recommended as mitigation that additional environmental assessment be provided documenting the exact location of the oil well. Further, since the oil well was abandoned in 1964 it is recommended (pursuant to the recommendations of the Phase I Site Environmental Site Assessment report) that the well be re-abandoned to current standards. With this mitigation, impacts would be less than significant with regards to the oil well.

Previous Agricultural Operations

Based on aerial photography review, farming activity occurred in the late 1920s and continued sometime between the 1950s and 1960s on the southern plateau area east of the LA DWP right-of-way. Mining activities for aggregate resources also occurred on the same southern plateau during the 1960s. Approximate cuts appear to have been in excess of 30 feet, but less than 50 feet. The depths of cuts are based upon existing topographic contours and what appears to be remnant contours remaining from the previous mining activities. There are some fill soils remaining from the mining activities in the southern portion of the southern plateau as mapped by AES (2004). Based upon exploration performed by AES, artificial fill up to 14 feet was encountered. The subsequent mining activities would have removed traces of agricultural production on site. No traces of pesticides were identified in the Phase 1 Environmental Site Assessments for the project site. Therefore, impacts would be less than significant.

Operation

The Proposed Project is not anticipated to result in an accidental release of hazardous materials into the environment. The proposed YMCA building and junior high school would utilize limited quantities of common cleaning and maintenance materials, which would be shipped, stored, used and disposed of in accordance with applicable statutes. Further, the residential dwelling units are anticipated to use common cleaning materials in which it is expected that limited amounts would be used for such purpose. All land uses and materials would be in accordance with City zoning and local, State, and federal regulations. Based on the amount expected to be stored, nature of packaging, materials involved, and the Proposed Project’s required compliance with applicable regulations, the risk from use

³ Phase I Environmental Site Assessment, 117-acre site, RTF&A, May 7, 2003.

of these materials is considered to be low. Therefore, accidental conditions involving the release of hazardous materials into the environment and the routine transport, use or disposal of hazardous materials during project operation is considered to be less than significant.

Hazardous Materials Sites

Project Site and Adjacent Properties

As discussed earlier, the Phase I Environmental Site Assessments prepared for the Proposed Project reviewed a database of government-regulated properties having known and/or recognized environmental conditions that have potential environmental concerns in the vicinity of the project. Based on the EDR governmental database review, there is a low probability that listed off-site properties in the search vicinity have impacted or are currently impacting the project site. Given that government regulated properties are, by nature, regulated by specific regulatory agencies, the operation and maintenance of such properties provides a level of assurance that activities or substances will continue to be handled in a manner that would not impact the project site. As a result of the low probability of these properties impacting the project site, development of the Proposed Project would result in impacts less than significant.

Exposure of People to Potential Health Hazards

Transmission Line Exposure

As indicated previously, typical maximum EMF levels at the edge of a 200-foot right-of-way for 230 kV transmission lines would be approximately 1.8-3.6 mG. This level is less than the background levels of 0.5 mG to 4.0 mG, which are typically found in the average home. Because there is no established threshold of significance for exposure to EMFs, there would be no significant impact associated with development of the Proposed Project adjacent to DWP right-of-way. As discussed earlier, no portion of the project site includes the DWP right-of-way. There is no established scientific basis to suggest that the project, as designed, will result in any significant adverse biological effects from EMF exposure. The Proposed Project would not expose people, animal, or plant life populations to known health hazards from SCE transmission lines. No significant impacts from EMFs would occur.

Other Past Usage

A Phase I Site Assessment (appendix 6(B)) revealed that a water well was found on the project site, in the area east of the LA DWP right-of-way in the southwestern portion of that area. It was believed that the well was used for domestic water purposes. The presence of the well does not represent a

recognized environmental hazardous condition. However, an uncapped or un-abandoned well can serve as a conduit for contaminants to groundwater. The Phase 1 Environmental Site Assessment (appendix 6 (B)) recommends that the well be plugged and abandoned in accordance with applicable regulatory requirements. With implementation of this mitigation measure, impacts would be less than significant.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center

11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Development of the 12 related projects, in conjunction with the Proposed Project, would increase the potential for the transport or accidental release of hazardous materials. The closest related projects that potentially would use the same major roadways, Soledad Canyon are No. 4, Riverpark, which is located west of the project site; No. 3, TT 062322, No. 5, Aspen Investment Company Master Case 02-273 and No.6, Soledad Circle Estates are located south of the project site within the immediate vicinity. Other Related Projects that could potentially use the same roadway as the Proposed Project to the north, Plum Canyon Road, include: No. 7 TT 46018 (S&S), No. 8 TR 52763 (S&S), No. 9 Plum Canyon TR 31803, and No. 10 Rodgers Development Master Case 02-232. The remaining Related Projects, No. 1 HH Seco II LLC Master Case 01-317, No. 2 Rice Development Master Case 02-231, No. 11 TT 98046, and No. 12 TT 47760, could potentially use Bouquet Canyon Road as could the Proposed Project for transport of hazardous materials. However, the Proposed Project is residential with a graded lot for a YMCA and a junior high school facility that would most likely be utilizing household cleaning materials; no industrial use is proposed.

Of the 12 Related Projects, 8 include residential development (two of which include commercial development), one is solely industrial related and the remaining are commercial related. The one industrial related project, No. 5, is located south of the project site on Soledad Canyon Road. The residential projects are unlikely to use, store, or transport hazardous materials in any material quantities and most likely would be using household cleaning fluids and materials. Hence, there is a very low probability that one or more of the related projects might release hazardous materials into the environment that, in turn, might combine with a release of hazardous materials from the project site to cause cumulative impacts. Therefore, the Proposed Project in combination with the 12 Related Projects would not be expected to result in significant cumulative impacts associated with (1) the routine transport, use or disposal of hazardous materials, (2) the accidental release of hazardous materials into the environment, (3) the use of hazardous materials or the generation of hazardous waste within one-quarter mile of an existing or proposed school, or (4) the creation of a significant hazard to the public or the environment. Thus, the projects incremental increase is not considerable and impacts would be less than significant.

MITIGATION MEASURES

Project Mitigation Measures

Construction

- G-1** The services of properly trained and qualified hazardous waste handlers shall be used to perform hazardous waste cleanup or abatement, transportation and disposal prior to construction and appropriate protocol shall be followed to ensure that construction workers are not exposed to toxic substances.
- G-2** Prior to recordation of the Final Tract Map, initiation of rough grading or issuance of any subsequent permits, the applicant shall prepare a subsequent environmental assessment to document the exact location of the oil well. Re-abandonment of the oil well shall be performed to meet the current requirements of the State of California, Department of Conservation, Division of Oil, Gas & Geothermal Resources (DOGGR). Once re-abandoned, the oil well will not provide a significant impact to the Proposed Project.
- G-3** Prior to recordation of the Final Tract Map, initiation of rough grading or issuance of any subsequent permits, the applicant shall prepare a subsequent environmental assessment to document the exact location of the water well. Abandonment of the of the water well shall be performed to meet the current requirements regulatory requirements.

Operation

No significant operational impacts were identified, and thus no mitigation is required.

Cumulative Mitigation Measures

Other than complying with the State, federal and local regulations required for handling, transport and use of hazardous materials, no further mitigation is recommended or required for cumulative projects.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

In addition to compliance with federal, State and local regulations regarding hazardous materials, implementation of Mitigation Measures G-1 through G-3 prescribed above would reduce potentially significant project impacts on hazards and hazardous materials to a less-than-significant level.

Cumulative

In addition to compliance with federal, State and local regulations regarding hazardous materials, and provided that mitigation measures are properly implemented for the Proposed Project and Related Projects, cumulative impacts on hazards and hazardous materials as a result of Proposed Project and Related Project development are expected to be less than significant.

V. ENVIRONMENTAL IMPACT ANALYSIS

H. HYDROLOGY AND WATER QUALITY

This section summarizes the following reports and analysis prepared for The Keystone Project:

- Sikand Engineering Associates, Drainage Concept/Hydrology/SUSMP Study, May 2005
- GeoSyntec Consultants, Inc., Water Quality Technical Report, June 2005

The Drainage Concept Report addresses the potential environmental concerns related to the discharge of storm water into recipient drainages, changes to storm flow runoff volumes and their effects on the existing watershed, potential flooding, and the effects of waterborne debris (rock, silt, sand, and vegetation debris) that accompanies the downstream movement of water during a rainstorm. The Water Quality and Flow Evaluation Technical Report addresses the potential impacts of the Proposed Project on surface and groundwater quality and identifies the Best Management Practices (BMPs) proposed to be employed at the Project Site to prevent the pollution of surface and ground waters during construction and during the operation of the Proposed Project. The Water Quality and Flow Evaluation Technical Report also assesses the potential for post-development peak stormwater runoff discharge rates, velocities, and durations to cause accelerated stream erosion and includes project design features (PDFs) to address these impacts. These reports are hereby incorporated by reference. The full texts of these reports are included in the Technical Appendices as Appendix 7.

ENVIRONMENTAL SETTING

Regional Hydrologic and Drainage Conditions

The Project Site is located within the Santa Clara River watershed. The Santa Clara River drains an area of approximately 1,634 square miles of the Southern California Transverse Ranges along the Pacific Ocean. The watershed is split between Los Angeles and Ventura Counties. The Project Site is located within an unnamed approximately 677-acre tributary watershed to the Santa Clara River, which traverses the southern portion of the site. The area of this tributary watershed represents 0.06 percent of the Santa Clara River watershed and currently consists primarily of open space and vacant land. Annual rainfall in the tributary area is typically low (an annual average of 17 inches) and generally occurs in the winter months. Flows in the Santa Clara River vary significantly from year to year and are generally associated with winter precipitation. In addition, there are short-term releases from Castaic Lake during summer months that reach the river via Castaic Creek, which joins the river several miles downstream of the project site. Surface water is typically not present on the project site during summer months.

At the southern portion of the Project Site, the segment of the Santa Clara River designated as Reach 9 by the U.S. Environmental Protection Agency (EPA) and as Reach 7 by the Regional Water Quality

Control Board (RWQCB) crosses the site. This reach (referred to hereinafter as SCR Reach 7) extends from the Lang Gauging Station (to the east of the project, downstream of Agua Dulce Canyon Creek) to the Bouquet Canyon Road Bridge (located downstream and directly west of the project). The project site is located adjacent to the western (or downstream) boundary of SCR Reach 7.

SCR Reach 7 is generally dry, containing relatively little water when compared to other reaches of the river. Intermittent flows occur generally only during the “rainy” season during and immediately after storm events of sufficient size to cause flows. Therefore, the surface flows within SCR Reach 7 typically do not flow to downstream reaches of the river, except during storm events of sufficient size and duration. Moreover, when water is present in this reach, it is almost always during the rainy winter months and typically lasts only for a few days after a storm event large enough to create flow. This portion of the river is very sandy and contains limited vegetation.

The project site lies upstream of two sewage treatment plants. The Saugus Treatment Plant is located immediately downstream, approximately 1.5 miles from the project at the intersection of Bouquet Canyon Road and Soledad Canyon Road and the Valencia Treatment Plant is located approximately 4 miles downstream of the site. Both treatment plants discharge treated water into reaches of the river downstream of the project site. The outflow for the Saugus Treatment Plant is located directly west of the Bouquet Canyon Road Bridge over the Santa Clara River.

Local Hydrologic and Drainage Conditions

Under existing conditions, runoff flows to and through four delineated jurisdictional drainages on the site via sheet flows and natural concentrated flows. Three drainage complexes (Drainages A, B, and C) have been identified through a preliminary jurisdictional delineation of drainages tributary to the Santa Clara River. Two of these drainages (Drainages A and B) join prior to their confluence with the river and are thus considered to comprise a single drainage area (Drainage Area 1) for purposes of site runoff evaluation. Drainage A, located mostly offsite in the northwestern portion of the site, contains ephemeral, non-wetland waters with tributaries characterized by chaparral species and cobbled bottoms. There are no significant riparian areas in Drainage A. Drainage B, located in the central portion of the site, originates offsite to the northeast. The main channel of Drainage B and its tributaries are considered ephemeral, non-wetland waters and are primarily vegetated with chaparral and sage scrub with sandy cobble bottoms. However, the main channel of Drainage B has some significant riparian margins vegetated by Holly-leaved cherry, willow, Coast Live oak, and pepper trees. Drainages A and B join to the west of the site before meeting the river, as shown on Figure V.H-1.

The other drainage complex on the site (Drainage C) is located in the southern portion of the site and receives flowing water from the residential area offsite to the east. This drainage is characterized by artificial perennial flow and non-wetland waters and features a dense, mature riparian habitat including

willow, mulefat, cottonwood, and sycamore. As shown on Figure V.H-1, Drainage C reaches the river at the southwestern corner of the site. Drainage C comprises Drainage Area 2.

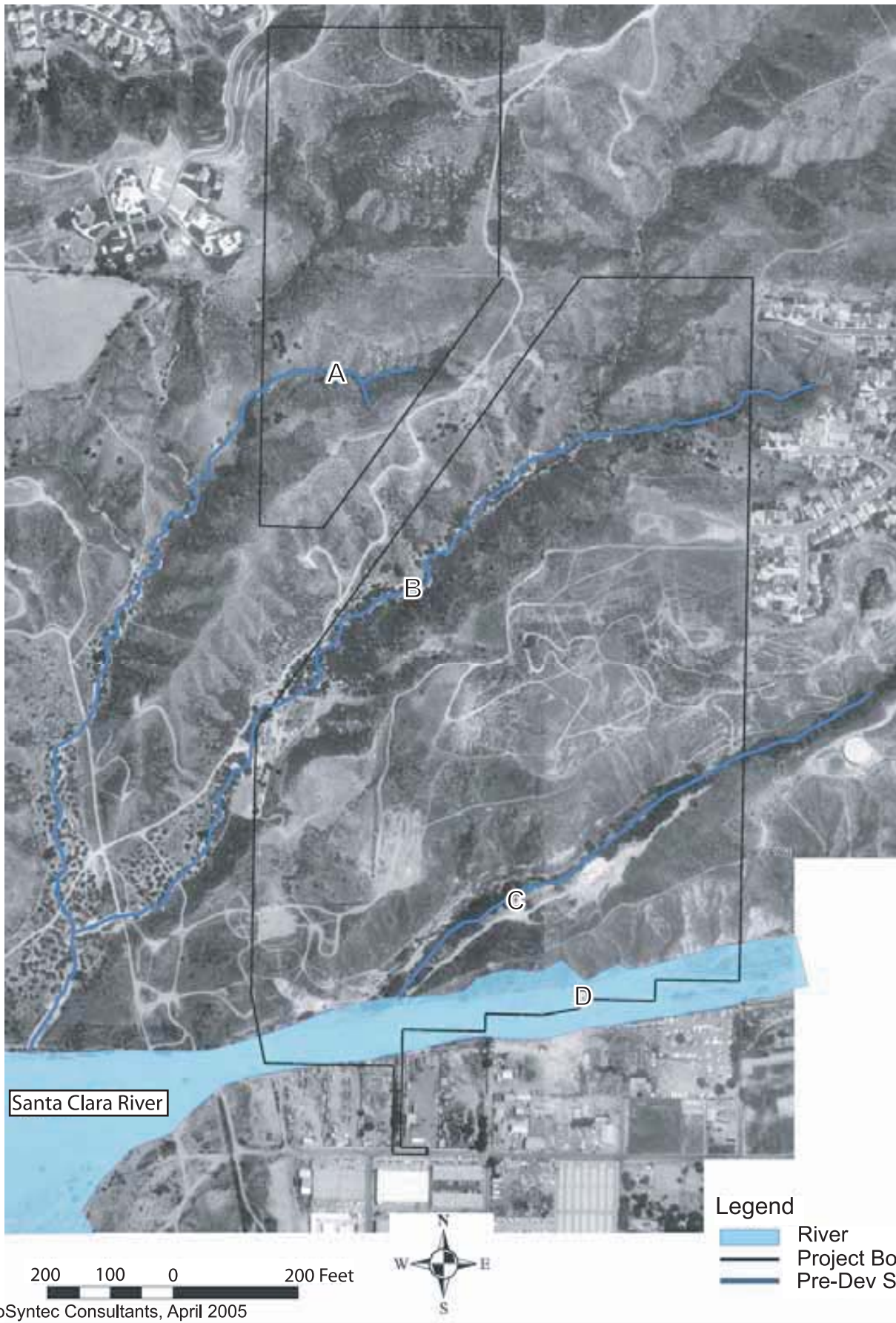
The main channel of the Santa Clara River and its other direct tributaries in the vicinity of the project site are considered ephemeral, non-wetland waters and are primarily vegetated with chaparral and sage scrub with sandy, cobble bottoms. Offsite, near the confluence of the river with Drainage Area 1 (combined Drainages A and B), there is a small wetland that is considered 'un-natural' and is created by drainage pipes. The acreage for each of the drainage areas is provided in Table V.H-1. There are currently no existing drainage or erosion/sedimentation control improvements located on the project site.

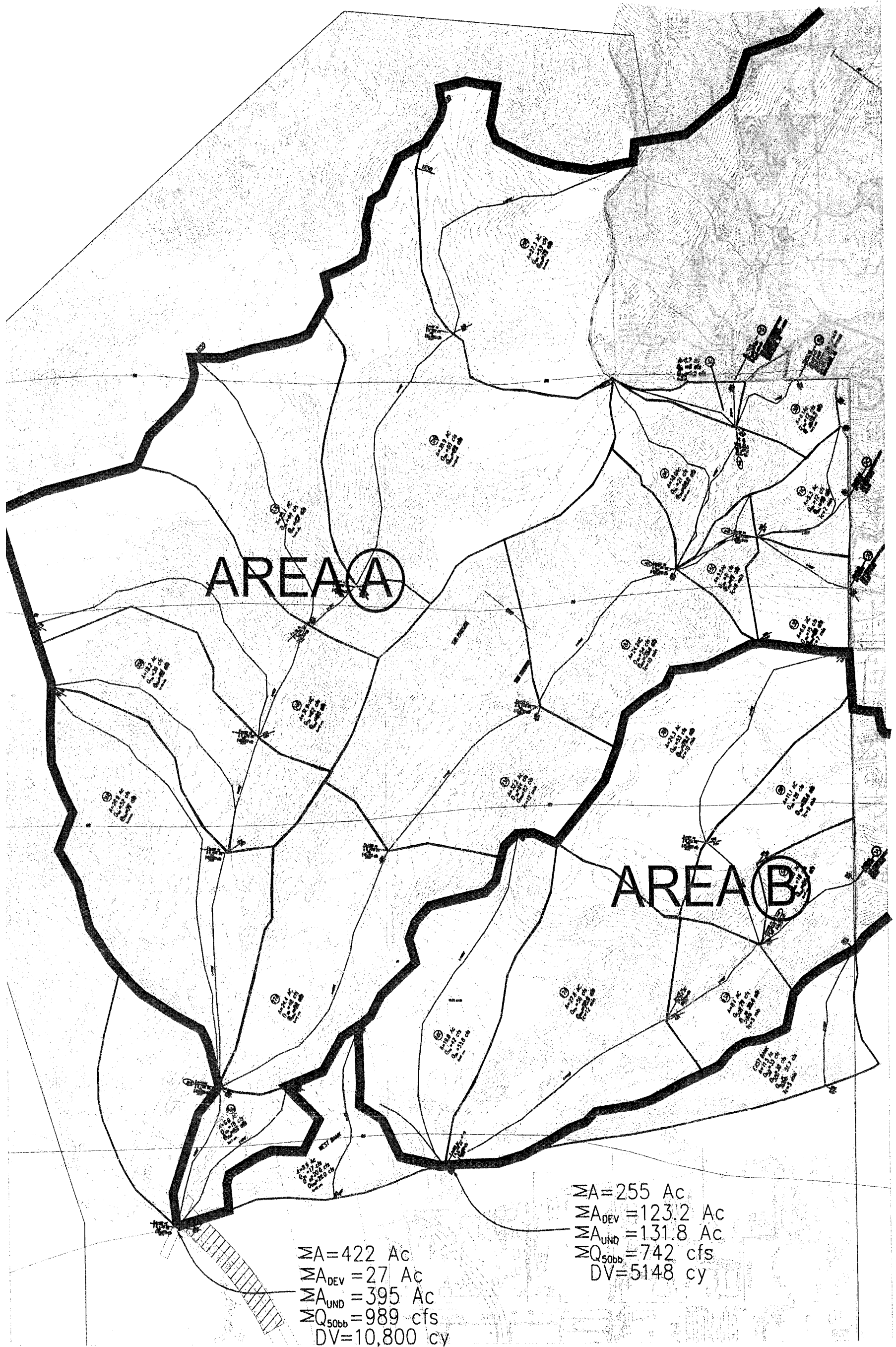
A hydrologic analysis and drainage concept report was completed for the Proposed Project to determine the natural (undeveloped) and improved (developed) on-site drainage conditions. Generally, a hydrologic analysis is based upon the size and configuration of the drainage area, and an estimated amount of rainfall to determine potential runoff. Runoff is then calculated in cubic feet per second (cfs). Estimated rainfall is based upon statistical recurrence of floods on a 50-year basis. Analysis of the existing site drainage areas determined that runoff from a 50-year storm would generate 1,293 cfs of clear flow (water without debris) and a total runoff volume of 1,946 cfs under burned and bulked conditions¹ (water and debris). The calculated total debris volume for such a storm is 15,948 cubic yards (cy). All of the runoff from the site contributes to flows within the Santa Clara River. These runoff volumes are shown on Figure V.H-2 and presented in Table V.H-1. Drainage Area 1 is shown as "Area A" and Drainage Area 2 as "Area B" on Figure V.H-2.

Table V.H-1
Hydrology Summary – Existing Conditions

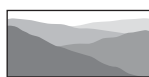
Drainage Area	Acreage	Runoff Volumes (cfs)	Runoff Volumes (Burned and Bulked) (cfs)	Debris Volume (cy)
1 (Drainages A and B)	422	662	989	10,800
2 (Drainage C)	255	631	957	5148
Totals	677	1,293	1,946	15,948

¹ It was determined that the project site has a natural risk for fire and thus a burned flow rate calculation was performed. As a result, the bulking effects of sediments in stormwater flows were also considered for this site.





Source: Sikand Engineering, May 2005



CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure V.H-2
Pre-Development Tributary Drainage Areas

Flood Hazard Area

A portion of the site lies within the 100-year floodplain of the Santa Clara River and within the Federal Emergency Management Administration (FEMA)-designated 100-year floodplain. The project site is not in the potential inundation area of an upstream levee or dam.

Regulatory Setting**Federal and State Water Quality Programs**

The 1972 amendments to the Federal Water Pollution Control Act, later referred to as the Clean Water Act (CWA), prohibit the discharge of any pollutant to navigable waters of the United States from a point source unless the discharge is authorized by a National Pollution Discharge Elimination System (NPDES) Permit. While the original CWA focused on point source discharges (defined pipes and outfalls), stormwater discharges were added to the scope of the law by Congress in 1987. The EPA adopted final regulations that established Phase I stormwater discharge control requirements for the NPDES program in 1990. These regulations required large municipalities and specific industrial sites to obtain stormwater discharge permits under the NPDES program. In addition, these regulations required that stormwater discharge permits be issued to large construction activities consisting of five acres or more of land. In 2003, the Phase II NPDES program requirements took effect, regulating nonpoint source discharges from all construction sites one acre or more in size and expanding the permit requirements to smaller municipalities. In California, the NPDES program is administered by the State Water Resources Control Board (SWRQB) through the nine Regional Water Control Boards (RWQCBs).

In addition, the CWA requires the States to adopt water quality standards for water bodies and to have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular water body (e.g. wildlife habitat, agricultural supply, and fishing) and water quality criteria necessary to support those uses. Water quality criteria are expressed either in the form of set numeric concentrations or levels of constituents – such as lead, suspended sediment, and fecal coliform bacteria – or narrative statements that describe the quality of water necessary to support a particular beneficial use. In 2000, EPA established numeric water quality criteria for certain toxic constituents in California receiving waters with human health or aquatic life designated uses in the form of the California Toxics Rule (CTR) (40 CFR 131.38).

The CTR water quality criteria are applicable to the receiving waterbody and therefore must be calculated based on the probable hardness values of the receiving waters for evaluation of both acute and chronic toxicity. At higher hardness values for the receiving water, copper, lead, and zinc are less toxic because they are more likely to be bound with other components in the water column. This reduces bioavailability and resulting potential toxicity of these metals. Hardness concentrations in stormwater runoff from the project site have been represented by a value of 270 mg/L, the minimum

reported value at the two USGS water quality monitoring stations nearest the site. Due to the intermittent nature of stormwater runoff (the average storm duration in the 34-year Newhall gage rainfall record is 12 hours), the acute criteria are considered to be more applicable to stormwater conditions and therefore have been used in assessing project impacts. Acute criteria represent the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects. Chronic criteria represent the highest concentration to which aquatic life can be exposed for an extended period of time (four days) without deleterious effects. The CTR criteria were used in this analysis as one type of benchmark to evaluate the potential ecological impacts of project runoff on receiving waters.

The Los Angeles RWQCB adopted the Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994. The Basin Plan designates the beneficial uses of receiving waters, including the Santa Clara River to which the project site discharges, and specifies both narrative and numerical water quality objectives for these receiving waters in Los Angeles County. Water quality objectives, as defined by the California Water Code Section 13050(h), are the “limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses or the prevention of nuisance within a specific area.” Because these standards are applicable to receiving waters, they do not apply directly to stormwater runoff from the project site. However, water quality criteria from the Los Angeles Basin Plan are useful as benchmarks as one method to compare to expected post-project water quality results in the analysis of potential impacts. Table V.H-2 below lists the designated beneficial uses for the Santa Clara River and Table V.H-3 sets forth the numeric and narrative surface water quality objectives for Reach 7 of the Santa Clara River (project receiving waters) as described in the Los Angeles Basin Plan.

**Table V.H-2
Designated Beneficial Uses of the Santa Clara River**

Beneficial Use	Designated Beneficial Use¹
MUN – Municipal and Domestic Supply	P
IND – Industrial Service Supply	E
PROC – Industrial Process Supply	E
AGR – Agricultural Supply	E
FRSH – Freshwater Replenishment	E
GWR – Groundwater Recharge	E
REC1 – Water Contact Recreation	E
REC2 – Non-Contact Water Recreation	E
WILD – Wildlife Habitat	E
RARE – Rare, Threatened, or Endangered Species Habitat	E
WET – Wetland Habitat	E

¹ P = Potential Beneficial Use, E = Existing Beneficial Use

**Table V.H-3
Surface Water Quality Objectives for the Santa Clara River (Reach 7)**

Parameters	Objective
Nutrients	
Nitrogen	5 mg/L as Nitrate-Nitrogen plus Nitrite-Nitrogen (SCR Reach 7, Basin Plan p. 312)
Ammonia	Numeric objectives depend on temperature and pH. The criteria are lower at lower pH and temperatures. In April 2002 the Regional Board approved revised Basin Plan objectives for ammonia that are based on the designated beneficial uses. The objectives are lower for waters that are designated at COLD (cold freshwater habitat) or MIGR (migration of aquatic organisms). Neither beneficial use is present in the SCR Reach 7. As an example, the average pH and temperature for Reach 5 above Valencia have been reported at 7.85 and 18.4°C (RWQCB, June 2003). At these levels the ammonia objectives are about 10.1 and 2.2 mg/L as nitrogen for the one-hr and 30-day average, respectively (Basin Plan Amendment).
Phosphorus	No criteria
Dissolved oxygen (DO)	As a minimum, the mean annual DO concentration of all waters shall be greater than 7 mg/L; no single determination less than 5.0 mg/L except when natural conditions cause lesser concentrations. For WARM designations, the DO shall not be depressed below 5 mg/L as a result of waste discharge. (Basin Plan, p. 3-11)
Biochemical oxygen demand (BOD)	Waters shall be free of substances that result in increase in BOD that adversely affects designated beneficial uses. (Basin Plan, p. 3-8)
Biostimulatory substances	Biostimulatory substances include excess nutrients and other compounds that stimulate aquatic growth. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects designated beneficial uses (Basin Plan, p. 3-8)
Toxics	
Toxicity	Waters maintained free of toxic substances in concentrations toxic to human, plant, animal, or aquatic life; survival of aquatic life in surface waters subject to waste discharge or other uncontrollable water quality

**Table V.H-3
Surface Water Quality Objectives for the Santa Clara River (Reach 7)**

Parameters	Objective
	factors shall not be less than for the same waterbody in areas unaffected by waste discharge; no acute toxicity in ambient waters including mixing zones.
Copper (dissolved)	CTR criteria are hardness dependent. As an example acute criteria range from 1350 ug/L for hardness between 100-400 mg/L.
Lead (dissolved)	CTR criteria are hardness dependent. As an example acute criteria range from 65280 ug/L for hardness between 100-400 mg/L.
Zinc (dissolved)	CTR criteria are hardness dependent. As an example acute criteria range from 120380 ug/L for hardness between 100-400 mg/L.
Chemical Constituents	MUN designated waters shall not contain concentrations of chemicals in excess of the limits specified in the Title 22 CCR (for inorganic and organic chemicals and fluoride). (Basin Plan, p. 3-8)
Bioaccumulation	Toxic pollutants shall not be present at levels that will bioaccumulate in aquatic life to levels that are harmful to aquatic life or human health (Basin Plan p. 3-8).
Pesticides	Waters shall not contain concentrations of pesticides in excess of limiting concentrations in 22 CCR §64444 (organics) (MUN). (Basin Plan p. 3-15 and Table 3-7).
<i>Solids, Suspended or Settleable Materials</i>	
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect designated beneficial uses; increased in natural turbidity attributable to controllable water quality factors are limited as follows: 20% increase or less where natural turbidity is between 0 and 50 NTU; 10% increase or less where natural turbidity over 50 NTU. (Basin Plan p. 3-17)
Solid, suspended, or settleable materials (including TSS)	Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect designated beneficial uses. (Basin Plan p. 3-16)
<i>Pathogens/Bacteria</i>	
Fecal coliform	LA Basin Plan objectives are based on the designated uses of the water body. The SCR Reach 7 is listed with a REC1 beneficial use. Resolution #01-018 amended the LA Basin Plan standards for bacteria in waters with a contact recreation beneficial use. The fecal coliform density shall not exceed a geometric mean of 200/100 mL (based on a minimum of not less than five samples equally spaced in a 30-day period). The fecal coliform density of any single sample shall

**Table V.H-3
Surface Water Quality Objectives for the Santa Clara River (Reach 7)**

Parameters	Objective
	not exceed 400/100 mL. (Basin Plan Amendment)
E. coli	The E. coli density shall not exceed a geometric mean of 126/100 mL (based on a minimum of not less than five samples equally spaced in a 30-day period). The E. coli density of any single sample shall not exceed 235/100 mL. (Basin Plan Amendment)
Minerals	
Total Dissolved Solids (TDS)	800 mg/L (SCR Reach 7, Basin Plan p. 3-12)
Sulfate	150 mg/L (SCR Reach 7 Basin Plan p. 3-12)
Chloride	100 mg/L (SCR Reach 7, Basin Plan p. 3-12)
Boron	1.0 mg/L (SCR Reach 7, Basin Plan p. 3-12)
Sodium Adsorption Ratio (SAR)	5 mg/L (SCR Reach 7, Basin Plan p. 3-12)
General and Other Parameters	
pH	Shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharges; ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of waste discharge. (Basin Plan p. 3-15)
Temperature	Water temperature shall not be altered by greater than 5 degrees F above natural temperature; Natural receiving water temperature shall not be altered unless it can be demonstrated that designated beneficial uses not adversely affected. (Basin Plan p. 3-16)
Taste and Odor	Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish/edible aquatic flesh, to adversely affect beneficial uses and cause nuisance. (Basin Plan, p. 3-16)
Floating Materials	Waters shall not contain floating materials in concentrations that cause nuisance or adversely affect designated beneficial uses. (Basin Plan p. 3-9)
MBAS (methylene blue activated substances) such as detergents and other anionic surfactants	Less than or equal to 0.5 mg/L (MUN). (Basin Plan p. 3-11)
Chlorine, total residual	Shall not be present in surface water discharges at concentrations exceeding 0.1 mg/L; shall not persist in receiving waters at any concentration that causes impairment of designated beneficial uses. (Basin Plan p. 3-9)
Oil & grease	Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect designated beneficial uses. (Basin Plan

**Table V.H-3
Surface Water Quality Objectives for the Santa Clara River (Reach 7)**

Parameters	Objective
	p. 3-11)
PCBs	Pass-through or uncontrollable discharge limited to 70 pg/L 30-day average (human health) and 14 ng/L daily average (aquatic life); purposeful discharge prohibited. (Basin Plan p. 3-15)
Radioactive Substances	Waters designated as MUN shall not contain concentrations of radionuclides in excess of Title 22 CCR. (Basin Plan p. 3-15)
<i>Source: GeoSyntec Consultants, Inc.</i>	

Under section 303(d) of the CWA, States, territories, and authorized tribes are required to develop lists of impaired waters. Impaired waters are those particular waterbodies whose beneficial uses are being compromised by poor water quality. The law requires that these jurisdictions establish priority rankings for these impaired waters and develop Total Maximum Daily Loads (TMDLs) for the impairing pollutant(s) affecting each impaired waterbody. A TMDL is an estimate of the total load of each pollutant that a waterbody can receive from point, nonpoint, and natural sources without exceeding water quality standards. Once established, a TMDL allocates pollutant loadings among current and future point and nonpoint pollutant sources discharging to the waterbody.

The project site discharges into SCR Reach 7. The SCR Reach 7 is identified in the 2002 Section 303(d) list of water quality impaired stream segments as impaired by high fecal coliform counts from point and nonpoint sources. A TMDL has not been developed for this reach. Downstream reaches of the SCR are listed as impaired for various pollutants including historical pesticides, chloride, coliform, and nitrogen compounds. The RWQCB has adopted nitrogen compounds (including ammonia) and chloride TMDLs into the Basin Plan.

Storm runoff from the project site and discharges of runoff into and/or encroachment upon natural drainages, wetlands, and/or flood plains are subject to the requirements of the federal CWA (33 U.S.C. 1251 et seq.; CWA) and associated regulations, the State Porter-Cologne Water Quality Control Act (Cal. Water Code 13000 et seq.) and associated regulations, and to requirements established by the EPA, SWRCB, RWQCB, the Flood Control and Watershed Management Divisions of the Los Angeles County Department of Public Works (LACDPW), and the City of Santa Clarita. In addition, intrusions into jurisdictional areas are subject to the requirements of the CWA (section 404/401 permitting) and sections 1600-1607 of the State Fish and Game Code (Streambed Alteration Agreement Act), and to the respective requirements established by the ACOE and CDFG to administer these programs.

Other Regulations

CWA Section 404 Dredge and Fill Permits

Section 404 of the CWA regulates the discharge of dredged and fill material into waters of the United States, including wetlands. Activities in waters of the United States that are regulated under this program include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry.

Impacts associated with physical alterations to Waters of the United States, including impacts to Drainage C associated with undergrounding the drainage and impacts associated with the construction of culverts in Drainages A and B are primarily analyzed in the biological resources section of this EIR. However, this section evaluates changes in surface flows, including increases in surface water runoff volumes, velocities, and duration in the project area receiving water (SCR Reach 7).

The EPA and the ACOE have issued Section 404(b)(1) Guidelines (40 CFR 230) that regulate dredge and fill activities, including the water quality aspects of such activities. Subpart C at Sections 230.20 thru 230.25 contains water quality regulations applicable to dredge and fill activities. Among other topics, these guidelines address discharges which alter substrate elevation or contours, suspended particulates, water clarity, nutrients and chemical content, current patterns and water circulation, water fluctuations (including those that alter erosion or sediment rates), and salinity gradients. For more detail concerning the appropriate analyses pursuant to these guidelines, see the biological resources section of this EIR.

CWA Section 401 Water Quality Certification

Section 401 of the CWA requires that any person applying for a federal permit or license which may result in a discharge of pollutants into waters of the United States must obtain a state water quality certification that the activity complies with all applicable water quality standards, limitations, and restrictions. No license or permit may be issued by a federal agency until certification required by Section 401 has been granted. Further, no license or permit may be issued if certification has been denied. CWA Section 404 permits and authorizations are subject to section 401 certification by the RWQCB. For more detail concerning the appropriate analyses pursuant to these regulations, see the biological resources section of this EIR.

California Department of Fish and Game Section 1602

The CDFG is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the law requires the proponent of a project that may

impact the beds or banks of a river, stream, or lake to notify the CDFG before beginning the project. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Section 1602 of the Fish and Game Code requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or use materials from a streambed to notify the CDFG before beginning the project. If the CDFG determines that the project may adversely affect existing fish and wildlife resources, a Lake or Streambed Alteration Agreement under Fish and Game Code Section 1602 is required. Physical alterations to the bed or bank of Drainages A, B, and C as proposed are primarily evaluated in the biological resources section of this EIR. The assessment of the project's post-development increases in surface runoff volumes, velocities, and durations in SCR Reach 7 are addressed in this section.

Local Programs

MS4 Permit

The project site, located within the City of Santa Clarita, falls within the jurisdiction of the Los Angeles RWQCB. Discharges of urban runoff into municipally owned separate storm sewer systems (MS4s) are regulated under the general NPDES stormwater permit that has been issued by the RWQCB for the Los Angeles Region (RWQCB Municipal Permit Order No. 01-182, NPDES No. CAS004001 (adopted December 13, 2001)) (MS4 Permit) (Appendix 4.8). The Proposed Project is subject to the waste discharge requirements issued by the RWQCB for the MS4 Permit. The County of Los Angeles and the City of Santa Clarita are co-permittees under the MS4 Permit and therefore have joint/concurrent legal authority to enforce the terms of the permit in their respective jurisdictions. The MS4 Permit is intended to ensure that combinations of site planning, source control and treatment control practices are implemented to protect the quality of receiving waters. To do so, the permit requires that new development employ best management practices (BMPs) designed to control pollutants in stormwater runoff to the maximum extent practicable (MEP), details specific sizing criteria for BMPs, and specifies flow control requirements. These BMPs include structural practices, source control and treatment techniques and systems, and site design planning principles addressing water quality.²

Site design or planning management BMPs are used to minimize runoff from new development and to discourage development in environmentally sensitive areas that are critical to maintaining water quality. Source control BMPs are usually the most effective and economical in preventing pollutants from entering storm and non-storm runoff. Examples of source control BMPs that are relevant to the Proposed Project are presented in the Water Quality Assessment in Appendix 7-C.

² General MS4 Permit, Order No. 01-182, NPDES Permit No. CAS004001 (Appendix 4.8), Finding Par. F.

Treatment Control BMPs involve physical treatment of the runoff, usually through structural means. These are also referred to as structural BMPs throughout this EIR. Examples of common treatment control BMPs are also presented in the Water Quality Assessment in Appendix 7-C.

Among other things, the MS4 Permit requires the co-permittees to prepare a Stormwater Quality Management Plan (SQMP) specifying the BMPs that will be implemented to reduce the discharge of pollutants in stormwater to the MEP. The various components of the SQMP, taken together, are expected to reduce pollutants in storm water and urban runoff to the MEP. The emphasis of the SQMP is pollution prevention through education, public outreach, planning, and implementation of source control BMPs first, followed by structural and treatment control BMPs.

Standard Urban Stormwater Mitigation Plan Requirements

On March 8, 2000, the development planning program requirements, including the Standard Urban Stormwater Mitigation Plan requirements (collectively, development planning program requirements, including the Standard Urban Stormwater Mitigation Plan requirements, are referred to in this EIR as SUSMP requirements), were approved by the RWQCB as part of the MS4 Permit to address stormwater pollution from new construction and redevelopment projects. The SUSMP requirements contain a list of minimum BMPs that must be employed to infiltrate or treat stormwater runoff, control peak flow discharge, and reduce the post-project discharge of pollutants from stormwater conveyance systems. The SUSMP requirements define, based upon land use type, the types of practices that must be included and issues that must be addressed as appropriate to the development type and size. Compliance with the SUSMP requirements is used as one method to evaluate significance of project development impacts on surface water runoff.

Finalized in May 2000, the County of Los Angeles' "Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP)" (SUSMP Manual) details the requirements for new development and significant redevelopment BMPs. The SUSMP Manual is a model guidance document for use by Permittees and individual project owners to select post-construction BMPs and otherwise comply with SUSMP requirements. The SUSMP Manual addresses water quality and drainage issues by specifying design standards for structural or treatment control BMPs that infiltrate or treat stormwater runoff and control peak flow discharge. BMPs are defined in the SUSMP Manual as any program, technology, process, siting criteria, operational methods or measures, or engineered systems, which, when implemented, prevent, control, remove, or reduce pollution. One of the most important SUSMP requirements is the specific design sizing criteria for stormwater treatment/management for new development and significant redevelopment projects. The SUSMP requirements include sizing criteria options for both volume-based and flow-based BMPs. The sizing criteria options for volume-based BMPs, such as extended detention basins, are as follows:

1. The 85th percentile 24-hour runoff storm event determined as the maximized capture stormwater volume for the area from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/AXCE Manual of Practice No. 87; or
2. The volume of annual runoff based on unit basin storage volume, to achieve 80% or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/Commercial (1993); or
3. The volume of runoff produced from a 0.75-inch storm event, prior to its discharge to a stormwater conveyance system; or
4. The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for “treatment” (0.75-inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile, 24-hour runoff event.

Volume-based treatment control BMPs for the project have been sized to capture and treat 80 percent of the annual runoff volume, consistent with criterion 2 above. The size of the facilities would be finalized during the design stage by the project engineer using the final hydrology study, which would be prepared and approved to ensure consistency with this analysis prior to issuance of a grading permit.

Flow-based BMPs, such as vegetated swales, must be designed to infiltrate or treat the maximum flow rate generated from one of the following scenarios:

1. The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or
2. The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or
3. The flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

Flow-based BMPs for the project have been sized to treat greater than 80 percent of the annual runoff, consistent with criterion 3 above. BMP sizing for the project would be finalized during the design stage by the project engineer using the final hydrology study, which would be prepared and approved to ensure consistency with this analysis prior to issuance of a grading permit.

The SUSMP Manual also requires that all stormwater treatment/management facilities be designed to “control the peak flow discharge to provide stream channel and over bank flood protection” based on the flow design requirements selected by the local agency. The Flood Control Division of the LACDPW regulates flood control within the County. Los Angeles County policy on levels of flood

protection requires that all facilities not under State of California jurisdiction that intercept flood waters from natural drainage courses, all areas mapped as floodways, all facilities that are constructed to drain natural depressions or sumps, and all culverts under major and secondary highways be designed for the “capital flood” (defined as the runoff from a 50-year rainfall storm event falling on a saturated watershed). All facilities in developed areas that are not covered by the capital flood protection conditions must be designed for the “urban flood” (defined as the runoff from a 25-year frequency design storm). Because the project would intercept flood flows from natural areas, its storm drainage facilities that accept these flows must be sized and designed for the capital flood. In addition to meeting the required level of flood protection, the Proposed Project and all development in the Santa Clara River watershed must meet standards adopted by the LACDPW for the Santa Clara River and its major tributaries in the County Sedimentation Manual (p 2-2 to 2-6).

In addition to the sizing requirements, the SUSMP includes eight general requirements as follows:

- Control post-development peak stormwater runoff in natural drainage systems to prevent accelerated downstream erosion and to protect stream habitat
- Conserve natural areas
- Minimize stormwater pollutants of concern
- Protect slopes and channels
- Provide storm drain stenciling and signage
- Properly design outdoor material storage areas
- Properly design trash storage areas
- Provide proof of ongoing BMP maintenance

In addition, the SUSMP includes general design specifications for individual priority project categories including single-family hillside homes. The Proposed Project would be required to incorporate appropriate SUSMP requirements into project plans as part of the development plan approval process for building and grading permits. The MS4 Permit requirements, including SUSMP requirements, constitute one set of criteria used to evaluate the project’s potential water quality impacts.

City of Santa Clarita Hydromodification and MS4 Requirements

The City of Santa Clarita is a co-permittee of the MS4 Permit and is therefore obligated to comply with the provisions of the permit and the subsequently approved SUSMP Manual. The City of Santa Clarita Municipal Code Chapter 10.04 lists the City’s requirements for Stormwater and Urban Runoff Pollution Control. Provisions include prohibitions of illicit discharges, illicit connections, and spills, dumping

and disposals to the MS4; pollutant control requirements from sites of industrial activities; and requirements for construction activity stormwater measures.

The City of Santa Clarita Municipal Code Chapter 10.04.060 promulgated requirements for stormwater BMPs, which include the following:

- For parking lots with more than 25 spaces, BMPs must be implemented to reduce the discharge of pollutants to the maximum extent practicable.
- For facilities or activities associated with industrial or commercial activities where machinery is repaired or maintained, BMPs or other steps shall be used to prevent discharge of maintenance-related or repair-related pollutants to the MS4.
- For other premises exposed to stormwater, BMPs, if they exist, or other steps shall be used to reduce the discharge of pollutants to the maximum extent practicable. This includes the removal and lawful disposal from all parts of the premises exposed to stormwater of any solid waste or any other substance, which if discharged to the MS4, would be a pollutant.

The requirements of Municipal Code chapter 10.04.060 are one set of criteria used to evaluate the project's potential water quality impacts.

The MS4 Permit notes that increased volume, velocity, and discharge duration of stormwater runoff from developed areas may potentially accelerate downstream erosion and impair habitat-related beneficial uses in natural drainage systems (MS4 Permit, Part 4, Section D.1). As a result, the MS4 Permit stipulates that permittees shall control post-development peak stormwater runoff discharge rates, velocities, and durations in natural drainage systems to prevent accelerated stream erosion and protect stream habitat.

Further, under Part 4, section D.1 of the MS4 Permit, the co-permittees are required to develop and implement by February 1, 2005, numeric criteria for peak flow control in accordance with the findings of the Peak Discharge Impact Study analyzing the potential impacts on natural streams due to impervious development. The LACDPW and the Southern California Storm Water Monitoring Coalition have been conducting this study, but the study was not completed in time to meet the February 1st deadline. Therefore, on January 31, 2005, the County adopted and submitted to the RWQCB an Interim Peak Flow Standard to be in effect until such time as a final standard can be adopted based on a completed study.

The adopted Los Angeles County Interim Peak Flow Standard was derived from a similar Interim Peak Flow Standard for Ventura County approved by the RWQCB under the SUSMP provisions of the MS4 Permit. The intent of the interim standard, as described by the County in the cover letter dated January

31, 2005 is to provide protection for natural streams to the extent supported by findings from the ongoing study and consistent with practical construction practices.

The Interim Peak Flow Standard adopted by the County is:

The Peak Flow Standard shall require that all post-development runoff from a 2-year, 24-hour storm shall not exceed the pre-development peak flow rate, burned, from a 2-year, 24-hour storm when the pre-development peak flow rate equals or exceeds five cubic feet per second. Discharge flow rates shall be calculated using the County of Los Angeles Modified Rational Method. The Peak Flow Standard shall also require that post-development runoff from the 50-year capital storm shall not exceed the pre-development peak flow rate, burned and bulked, from the 50-year capital storm.

In its cover letter dated January 31, 2005, transmitting the Interim Peak Flow Standard, the County notes that, upon completion of the Peak Discharge Impact Study, new peak flow standards may be determined to be appropriate.

The Proposed Project is required to meet the peak flow control criteria as a part of the development plan approval process for building and grading permits. The analysis in this section identifies the general facilities and design specifications necessary to comply with the current peak flow control criteria. Analysis of the peak flow control requirements in effect at the time that the final hydrology study is prepared will be required and the requirements must be updated at that time. As a part of the final hydrology study and prior to the issuance of a grading permit, the project engineer must analyze and design the drainage facilities required to meet the peak flow control requirements then in effect under the MS4 Permit and which are required to comply with this analysis. The current peak flow control criteria represent a minimum standard for post-development flows. The narrative MS4 Permit standard for natural drainage systems and the Interim Flow Control Standard are both used in this analysis to help assess potential hydromodification impacts associated with the project.

Stormwater Permit for Construction Activities

Pursuant to the CWA Section 402(p), the State Water Resources Control Board (SWRCB) has issued a statewide general NPDES Permit and Waste Discharge Requirements for stormwater discharges from construction sites (NPDES No. CAS000002, California Water Resources Control Board Resolution No. 2001-046; Modification of Water Quality Order 99-08-DWQ State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction Activity, as amended) (adopted by the SWRCB on April 26, 2001).

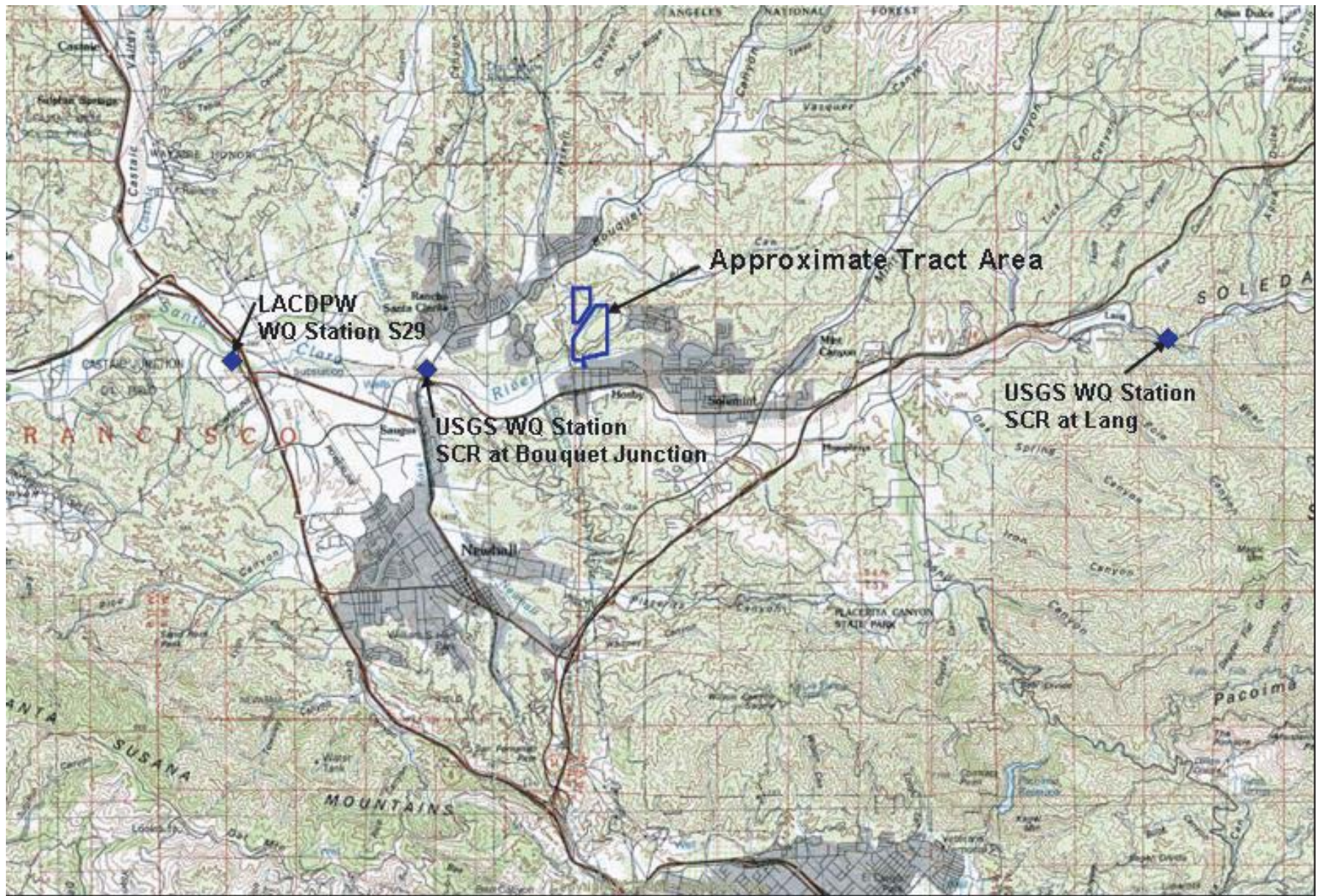
Under this Construction General Permit, discharges of stormwater from construction sites with a disturbed area of one or more acres (effective March 2003) are required to either obtain individual NPDES permits for stormwater discharges or be covered by the Construction General Permit. Coverage under the Construction General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB. Each applicant under the Construction General Permit must ensure that a Stormwater Pollution Prevention Plan (SWPPP) is prepared prior to grading and implemented during construction. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction. Compliance with the requirements of the Construction General Permit is used as one method to evaluate project construction-related impacts on surface water quality.

Waste Discharge Requirements for Discharges of Groundwater

The RWQCB has issued a General NPDES Permit and General Waste Discharge Requirements governing construction-related dewatering discharges within the project development areas (Order No. R4-2003-0111, NPDES No. CAG994004) (General Dewatering Permit). This permit addresses discharges from temporary dewatering operations associated with construction and permanent dewatering operations associated with development. The discharge requirements include provisions mandating notification, sampling and analysis, and reporting of dewatering and testing-related discharges. The General Dewatering Permit authorizes such construction-related activities so long as all conditions of the permit are fulfilled. Compliance with the requirements of the General Dewatering Permit is used as one method to evaluate project construction-related impacts on surface water quality.

Existing Receiving Water Quality

A search was conducted of water quality monitoring data available from the LACDPW, the U.S. Geological Survey (USGS), and the U.S. EPA STORET database of environmental data. No water quality monitoring data were located for the Santa Clara River or its tributaries in the immediate vicinity of the project. The USGS has collected water quality data at a number of locations in the SCR watershed. The data are available from the USGS website. The vast majority of the data were collected in downstream reaches below the project site. There are relatively few data available for the SCR upstream of Reach 5, and many of these data were collected in the mid 1970s. More recent monitoring data is available from the LACDPW, which established a mass emission station on the SCR to collect both dry- and wet-weather water quality data. However, this station is located about five miles downstream of the project site in Reach 5 and dry-weather data are influenced by discharges from the two water reclamation that discharge to Reaches 5 and 6. Therefore this data may have limited relevance to receiving water conditions in SCR Reach 7.



Source: GeoSyntec Consultants, Inc., February 2005



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Figure V.H-3
Location of Water Quality Monitoring Stations

USGS Water Quality Monitoring Data

As described above, the USGS collected limited water quality data in SCR Reaches 6-8 from 1974 to 1976. Figure V.H-3 shows the location of two USGS stations at which most of the data collected in these reaches were obtained. The closest of the three stations to the project area is the USGS Station on the SCR at Bouquet Junction, which is about 2-3 miles downstream from the project site. Further upstream is the USGS Station on the SCR at Lang, which is about 10 miles upstream of the site. The USGS collected water quality data during both dry- and wet-weather conditions. To facilitate interpretation, the water quality data were grouped into two categories depending on the depth of two-day antecedent rainfall measured at the Newhall rain gauge: (1) 0–0.1 inches (no rainfall or trace amounts of rainfall that would not be expected to produce significant storm runoff) and (2) > 0.1 inches (rainfall depths that would likely produce storm runoff). Table V.H-4 summarizes the USGS data collected at these two locations for selected general constituents.

Table V.H-4
Summary of USGS Dry Weather Water Quality Monitoring Data (SCR Reaches 6-8)

Constituent, Location, and 2-day Preceding Rainfall (in)	No. of Samples	No. of non-detects	Range	Average	Median
Hardness (mg/L)					
Lang Station					
0-< 0.1 inches	5		280-300	290	290
> 0.1 inches	3		270-280	273	270
Bouquet Junction Station					
0-< 0.1 inches	5		280-360	320	320
> 0.1 inches	3		280-340	310	310
Chloride (mg/L)					
Lang Station					
0-< 0.1 inches	5		36-45	41	42
> 0.1 inches	3		33-39	35	34
Bouquet Junction Station					
0-< 0.1 inches	13		92-140	117	120
> 0.1 inches	3		100-120	110	110
Total Phosphorus (mg/L)					
Lang Station					
0-< 0.1 inches	10		0.01-9.3	1.0	0.1
> 0.1 inches	3		0.07-0.12	0.1	0.08
Bouquet Junction Station					
0-< 0.1 inches	18		0.3-17	8.7	9.7
> 0.1 inches	3		9.9-12	11.3	12.0
Total Nitrogen (mg/L)					
Lang Station					
0-< 0.1 inches	10		0.14-7.5	1.2	0.4

Table V.H-4
Summary of USGS Dry Weather Water Quality Monitoring Data (SCR Reaches 6-8)

Constituent, Location, and 2-day Preceding Rainfall (in)	No. of Samples	No. of non-detects	Range	Average	Median
> 0.1 inches	3		0.09-0.35	0.2	0.2
Bouquet Junction Station					
0-< 0.1 inches	19		0.7-29	12.5	12
> 0.1 inches	3		1.8-12	7	6.3
Nitrate & Nitrite Nitrogen (mg/L)					
Lang Station					
0-< 0.1 inches	10	3	0.03-0.61	0.22	0.18
> 0.1 inches	3	2	0.09	0.09	0.09
Bouquet Junction Station					
0-< 0.1 inches	18	3	0.02-10	3.5	2.8
> 0.1 inches	3	2	5.8	5.8	5.8
Ammonia Nitrogen (mg/L)					
Lang Station					
0-< 0.1 inches	10	2	0.03-5.6	0.76	0.09
> 0.1 inches	3	1	0.05-0.06	0.06	0.06
Bouquet Junction Station					
0-< 0.1 inches	18	3	0.1-29	8	6.4
> 0.1 inches	3	2	0.4-6.4	4.3	6
TKN (mg/L)					
Lang Station					
0-< 0.1 inches	10		0.09-7.5	1.0	0.24
> 0.1 inches	3		0.09-0.26	0.17	0.17
Bouquet Junction Station					
0-< 0.1 inches	18		0.4-26	9.7	8.9
> 0.1 inches	3		1.8-6.7	4.9	6.3
<i>Source: GeoSyntec Consultants, Inc.</i>					

LACDPW Water Quality Monitoring Data

The LACDPW initiated dry- and wet-weather monitoring at a mass emission station on the SCR during the 2002/2003 season. The station (S29) is located on the main stem of the SCR at The Old Road in Santa Clarita, approximately five miles downstream of the project site as shown on Figure V.H-2. The mass emission station is intended to provide long-term information about water quality trends in areas with heterogeneous land uses. The mass emission station has a tributary area of 411 square miles. Land use in the tributary area is 87 percent open space, 4.3 percent urban development, and 8.7 percent other land uses. Table V.H-5 lists summary statistics of the storm monitoring data collected at the SCR mass emission station. The LACDPW has also conducted dry-weather water quality monitoring at the

mass emission station. However, the mass emission station is located downstream of the outfall from the Saugus Water Reclamation Plant. Therefore, dry weather water quality monitoring data at this location is not representative of conditions in SCR Reach 7 adjacent to the project site, which is generally dry during dry weather conditions.

Table V.H-5
Summary of LACDPW Stormwater Monitoring at the Santa Clara River Mass Emission Station (S29), 2002-2003

Parameter	No. of Samples	No. of Detects	Minimum	Maximum	Average
General & Conventional Parameters					
TSS (mg/L)	4	4	53	712	353
Hardness (mg/L)	4	4	15.2	131	92
Chloride (mg/L)	4	4	2.58	39.8	22
Nutrients					
Dissolved phosphorus (mg/L)	4	4	0.16	0.38	0.28
Total phosphorus (mg/L)	4	4	0.29	0.44	0.36
Nitrate-N (mg/L)	4	4	0.52	1.11	0.82
Nitrite-N (mg/L)	4	2	0.26	0.87	0.56
Ammonia-N (mg/L)	4	2	0.34	1.09	0.71
TKN (mg/L)	4		0.66	2.62	1.72
Metals					
Dissolved copper (ug/L)	4	4	3.8	8.4	7
Total copper (ug/L)	4	4	9.4	32.9	16
Dissolved lead (ug/L)	4	2	1.0	2.3	1.6
Total lead (ug/L)	4	4	1.1	14.5	5.6
Dissolved zinc (ug/L)	4	4	27	37	32
Total zinc (ug/L)	4	4	42	103	63
Indicator Bacteria					
Total coliform (MPN/100mL)	4	4	50,000	500,000	272,500
Fecal coliform (MPN/100mL)	4	4	9,000	170,000	92,750
Fecal Enterococcus (MPN/100mL)	4	4	17,000	240,000	96,750
Pesticides					
Chlorpyrifos (ug/L)	4	0	--	--	--
Diazinon (ug/L)	4	3	0.05	0.43	0.25
<i>Source: GeoSyntec Consultants, Inc.</i>					

Water Quality Data Summary

Hardness

Hardness concentrations measured at the Lang and Bouquet Stations (Table V.H-4) are within a relatively narrow range from 270-360 mg/L, with little reduction during wet-weather flows. These data suggest that hardness concentrations in stormwater runoff from the project area can be represented by the minimum value of 270 mg/L. Further downstream at the LACDPW mass emission station, hardness concentrations in stormwater runoff are considerably smaller with an average of about 100 mg/L.

Total Suspended Solids (TSS)

TSS was not measured in water samples collected at the two USGS stations. Therefore, representative TSS levels in stormwater flows in the Santa Clara River in the vicinity of the project area are unknown. In general TSS levels are expected to increase substantially with runoff from winter storm events. Data from the LACDPW mass emission station indicate average in-stream TSS concentrations of about 350 mg/L. Considerably higher levels of TSS are also possible, as USGS data collected near the Los Angeles/Ventura County Line indicate TSS concentrations in the range of 2,000 to 10,000 mg/L during in storm runoff.

Chloride

Chloride levels in the SCR vary from upstream to downstream locations. Chloride concentrations at the USGS Lang station range about 35-45 mg/L. Because chloride is soluble, there is little variation in chloride concentration measured during dry and wet-weather conditions. Chloride levels recorded at the USGS Station at Bouquet Junction are greater, averaging about 110 mg/L. Further downstream at the LACDPW mass emission station, the average wet-weather chloride concentration is about 20 mg/L. The reason for high chloride levels at the Bouquet Junction station is unknown, but could be influenced by tributary flows from Bouquet Canyon. Based on the available data, representative chloride levels for the project area receiving waters during wet weather conditions are likely in the range 20-45 mg/L.

Phosphorus

Water quality data collected at the USGS stations only included total phosphorus concentrations, and did not include dissolved phosphorus measurements. Like chloride, concentrations of total phosphorus in the SCR vary from upstream to downstream locations, with highest levels recorded at the USGS Bouquet Junction Station. The total phosphorus concentrations are about 0.1 mg/l or less upstream of the project area at the USGS Lang Station. Downstream of the project area, very high levels of total phosphorus (~ 6 mg/L) were measured at the Bouquet Junction, while smaller levels were measured

further downstream at the LACDPW mass emission station (~ 0.3-0.45 mg/L). Based on the available data, the high concentrations observed at the Bouquet Junction may not be representative total phosphorus levels for wet-weather conditions in project area. Using information from the LACDPW mass emission station, representative total phosphorus concentrations for the project area receiving waters during wet weather conditions are estimated at 0.3-0.4 mg/L.

Nitrogen

Of the two USGS stations, total nitrogen (TN) measurements were lower at the Lang Station upstream of the project area, where values ranged from about 0.2-1.0 mg/L. Higher levels were detected downstream of the project area at the Bouquet Junction Station (~ 7-12 mg/L). Much of the TN at this station was ammonia-N. Chloride, total phosphorus, and ammonia measured at this site are unusually high. Therefore, they are not considered representative of the Santa Clara River for the purposes of this project. Total nitrogen was not measured at the downstream LACDPW mass emission station, however, the sum of average levels of nitrate, nitrite, and total kjeldahl nitrogen (TKN) at this station is about 3 mg/L. Using information from the LACDPW mass emission station, representative total nitrogen concentrations for the project area receiving waters during wet weather conditions are likely in the range of about 1.5-4.5 mg/L. The majority constituent is TKN, which is, in turn, mostly particulate organic nitrogen.

Metals

Water quality data collected at the USGS Stations included measurements for a limited number of trace metals. Of the metals that are of typical concern in urban runoff, only total lead was measured. Total lead concentrations in 42 samples were below the detection limit of 200 ug/L, which is a high detection limit. Thus, the available USGS data do not provide insights into existing levels of copper, lead, and zinc within the project area or the Santa Clara River and cannot be used. Data collected downstream at the LACDPW mass emission station indicate relatively low concentrations for these metals in wet-weather flows. Monitoring data collected at the LACDPW mass emission station are considered to be representative of trace metal concentrations for the project area receiving waters during wet weather conditions.

Indicator Bacteria

The USGS data does not include measurements of indicator bacteria. However, SCR Reach 7 is listed as impaired by fecal coliform bacteria as described previously. Data collected downstream at the LACDPW mass emission station shows very high levels, which is typical of runoff from urban and natural open space drainages. Although no monitoring data have been identified within the project area, LACDPW data provide representative bacteria levels for the existing condition of SCR Reach 7.

Pesticides

The USGS measured levels of various legacy pesticides at the Lang and Bouquet Junction Stations. None of the tested pesticides were detected at the Lang Station. Lindane, Diazinon, DDT, and DDE were detected at the Bouquet Junction Station, however, these are historical data (1974-76) which likely are not representative of current conditions. These chlorinated legacy pesticides were not detected in recent wet weather monitoring at the LACDPW mass emission station. Diazinon was detected in some of the wet weather samples collected at the LACDPW mass emission station. Due to the lack of local and recent monitoring data within the project area, data collected downstream of the LACDPW mass emission station are considered representative of pesticide levels in the project area receiving waters.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The discussion below summarizes the thresholds of significance used to evaluate the significance of potential project water quality impacts for each pollutant of concern and drainage impacts.

Water Quality Thresholds of Significance

Thresholds of significance for the evaluation of water quality impacts have been developed based on a review of the MS4 Permit and the CEQA Guidelines, Appendix G. Significant adverse water quality impacts are presumed to occur if the Proposed Project would:

- Create sizeable additional sources of polluted runoff to receiving waters that would result in exceedences of receiving water quality standards or substantially degrade water quality in receiving waters.
- Create sizeable additional sources of polluted runoff that would violate any water quality standards or waste discharge requirements for surface water runoff.
- Create sizeable additional sources of polluted construction site runoff (including polluted discharges associated with construction activities such as materials delivery, staging or storage, vehicle or equipment fueling, vehicle or equipment maintenance, waste handling, or hazardous materials handling or storage) that would violate any water quality standards or waste discharge requirements for surface water runoff or groundwater discharge.

This section analyzes whether sizeable additional sources of polluted runoff may result from the project based on the results of water quality modeling and qualitative assessments that take into account water quality controls or BMPs that are proposed PDFs. Any increases in pollutant concentrations or loads resulting from the development of the project site are considered an indication of a potentially significant adverse water quality impact. If loads and concentrations resulting from the development of

the project site are predicted to remain the same or be reduced when compared with existing conditions, it may be concluded that the project would not cause a significant adverse impact to the ambient water quality of the receiving waters for that pollutant.

If pollutant loads or concentrations were found likely to increase, potential project impacts for both construction and post-development phases, were assessed by evaluating project compliance, including PDFs, with requirements of the MS4 Permit, including SQMP and SUSMP requirements, the Construction General Permit, and the General Dewatering Permit. Further, post-development increases in pollutant loads and concentrations were evaluated by comparing the magnitude of the increase to relevant benchmarks, including receiving water TMDLs and receiving water quality objectives and criteria from the Basin Plan and CTR, as described below. A “weight of evidence” approach that considers all of these factors and assessments was used to develop conclusions of significance for water quality impacts.

Comparison of post-development water quality concentrations in runoff discharges with benchmark numeric and narrative receiving water quality criteria, as provided in the Basin Plan and the CTR, facilitates analysis of the potential for project runoff to result in exceedances of receiving water quality standards, adversely affect beneficial uses, or otherwise degrade receiving waters. Water quality criteria were considered benchmarks for comparison purposes only as such criteria apply within receiving waters and not to runoff before its discharge to the receiving water. Narrative and numeric water quality objectives contained in the Basin Plan also apply to the project’s receiving waters. Water quality criteria noted in the CTR specify concentrations that are not to be exceeded in receiving waters more than once in a three-year period for those waters designated with aquatic life or human health related uses. Projections of runoff water quality were compared to the acute form of the CTR criteria due to the episodic, limited duration of stormwater runoff events. If pollutant levels in stormwater runoff did not exceed these receiving water benchmarks, it is one indication that no significant impacts would result from project development.

Satisfaction of the MS4 Permit requirements for new development, including SUSMP requirements and SQMP requirements and construction-related requirements of the General Construction Permit and General Dewatering Permit establishes compliance with water quality regulatory requirements applicable to stormwater runoff. The MS4 Permit requires that the SQMP specify BMPs that will be implemented to reduce discharges of pollutants to the MEP. MS4 requirements are met when new development complies with the SUSMP requirements set forth in the MS4 Permit. Under these requirements, the effectiveness of stormwater treatment controls is primarily based on two factors: the amount of runoff that is captured by the controls and the selection of BMPs to address identified pollutants of concern. Selection and numerical sizing criteria for new development treatment controls are included in the MS4 Permit and the SUSMP Manual. If project PDFs meet these criteria and other source control and site design BMPs consistent with the SUSMP requirements are implemented, it

indicates that no significant impacts would occur as the result of insufficient capacity for stormwater treatment.

The Construction General Permit requires the development and implementation of a SWPPP that describes erosion and sediment control BMPs as well as material management/non-stormwater BMPs that will be used during the construction phase of development. The General Dewatering Permit addresses discharges from permanent or temporary dewatering operations associated with construction and development and includes provisions mandating notification, sampling and analysis, and reporting of dewatering and testing-related discharges. To evaluate the significance of construction-phase project water quality impacts, this analysis evaluated whether water quality control would be achieved by the implementation of BMPs consistent with Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology (BAT/BCT) as required by the Construction General Permit and the General Dewatering Permit.

Hydromodification Thresholds of Significance

Thresholds of significance for evaluating hydrologic impacts and conditions of concern have been developed based on a review of the MS4 Permit and the CEQA Guidelines, Appendix G. Significant adverse impacts to natural drainage systems created by altered hydrologic conditions of concern are presumed to occur if the Proposed Project would:

- Substantially alter the existing drainage pattern of a natural drainage, stream, or river in a manner that would cause substantial erosion, siltation, or channel instability; or
- Substantially increase the rates, velocities, frequencies, duration and/or seasonality of flows in a manner that causes channel instability or in a manner that harms sensitive habitats or species in natural drainages.

Groundwater Quality and Recharge Thresholds of Significance

Thresholds of significance for evaluating the hydrologic and water quality impacts of the project on groundwater have been developed based on CEQA Appendix G thresholds. Significant adverse impacts to groundwater are presumed to occur if the Proposed Project would:

Substantially deplete groundwater supplies or interfere substantially with groundwater recharge so as to cause a net deficit in aquifer volume or a lowering of the local groundwater table; or

- Through changes in surface water runoff quality and quantity (including project treatment PDFs) and changes in groundwater recharge, result in a violation of any groundwater quality standards or waste discharge requirements or otherwise substantially degrade water quality.

Groundwater quality benchmarks were compared with post-development runoff water quality to establish the likelihood that runoff would result in a degradation of groundwater quality. The hydrologic effects of the project on groundwater were examined by a comparison of historical and present levels of the underlying aquifer to determine the impact of development on aquifer volume.

Surface Drainage Thresholds of Significance

Thresholds of significance for evaluating the hydrologic impacts of the project on surface drainage have been developed based on CEQA Appendix G thresholds. Significant adverse impacts to surface drainage are presumed to occur if the Proposed Project would:

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place structures within a 100-year flood hazard area which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding; and/or
- 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.

Project impacts with respect to the above thresholds are summarized at the end of this section following the description of the drainage and water quality control features of the Proposed Project, provided below.

Project Design Features

The Proposed Project includes several PDFs that would serve to reduce the overall level of impact on hydrology and water quality that would otherwise be expected with a project of this nature. These PDFs are detailed below.

Proposed Project Flood Control Design Features

None of the proposed flood and erosion control improvements on the project site described below would be in or adjacent to the Santa Clara River. At project build-out, runoff from the drainage areas (1 and 2) would continue to flow through the site, but would be channeled through a storm system that would be constructed from the developed upland areas of the site down to the Santa Clara River. Undeveloped areas of the project site upstream of the developed portion of the site would continue to drain as under existing conditions but would enter the project storm system at the upstream end of the developed portion of the site. Runoff from a 35-acre off-site upstream tributary area east of the site (currently discharging to Drainage B) would be bypassed through the project development area and

discharged farther downstream in Drainage B. A dedicated storm drain that is separate from the on-site storm system would be constructed to bypass this upstream off-site runoff. In all other instances, runoff from upstream offsite tributary areas (approximately 83 acres) would be collected by the on-site storm drain network and conveyed to the discharge location on the Santa Clara River. The inlets to these stormwater drains servicing the undeveloped land would have de-silting inlets or proprietary debris basins. Off-site runoff would not be treated by on-site treatment controls. However, all runoff generated from on-site development areas would be treated prior to collection in the on-site storm system. Thus, the storm system is designed to ensure that all on-site runoff is treated prior to commingling with the upland untreated off-site runoff.

As required in the LACDPW memorandum entitled, "Level of Flood Protection and Drainage Protection Standards," all onsite systems carrying runoff from developed areas would be designed for the 25-year design storm (urban flood) while storm drains under major and secondary highways, open channels (main channels), debris carrying systems, and sumps would be designed for the 50-year design storm (capital flood). Runoff through the site would be controlled through a combination of grading, storm drainpipes, channels, catch basins, and outlet structures. The proposed drainage improvements are described below.

Storm Drains

Storm drains (pipes and reinforced concrete boxes) designed for either the 25-year or 50-year storm would consist of both privately (Homeowner's Association, Assessment Districts, etc.) and publicly (City of Santa Clarita and County of Los Angeles [pursuant to an agreement with the County]) maintained systems. The minimum publicly maintained mainline pipe size would be 18-inch connector pipes for clear flows.

Open Channels

Small open channels would consist of rectangular and trapezoidal concrete channels and would be designed for either the 25-year (on-site systems carrying runoff from developed areas) or 50-year storm (storm drains under major and secondary highways, open channels, debris carrying systems, and sumps), depending on the source of the runoff. The channels sized for the 50-year capital storm would have greater capacity than those sized for the 25-year storm.

Low Flow Pipes and Outlets

To reduce pollution impacts from the low flow runoff, a series of pipes and outlets would be provided to intercept first flush runoff from paved project areas.

Catch Basins

Catch basins would be provided to intercept flows beyond the 10- and 25-year storms and at strategic locations to minimize flooding at street intersections and at sump locations.

Debris Basins

To reduce debris being discharged through and from the site, debris basins are proposed to intercept flows from undeveloped upland areas prior to their discharge into the on-site storm system.

Energy Dissipaters

To reduce storm flow velocities and to prevent erosion at stormwater discharge points into the river, energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters would be constructed wherever necessary at storm system outlets into the river. These energy dissipaters would slow the rate of flow of runoff into the river in order to prevent erosion of the stream channel.

Bank Stabilization

Since the project is located outside the flood plain of the Santa Clara River, bank stabilization will not be necessary.

The facilities and structures described above constitute the conceptual SUSMP for the project. Selection of the specific BMPs for the project with respect to the SUSMP will be made at the final design stage in compliance with the MS4 Permit and SUSMP requirements and as consistent with this EIR. However, the major structural BMPs under consideration include water quality detention basins, a grassy swale, and hydrodynamic separator systems. Figure V.H-4 provides an overview of the post-development drainage pattern and location of major structural BMPs on the project site. For additional detail, see the Drainage Concept Report in Appendix 7.

Proposed Project Water Quality Design Features

The project would result in conversion of approximately 40 percent of the currently undeveloped project site into residential, institutional, and recreational and transportation land uses with associated infrastructure. With project development, loads and concentrations of existing pollutants could increase, new pollutants could be introduced, and runoff flows may be altered.

PDFs for water quality and hydrologic impacts include site design, source control, and treatment control BMPs that would be incorporated into the project and are considered a part of the project for purposes of impact analysis. Effective management of wet and dry weather water quality begins with limiting increases in runoff pollutants and flows at the sources. Site design and source control BMPs are practices designed to minimize runoff and the introduction of pollutants in stormwater runoff. Treatment controls are designed to remove pollutants once they have been mobilized by rainfall and

runoff. Hydromodification control BMPs are designed to control increases in post-development runoff flows. This section describes the site design, source control, treatment control, and hydromodification control PDFs for the Proposed Project.

SUSMP Requirements and Project Design Features

Table V.H-6 below summarizes the SUSMP requirements and the corresponding PDFs that would be incorporated in the Proposed Project.

**Table V.H-6
SUSMP Requirements and Corresponding Project Design Features**

SUSMP Requirement	Criteria/Description	Corresponding Keystone PDFs
(1) Peak Stormwater Runoff Discharge Rates	<ul style="list-style-type: none"> • Control post-development peak discharge rates, velocities, and duration in natural drainage systems to prevent accelerated downstream erosion and to protect habitat related beneficial uses. • All post-development runoff from a 2-year, 24-hour storm shall not exceed the pre-development peak flow rate, burned, from a 2-year, 24-hour storm when the pre-development peak flow rate equals or exceeds five cfs. Discharge flow rates shall be calculated using the County of Los Angeles Modified Rational Method. • Post-development runoff from the 50-year capital storm shall not exceed the pre-development peak flow rate, burned and bulked, from the 50-year capital storm. • Control peak flow discharge to provide stream channel and overbank flood protection, based on flow design criteria selected by the local agency. 	<ul style="list-style-type: none"> • Hydromodification control BMPs would include infiltration and storage in bioretention, vegetated swales and detention basins (hydrologic source control), and flow controls on upstream debris basins to match the peak flow from the 2-year, 24-hour storm event. • Hydrologic analysis shows that peak discharges from a 50-year storm event would be reduced under post-development conditions, primarily due to the construction of upstream debris basins.
(2) Conserve Natural Areas	<ul style="list-style-type: none"> • Concentrate or cluster development on portions of a site while leaving the remaining land in a natural undisturbed condition • Limit clearing and grading of native vegetation at a site to the minimum amount needed to build 	<ul style="list-style-type: none"> • Residential development is clustered into 5 lots. • More than 50 percent of the project tract area would be retained as natural or engineered open space. • Clearing and grading is limited to areas needed to build lots, tracks, to

**Table V.H-6
SUSMP Requirements and Corresponding Project Design Features**

SUSMP Requirement	Criteria/Description	Corresponding Keystone PDFs
	<p>lots, allow access, and provide fire protection</p> <ul style="list-style-type: none"> • Maximize trees and other vegetation at each site, planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants • Promote natural vegetation by using parking lot islands and other landscaped areas • Preserve riparian areas and wetlands 	<p>allow access, and to stabilize slopes.</p> <ul style="list-style-type: none"> • Native, non-invasive and/or climate-appropriate vegetation would be utilized in common area landscaping, which includes engineered slopes in the graded and developed areas, the school, and the YMCA. • The project would include infrastructure (culverts, additional storm drains) to preserve the natural features of Drainages A and B to the maximum extent. The drainage plan is designed to eliminate any discharge of project area runoff to Drainages A, B, and C to protect against potential impacts from hydromodification.
(3) Minimize Stormwater Pollutants of Concern	<ul style="list-style-type: none"> • Minimize to the maximum extent practicable the introduction of pollutants of concern that may result in significant impacts generated from site runoff of directly connected impervious areas (DCIA) to the stormwater conveyance system as approved by the building official. Pollutants of concern consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at concentrations or loads considered potentially toxic to humans and/or flora and fauna. 	<ul style="list-style-type: none"> • A number of source control measures would be implemented in the project to control pollutants to the MEP, including site design and source treatment controls. Source controls include education programs, animal waste bag stations, street sweeping, proper storage and use of fertilizer and pesticide in public areas, use of native and/or non-invasive vegetation, and directing parking lot and road runoff to vegetated areas. • The project Homeowners' Association (HOA) would distribute public education materials available from the LACDPW (e.g. Project Pollution Prevention). These materials promote awareness and activities for preventing the introduction of pollutants into the storm drain system. Example topics are trash and litter awareness, motor oil recycling programs, organic gardening practices, and the importance of animal waste management.

**Table V.H-6
SUSMP Requirements and Corresponding Project Design Features**

SUSMP Requirement	Criteria/Description	Corresponding Keystone PDFs
		<ul style="list-style-type: none"> • The HOA would be responsible for maintenance of common landscape areas in the residential areas (i.e. engineered slopes) and would be responsible for proper use and handling of fertilizers and pesticides applied to these areas. • Efficient irrigation systems (soil moisture or climate controlled) would be used for irrigation of common landscaped areas. These areas include the engineered slopes in the residential development areas, and the community park. The HOA would be responsible for maintenance of irrigation systems in common areas in the residential development. • Vegetated treatment control BMPs would allow for stormwater infiltration as well as pollutant removal. • Treatment control BMPs would be selected to address the pollutants of concern for the project. Additional description of the BMPs that would be considered is contained in the Water Quality Assessment in Appendix 7-C.
(4) Protect Slopes and Channels	<p>Project plans must include BMPs consistent with local codes and ordinances and the SUSMP requirements to decrease the potential of slopes and/or channels from eroding and impacting stormwater runoff, including the following:</p> <ul style="list-style-type: none"> • Convey runoff safely from the tops of slopes and stabilize disturbed slopes • Utilize natural drainage systems to the maximum extent practicable • Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable • Stabilize permanent channel 	<ul style="list-style-type: none"> • Slope stabilization would be provided to areas with significant slopes. • To control and minimize an increase in runoff volumes to receiving waters to the MEP, roof runoff would be directed to vegetated areas and treatment BMPs installed to promote stormwater infiltration. • Engineered open spaces would be planted with native or drought tolerant vegetation. • All conveyance systems would include energy dissipaters at erosion prone areas.

**Table V.H-6
SUSMP Requirements and Corresponding Project Design Features**

SUSMP Requirement	Criteria/Description	Corresponding Keystone PDFs
	crossings <ul style="list-style-type: none"> • Vegetate slopes with native or drought tolerant vegetation • Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion with the approval of all agencies with jurisdiction (e.g., ACOE, CDFG). 	
(5) Provide Storm Drain System Stenciling and Signage	<ul style="list-style-type: none"> • All storm drain inlets and catch basins within the project must be stenciled with prohibitive language and/or graphical icons to discourage illegal dumping. • Signs and prohibitive language and/or graphical icons which prohibit illegal dumping must be posted at public access points along channels and creeks within the project area. • Legibility of stencils and signs must be maintained. 	<ul style="list-style-type: none"> • All storm drain inlets and water quality inlets would be stenciled or labeled. • Signs would be posted in areas where dumping could likely occur. • The LACDPW would maintain stencils and signs.
(6) Properly Design Outdoor Material Storage Areas	<ul style="list-style-type: none"> • Where Proposed Project plans include outdoor areas for storage of materials that may contribute pollutants to the stormwater conveyance system, measures to mitigate impacts must be included. 	<ul style="list-style-type: none"> • Common area landscaping and maintenance is limited to the roads and landscape setbacks. The HOA would be responsible for maintenance of common area landscaped areas, including the proper use and handling of any pesticides, fertilizers, paints, and other hazardous materials.
(7) Properly Design Trash Storage Areas	All trash containers must meet the following structural or treatment control BMP requirements: <ul style="list-style-type: none"> • Trash container areas must have drainage from adjoining roofs and pavement diverters around the areas. • Trash container areas must be screened or walled to prevent offsite transport of trash. 	<ul style="list-style-type: none"> • All trash facilities would be covered and isolated from stormwater runoff.

**Table V.H-6
SUSMP Requirements and Corresponding Project Design Features**

SUSMP Requirement	Criteria/Description	Corresponding Keystone PDFs
(8) Provide Proof of Ongoing BMP Maintenance	<ul style="list-style-type: none"> Applicant required to provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to, legal agreements, covenants, and/or Conditional Use Permits. 	<ul style="list-style-type: none"> Depending on the type and location of the BMP and the result of discussions with the County, either the LACDPW or the HOA would be responsible for maintenance. At present, it is anticipated that the HOA would be responsible for maintaining BMPs that treat runoff from the residential portions of the project; bioretention devices in KS-3, KS-5, KS-6, KS-11; and the detention basin that treats runoff from the single-family residential area in KS-1, KS-2. At present, it is anticipated that the County would be responsible for maintaining BMPs in the streets (swales, detention basins, CDS units) – KS-4, KS-7, KS-10, KS-12. The school and recreational center would be responsible for maintaining the BMPs (bioretention and swales) in their areas (KS-8, KS-9).
(9) Design Standards for Structural or Treatment Control BMPs	<p>Post-construction Structural or Treatment Control BMPs shall be designed to mitigate (infiltrate or treat) stormwater runoff from either volumetric or flow-based treatment control BMPs and control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency. (See previous discussion above and the Water Quality Technical Report in Appendix 7-C for volume- and flow-based sizing criteria.)</p>	<ul style="list-style-type: none"> Stormwater treatment facilities would be designed to meet or exceed the sizing standards outlined in the SUSMP Manual. Volume-based treatment control BMPs for the project would be designed using criteria 3 in the SUSMP Manual. Flow-based BMPs for the project would be sized using the methodology provided in the SUSMP Manual Appendix A, with a 50 percent factor of safety. The size of the facilities would be finalized during the design stage by the project engineer with the final hydrology study, which will be prepared and approved to ensure consistency with the EIR analysis prior to issuance of a final grading permit. Types of treatment control BMPs

**Table V.H-6
SUSMP Requirements and Corresponding Project Design Features**

SUSMP Requirement	Criteria/Description	Corresponding Keystone PDFs
		that would be employed are most likely to consist of extended detention basins and biofiltration (linear vegetated swales and bioretention areas).
(10.B.1) Properly Design Loading/ Unloading Dock Areas (100,000 square-foot Commercial Developments)	<ul style="list-style-type: none"> • Cover loading dock areas or design drainage to minimize run-on and runoff of stormwater. • Direct connections to storm drains from depressed loading docks (truck wells) are prohibited. 	<ul style="list-style-type: none"> • The Proposed Project does not include commercial development. Loading dock areas would not be constructed as part of this project.
(10.B.2) Properly Design Repair/Maintenance Bays (100,000 square-foot Commercial Developments)	<ul style="list-style-type: none"> • Repair/maintenance bays must be indoors or designed in such a way that does not allow stormwater run-on or contact with stormwater runoff. • Design a repair/maintenance bay drainage system to capture all wash water, leaks, and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/ maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit. 	<ul style="list-style-type: none"> • The Proposed Project does not include commercial development.
(10.B.3) Properly Design Vehicle/Equipment Wash Areas (100,000 square-foot Commercial Developments)	<ul style="list-style-type: none"> • Self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer. 	<ul style="list-style-type: none"> • The Proposed Project does not include commercial development.
(10.C) Properly Design Equipment/Accessory Wash Areas (Restaurants)	<ul style="list-style-type: none"> • Self-contained, equipped with a grease trap, and properly connected to a sanitary sewer. • If the wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer. 	<ul style="list-style-type: none"> • The Proposed Project does not include restaurants.
(10.D) Properly Design Fueling Area (Retail Gasoline Outlets)	<ul style="list-style-type: none"> • The fuel dispensing area must comply with various design requirements. 	<ul style="list-style-type: none"> • The Proposed Project does not include fueling areas.
(10.E.1-4) Properly Design Automotive Repair Shops	<ul style="list-style-type: none"> • Automotive repair shops must comply with various design requirements. 	<ul style="list-style-type: none"> • The Proposed Project does not include automotive repair facilities.
(10.F.1) Properly Design Parking	<ul style="list-style-type: none"> • Reduce impervious land coverage 	<ul style="list-style-type: none"> • Stormwater runoff from parking

**Table V.H-6
SUSMP Requirements and Corresponding Project Design Features**

SUSMP Requirement	Criteria/Description	Corresponding Keystone PDFs
Area (Parking Lots)	of parking areas. <ul style="list-style-type: none"> • Infiltrate runoff before it reaches the storm drain system. • Treat runoff before it reaches storm drain system. 	lots in the recreation lot would be directed to treatment control BMPs in compliance with SUSMP requirements. <ul style="list-style-type: none"> • Parking lot runoff would be treated with bioretention to promote filtration, evapotranspiration, and infiltration.
(10.F.2) Properly Design to Limit Oil Contamination and Perform Maintenance (Parking Lots)	<ul style="list-style-type: none"> • Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used. • Ensure adequate operation and maintenance of treatment systems, particularly sludge and oil removal. 	<ul style="list-style-type: none"> • See above. • Parking lot and roadway runoff would be treated with vegetated BMPs (swales/bioretention areas) to address oil and petroleum hydrocarbons from high-use parking lots. Due to space constraints, runoff from the lower roadway catchment (KS-12) would be treated with a CDS unit located underground in the roadway right-of-way. • At present, it is anticipated that the County would be responsible for maintaining the swales and CDS unit. The school and YMCA would be responsible for maintaining BMPs (bioretention and swales) in their areas.
(13) Limitation of Use of Infiltration BMPs	<ul style="list-style-type: none"> • Infiltration is limited based on design of BMP, space requirements, and soil permeability. 	<ul style="list-style-type: none"> • The predominant native soils are coarse granular and uncohesive which are assumed to have a permeability of > 0.5 inches/hour.

Treatment BMPs

The SUSMP requirements mandate that treatment controls address the pollutants of concern, which are defined in the SUSMP Manual as consisting of any pollutants that exhibit one or more of the following characteristics:

- current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water,
- elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or

- the detectable inputs of the pollutant are at concentrations or loads considered potentially toxic to humans and/or flora and fauna.

These parameters were considered in defining pollutants of concern for this analysis. Pollutants of concern for the project are discussed in the next section.

Treatment controls included in the project would consist of extended detention basins and biofiltration (linear vegetated swales and biofiltration areas) and a Continuous Deflective Separator (CDS) unit at the intersection of Golden Valley Road and Newhall Ranch Road (K-12, defined below). Generally, infiltration basins and wetlands are among the most effective treatment BMPs. However, these approaches have been deemed unsuitable for the Proposed Project due to space and hydrologic constraints.

The proposed treatment approaches for the catchments on the developed project site are listed in Table V.H-7. These 12 individual catchments are labeled as KS-1 through KS-12 and are shown on Figure V.H-4. Extended detention basins and biofiltration BMPs were selected as the primary treatment BMPs. The advantages of these systems are that they incorporate natural treatment processes, provide some infiltration, have low to moderate maintenance requirements, and provide effective treatment for most pollutants of concern. Extended detention basins would be used to treatment runoff from Golden Valley Road and a small area of adjacent re-graded open space. Bio-retention facilities would be used to treat runoff from the multi-family lots (KS-3, KS-5, KS-6, KS-11) and the impervious areas in the school (KS-8) and the recreational area (KS-9). Vegetated swales are proposed to treat runoff from I-Street (KS-10) and the main access road to the single-family residential area.

**Table V.H-7
Stormwater Treatment Approaches for the Proposed Project**

Catchment	Proposed Land Use	Area (acres)	Proposed Stormwater Treatment
KS-1	Single-Family Residential	23.7	Extended detention basin
KS-2	Open space area and emergency access road	7.5	Extended detention basin
KS-3	Lot 1 Multi-Family Townhouses	15.5	Bioretention
KS-4	Golden Valley Road, Ermine Street extension, open space	8.6	Extended detention basin
KS-5	Lot 3 Multi-Family Townhouses	12.6	Bioretention
KS-6	Lot 4 Multi-Family Apartments	12.7	Bioretention
KS-7	Golden Valley Road	6.6	Extended detention basin
KS-8 + KS-9	School + Recreation and parking and open space	29.5	Vegetated swales for fields and landscaped areas; bioretention for impervious areas (buildings, hard courts, and parking lots)
KS-10 + KS-2	"I" Street + Main access road in KS-2	14.6	Vegetated swales

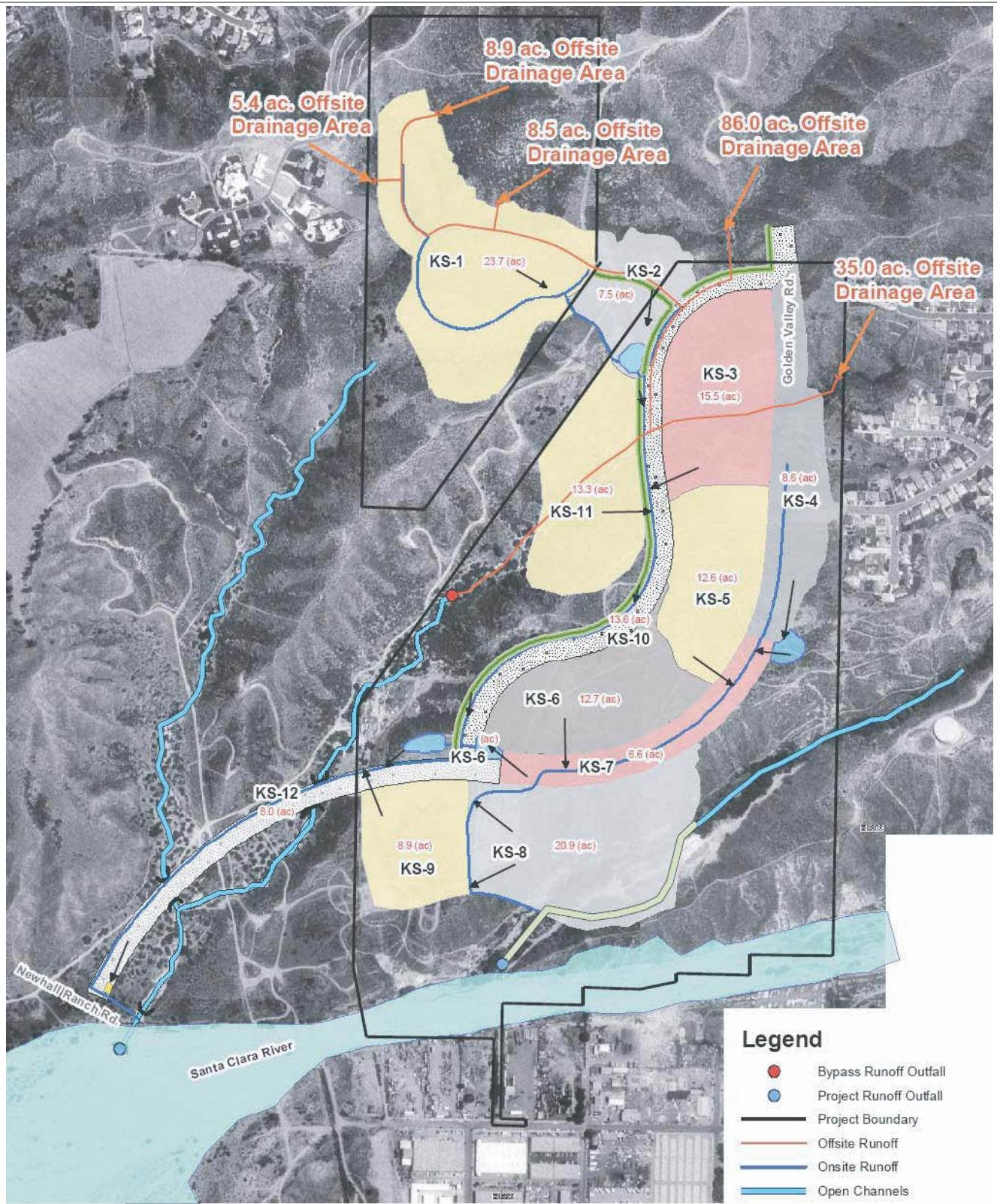
Table V.H-7
Stormwater Treatment Approaches for the Proposed Project

Catchment	Proposed Land Use	Area (acres)	Proposed Stormwater Treatment
KS-11	Lot 2 Multi-Family Townhouses	13.3	Bioretention
KS-12	Golden Valley Road	8.0	CDS Unit

The proposed stormwater treatment BMPs listed in the above table are described as follows:

Extended Detention Basins: Detention basins store stormwater runoff for sufficient periods of time to promote the removal of pollutants through sedimentation. Sedimentation is the primary mechanism for reduction of pollutant loads. Water quality basins are usually sized to capture a water quality design volume and retain the design volume for a period, generally between 36 and 48 hours, which promotes settling of particulates and removal of nutrients, heavy metals, some pesticides, and other pollutants bound to the sediment. The extended detention basins will incorporate dry extended detention to provide water quality treatment for storm flows. Trash racks would be installed on the inlets into the extended detention basins to aid in capturing trash and debris. Dry extended detention basins are designed with outlets that detain the runoff volume from the water quality design storm for some minimum time (in this case, 48 hours) to allow particles and associated pollutants to settle out. The extended detention basins will also incorporate wetland vegetation in a low flow channel in the bottom of the basin for the treatment of dry weather flows and small storm events. Wetland vegetation provides one of the most effective methods for pollutant removal. As runoff flows through the wetland vegetation, pollutant removal is achieved through settling and biological uptake of nutrients and dissolved pollutants within the vegetation. These basins are not designed or anticipated to contain ponded, standing water for periods in excess of 48 hours.

- **Vegetated Swales:** Vegetated swales are engineered vegetation-lined channels that provide water quality benefits in addition to conveying stormwater runoff. Swales provide pollutant removal through settling and filtration in the vegetation (often grasses) lining the channels and also provide the opportunity for volume reductions through infiltration and evapotranspiration. Swales are most effective where longitudinal slopes are small (two to six percent), thereby increasing the residence time for treatment, and where water depths are less than the vegetation height.



Source: GeoSyntec Consultants, Inc., June 2005



CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

Figure V.H-4
Drainage Concept Map

- **Bioretention devices:** Bioretention areas are proposed for multi-family residential areas and the school and YMCA facilities. Bioretention is designed to provide volume reduction through infiltration and evapotranspiration and water quality treatment through infiltration into the subsurface. Bioretention removes stormwater pollutants through physical and biological processes, including adsorption, filtration, plant uptake, microbial activity, decomposition, sedimentation, and volatilization. Adequate contact time between the surface and pollutant must be provided for in the design of the system for this removal process to occur.

Based on the geology of the project site, the native and developed (cut and filled) soil permeability in the project tract area is assumed to be greater than 0.5 inch/hour, and the depth to ground water is assumed to be greater than six feet at all potential bioretention sites. Under these conditions, design criteria in the LACDPW Technical Manual indicate that under drains in the bioretention facility to collect the treated stormwater and discharge to the MS4 are not required. With no under drains, all stormwater that is put through the bioretention area is removed through evaporation, transpiration, and/or infiltration into the subsurface. This provides for greater reduction in runoff volume and associated pollutant loads. The facilities are equipped with overflow devices that will drain excess runoff from large storms to the storm sewer.

- **CDS units:** A CDS unit is planned to treat runoff from the lower section of Golden Valley Road (KS-12). The CDS unit would be located under the street right-of-way near the junction with Newhall Valley Road. CDS units are in-line structures that reduce or manipulate runoff velocities such that particulate matter falls out of suspension and settles in a collection chamber. Typically, these units have an outlet designed to discharge from below the water surface which allows floatable trash, oils, and grease to be collected in the unit as well.

Proposed Project Hydrologic and Hydromodification Impacts Control Design Features

Hydromodification PDFs included in the Proposed Project consist of the following:

- Volume control PDFs for Drainages A, B, and C would route runoff from all development areas away from these drainages and to the Santa Clara River to avoid erosion and downcutting in the preserved natural portions of Drainages A, B, and C.
- The project's treatment control BMPs would also serve as hydromodification control BMPs. Vegetated swales and extended detention basins can provide volume reduction on the order of 30 to 35 percent through infiltration and evaporation (smaller more conservative values were used in the pollutant loads model). The project also includes extensive use of bioretention facilities in the multi-family residential areas, the school site, and the YMCA site. The bioretention facilities are sized to capture and treat 80 percent of the average annual stormwater runoff and are designed without underdrains. Thus, all water captured in these facilities would

be effectively removed from the project's stormwater discharges. Collectively these vegetated treatment facilities are expected to provide significant reduction in wet weather runoff. In addition, these facilities would also receive and help to eliminate dry weather flows and pollutant loads associated with dry weather flows.

- Site design PDFs that help to reduce the increase in runoff volume include routing of roof runoff to vegetated areas, use of native and drought tolerant plants in landscaped areas, and the use of efficient irrigation systems in common area landscaped areas. Routing roof runoff to vegetated areas can help reduce the volume of stormwater runoff through infiltration and evapotranspiration (i.e. soil soaking and drying). Use of native vegetation can help to reduce irrigation demand, and the use of efficient irrigation systems can help to reduce the quantity of irrigation. Both can eliminate dry weather flow impacts to riparian habitat, and at the same time eliminate pollutant loads associated with dry weather discharges.
- Erosion protection is proposed for outlet areas near the Santa Clara River where discharges have the potential to cause stream erosion. Erosion protection would be provided at all storm drain outlets to the Santa Clara River.
- The current Los Angeles County Interim Peak Flow Standard requires that all post-development runoff from a 2-year, 24-hour storm not exceed the pre-development peak flow rate, based, from a 2-year, 24-hour storm when the pre-development peak flow rate equals or exceeds five cfs. Peak flow control of 2-year, 24-hour storm event would be achieved through appropriate sizing of the detention basin outlets and through detention and runoff volume reduction occurring in the bioretention areas. The design and size of the detention basins and bioretention areas will be finalized during the design stage by the project engineer as part of the final hydrology study, which will be reviewed and approved by the City of Santa Clarita to ensure consistency with this analysis prior to issuance of a final grading permit.
- To assure that it complies with any new peak or other design flow standards that may be adopted in the future, the project will be conditioned to require, as a design feature, sizing and design of the hydraulic features (i.e., oversized pipes) as necessary to control the post-development runoff rates as necessary to meet numeric flow criteria that may be adopted from time to time by the LACDPW under Part 4, § D.1 of the MS4 Permit.

Sizing of Structural BMPs

Sizing criteria for volume-based and flow-based BMPs utilized for the project comply with SUSMP Manual Appendix A "Volume and Flowrate Calculations." For volume-based BMPs (detention basins), the Water Environment Federation (WEF) sizing approach was used in conjunction with a locally representative design storm depth of 1.16 inches. Use of the local rainfall data is expected to provide a more accurate representation of the local runoff conditions. Analysis shows that volume-

based BMPs sized in accordance with the WEF methodology provides treatment for approximately 80 percent of the average stormwater runoff (i.e., average percent capture) based on Newhall rain gauge data.

For flow-based BMPs (swales), a design rainfall intensity of 0.3 inches/hr was used. Analysis of precipitation records shows that a design intensity of 0.3 inches results in treatment of more than 90 percent of the average runoff volume. Appendix 7-C describes the approach and rationale for selecting these sizing criteria. Treatment BMPs used in the Proposed Project were sized to determine initial, planning-level dimension and volume requirements and to develop sizing information needed for the water quality assessment. Appendix 7-C describes the assumptions and criteria used to determine the preliminary BMP sizes and presents results of the preliminary sizing calculations. The size and configuration of the treatment BMPs would be finalized during the design stage by the project engineer with the final hydrology study. Final sizing calculations would be approved to ensure consistency with this EIR analysis prior to issuance of a final grading permit.

BMP Maintenance

The HOA would be responsible for the inspection and maintenance of treatment BMPs within their boundaries (detention pond in the single-family residential area, and the bioretention facilities in the multifamily residential developments). The HOAs would also be responsible for maintenance of the upstream debris walls, debris basins, and the storm drains to bypass the upstream off-site runoff. Similarly, the property owners of the school and YMCA would be responsible for the inspection and maintenance of bioretention areas and vegetated swales on their properties. At present, it is anticipated that the County would be responsible for the inspection and maintenance of the swales, detention ponds, and CDS unit that treat runoff from the major public arterial roads.

Table V.H-8 lists the potential operation and maintenance (O&M) activities for the treatment control PDFs and the frequencies at which O&M activities would be conducted. It should be noted that, because none of the treatment control BMPs would result in ponding of water for a period greater than 48 hours, no vector control problems are anticipated, and therefore no vector control maintenance requirements are expected.

Table V.H-8

Potential Operation and Maintenance (O&M) Activities for the Treatment Control PDFs

Treatment Control BMP	Operation & Maintenance Category	Activities	Frequency	Typical Maintenance Equipment
Extended Detention	Routine Facility Maintenance	<ul style="list-style-type: none"> • Facility inspection • Trash and debris removal 	<ul style="list-style-type: none"> • Annually prior to wet season. • After major storm 	<ul style="list-style-type: none"> • Pickup truck • Stake bed truck

Table V.H-8**Potential Operation and Maintenance (O&M) Activities for the Treatment Control PDFs**

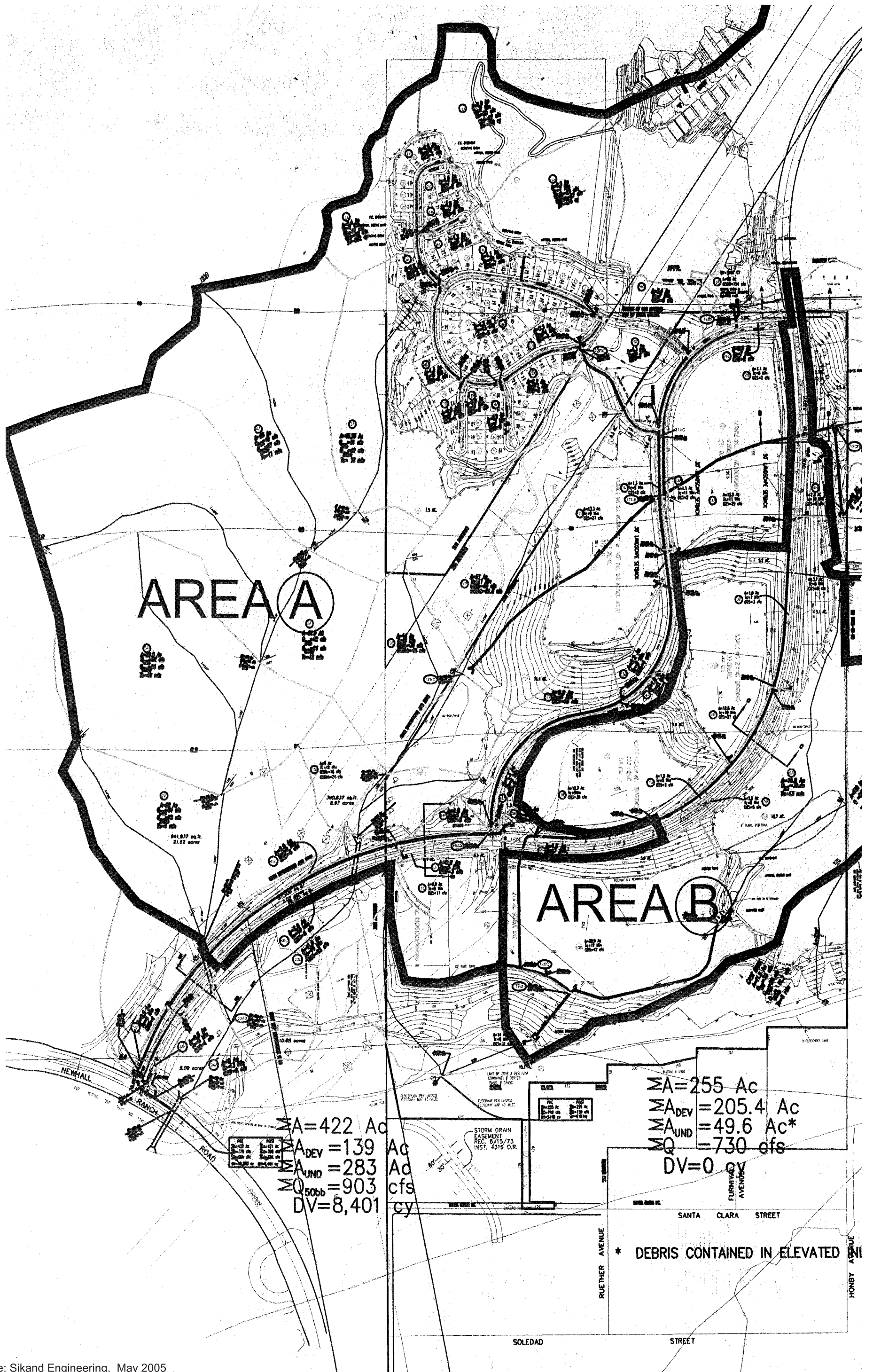
Treatment Control BMP	Operation & Maintenance Category	Activities	Frequency	Typical Maintenance Equipment
Basin		<ul style="list-style-type: none"> Minor sediment removal 	<ul style="list-style-type: none"> events (>0.75 in/24 hrs) if spot checks of some basins indicate widespread damage/maintenance needs. Remove minor sediment accumulation from inlet or outlet when affecting inlet/outlet conditions. 	<ul style="list-style-type: none"> Backhoe/ dump truck
	Vegetation/ Landscape Maintenance	<ul style="list-style-type: none"> Integrated pest/plant management Minor vegetation removal/ thinning Irrigation system adjustment if applicable 	<ul style="list-style-type: none"> Monthly (or as dictated by agreement between HOA and landscape contractor) 	<ul style="list-style-type: none"> Pickup truck Stake bed truck
	Major Maintenance	<ul style="list-style-type: none"> Structural repairs Major vegetation removal/ planting Major sediment removal 	<ul style="list-style-type: none"> As needed (infrequently) Major sediment removal as needed; approximately every 10 years. 	<ul style="list-style-type: none"> Pickup truck Backhoe/ dump truck Crane/crew truck
Vegetated Swales	Routine Facility Maintenance	<ul style="list-style-type: none"> Facility inspection Trash and debris removal Minor sediment removal Vector Control 	<ul style="list-style-type: none"> Annually prior to wet season. After major storm events if spot checks indicate need for maintenance needs. 	<ul style="list-style-type: none"> Pickup truck
	Vegetation/ Landscape Maintenance	<ul style="list-style-type: none"> Integrated Pest/Plant Management Minor Vegetation Removal/ Thinning 	<ul style="list-style-type: none"> Monthly (or as dictated by agreement between HOA and landscape contractor) 	<ul style="list-style-type: none"> Pickup truck Stake bed truck
	Major Maintenance	<ul style="list-style-type: none"> Major vegetation removal/ planting Major sediment removal 	<ul style="list-style-type: none"> As required (annually or less frequently) 	<ul style="list-style-type: none"> Pickup truck Stake bed truck
Bioretention	Routine Facility Maintenance	<ul style="list-style-type: none"> Facility inspection Trash and debris removal Vector Control 	<ul style="list-style-type: none"> Annually prior to wet season. After major storm events if spot checks indicate need for maintenance needs. 	<ul style="list-style-type: none"> Pickup truck
	Vegetation/	<ul style="list-style-type: none"> Integrated 	<ul style="list-style-type: none"> Monthly (or as dictated 	<ul style="list-style-type: none"> Pickup truck

Table V.H-8**Potential Operation and Maintenance (O&M) Activities for the Treatment Control PDFs**

Treatment Control BMP	Operation & Maintenance Category	Activities	Frequency	Typical Maintenance Equipment
	Landscape Maintenance	Pest/Plant Management <ul style="list-style-type: none"> • Minor Vegetation Removal/ Thinning 	by agreement between HOA and landscape contractor)	<ul style="list-style-type: none"> • Stake bed truck
	Major Maintenance	<ul style="list-style-type: none"> • Major vegetation removal/ planting • Major sediment removal 	<ul style="list-style-type: none"> • As required (annually or less frequently) 	<ul style="list-style-type: none"> • Pickup truck • Stake bed truck
CDS Unit	Routine Facility Maintenance	<ul style="list-style-type: none"> • Facility inspection • Trash and debris removal • Sediment Removal 	<ul style="list-style-type: none"> • Annually prior to wet season 	<ul style="list-style-type: none"> • Pickup truck • Vactor Truck
	Major Maintenance	<ul style="list-style-type: none"> • Structural repairs 	<ul style="list-style-type: none"> • As needed (infrequently) 	<ul style="list-style-type: none"> • Pickup truck • Backhoe/ dump truck • Crane/crew truck • Road construction equipment

Proposed Project Drainage Impacts

Figure V.H-5 provides an illustration of the developed site's hydrologic conditions. Figure V.H-4 illustrates the drainage concept for the Proposed Project. The project's drainage and hydrologic analysis was based on a conceptual design for the conveyance of all drainage from the developed portion of the project site to the proposed storm drain inlets within the proposed development area. These drainage facilities would convey drainage directly into the Santa Clara River at two locations (outlets of Drainage Areas 1 and 2, shown as "Area A" and "Area B", respectively, on Figure V.H-5). No discharges to Drainages A, B, or C from developed areas would occur. Peak flows for each sub-area for both pre- and post-development conditions were calculated using LACDPW's new Time of Concentration calculator to determine times of concentration, which were then input into the Modified Rational Program (MORA). The results for these calculations for pre- and post-development conditions are included in Appendix 7-A, as are drawings with all sub areas colored. The watershed area that is tributary to the river in the existing condition (677 acres) would remain the same after project construction. The peak burned and bulked runoff from the site (Q_{50BB}) would be reduced from 2,690.4 cfs to 2,265.6 cfs due to the construction of upstream debris basins.



Source: Sikand Engineering, May 2005

Runoff from a 35-acre off-site upstream tributary area east of the project site near Ermine Street currently discharges to Drainage B. Runoff from this off-site area would be bypassed through the development and discharged to a point further downstream in Drainage B. This off-site runoff would be conveyed in a dedicated storm drain that is separate from the on-site storm drain system. Similarly, there are approximately 86 acres of upstream off-site tributary area north of KS-3 that are currently tributary to Drainage B. Runoff from this area would also be bypassed through the proposed development in a dedicated storm drain and discharged to Drainage B down gradient from the development.

Runoff from off-site open space areas to the north and west of the single-family residential area KS-1 (a total of 22.8 acres) is currently discharged to Drainage A. After project development, runoff from this area would be collected in the on-site storm drain network and conveyed to the discharge location on the Santa Clara River. Runoff from on-site development areas would be treated prior to collection in the on-site storm drain network. Thus, the storm drain network is designed to ensure that on-site runoff is treated prior to commingling with the untreated runoff from upland off-site areas.

Implementation of the Proposed Project would alter the natural drainages on-site through the rechannelization of flow, modification of slopes during grading, and creation of impervious surfaces. The existing on-site drainages are tributaries to the Santa Clara River, as would be the post-construction drainage system. A portion of the natural drainages provided by the tributary canyons within the development area would be filled during project grading to support the proposed building pads. The development would increase the amount of runoff from those areas of the site that would be covered by roads, buildings, paved parking areas, and other relatively impermeable or impervious features. Specifically, impervious surfaces on the site would increase the amount of clear flow runoff from the site, while burned and bulked runoff and debris volumes would be reduced because the developed portions of the site would be over-covered with impervious surfaces and non-erodible vegetation, and because debris basins that would reduce the amount of debris and sediment in the runoff are proposed at upstream locations.

The post-development runoff quantities provided in Table V.H-9 would total 1,383 cfs for the tributary area during a 50-year storm. A comparison of this table with Table V.H-1 containing pre-development runoff quantities demonstrates that clear flows would increase by 7 percent over existing conditions. Burned and bulked flows being discharged from the site would total 1,706 cfs, which is a 14.1 percent reduction when compared to pre-development conditions. This reduction in burned and bulked flows is largely the result of the proposed upstream debris basins that would capture upstream bulk flows and allow debris to settle out from the runoff before it enters the storm system through the developed portion of the site. As a result, there would be a net decrease in runoff and the project would not result in downstream flooding. As the Santa Clara River does not currently flood under existing runoff

conditions from the site, a decrease in site runoff would not alter the conclusion that site runoff does not cause an exceedance of river capacity.

**Table V.H-9
Hydrology Summary – Post-Construction Conditions**

Drainage Area	Acreage	Runoff Volumes (cfs)	Runoff Volumes (Burned and Bulked) (cfs)	Debris Volume (cy)
1 (Drainages A and B)	421	653	976	8,401
2 (Drainage C)	255	730	730	0
Totals	676	1,383	1,706	8,401

Furthermore, since storm flows from off-site upstream areas would be channeled through the site in facilities designed for the 50-year capital storm, and since on-site runoff would be accommodated in facilities designed for the 25-year urban storm pursuant to LACDPW requirements, no on-site or upstream flooding resulting from inadequately designed storm drainage facilities would occur.

Proposed Project Water Quality Impacts

Post-Construction Water Quality Impacts

Analytical Approach and Modeling

Pollutants of concern consist of any pollutants that exhibit one or more of the following characteristics: (1) current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, (2) elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or (3) the detectable inputs of the pollutant are at concentrations or loads considered potentially toxic to humans and/or flora and fauna. The pollutants of concern for the water quality analysis are those that are anticipated or potentially could be generated by the project, based on water quality data collected in Los Angeles County from land uses that are the same as those proposed by the project. Identification of pollutants of concern for the project considered proposed land uses, current 303(d) listings, and TMDLs in the Santa Clara River, as well as pollutants that have the potential to cause toxicity or bioaccumulate in the project's receiving waters.

The following pollutants were chosen as pollutants of concern for purposes of evaluating water quality based upon the above considerations:

- **Sediments (TSS and Turbidity):** The excessive erosion, transport, and deposition of sediment in surface waters are a significant form of pollution resulting in major water quality problems. Sediment (or more strictly, suspended sediment) is a pollutant of concern because it is common component of stormwater, can be a pollutant, and can transport other pollutants that are attached to sediment particles such as nutrients, trace metals, and hydrocarbons. Sediment is the primary component of total suspended solids (TSS), which is a common water quality parameter of stormwater runoff.
- **Nutrients (Phosphorous and Nitrogen):** Nutrients are inorganic forms of nitrogen and phosphorus. Inorganic forms of nitrogen include nitrate, nitrite, and ammonia. Organic forms of nitrogen are associated with vegetative matter such as particulates from sticks and leaves. Total kjeldahl nitrogen (TKN) is a measure of organic nitrogen (vegetative matter) plus ammonia nitrogen. Total nitrogen (TN) is a measure of all nitrogen compounds present, including inorganic and organic forms. Nitrate and TKN are the majority fractions of the total nitrogen levels typically found in urban runoff. Nutrients are biostimulatory substances that can cause excessive or accelerated growth of vegetation, such as algae, in receiving waters. Eutrophication due to excessive nutrient input can lead to changes in algae, benthic, and fish communities; extreme eutrophication can cause hypoxia or anoxia, resulting in fish kills. Surface algal scum, water discoloration, and the release of toxins from sediment can also occur. Nutrients (nitrogen forms, phosphorus) are pollutants of concern because they are common pollutants in stormwater runoff from urban areas and because downstream reaches of the Santa Clara River have been identified as impaired by various nutrient compounds. The main sources of nutrients in urban runoff are fertilizers used on lawns and landscape areas. Other sources include pet waste, failing septic systems, and atmospheric deposition from industry and automobile emissions. Various downstream reaches of the Santa Clara River are identified as impaired by ammonia and nitrate- plus nitrite-nitrogen. Evidence of impairment includes low diversity of benthic macroinvertebrates and observations of excessive algae growth. A source analysis found that the majority of ammonia and nitrate/nitrite loads are from point sources; primarily water reclamation plants. Sources from municipal storm sewers are considered a minor source, but have the potential to cause significant local effects on water quality. TMDLs have been developed and adopted in the Basin Plan for nitrogen compounds, including nitrate/nitrite and ammonia.
- **Trace Metals (Copper, Lead, and Zinc):** Metals including copper lead, zinc, cadmium, chromium, mercury, and nickel are often found in stormwater. In high enough concentrations, metals in runoff can be toxic to aquatic organisms, and can potentially contaminate groundwater. High metal concentrations can lead to bioaccumulation in fish and shellfish and can affect beneficial uses of receiving waters. The metals of copper, lead, and zinc are pollutants of concern because they are associated with automobiles and may be found in urban stormwater runoff. Other trace metals, such as cadmium, chromium, and mercury, are

typically not detected in urban runoff or are detected at very low levels. Sources of trace metals in urban runoff are artificial surfaces such as galvanized metals, automobiles, or preserved wood. Metals are also found in fuels, adhesives, paints, and other coatings.

- Pathogens (Bacteria, Viruses, and Protozoa): Elevated pathogens are typically caused by the transport of animal or human fecal wastes from the watershed. Runoff that flows over land such as urban runoff can mobilize pathogens, including bacteria and viruses. Even runoff from natural areas can contain pathogens (e.g., from wildlife). Sources of pathogens in urban areas include pets and leaky sanitary sewer pipes. The presence of pathogens in runoff can impair receiving waters and contaminate drinking water sources. Because of the difficulty in measuring pathogens directly, an indicator organism such as fecal coliforms has been used to indicate pathogen presence. Fecal indicator bacteria are a constituent of concern because they are routinely found at high concentrations in stormwater and because the SCR Reach 7 is identified as impaired by high fecal coliform counts from point and nonpoint sources. Recently, the scientific community has questioned the use of indicator organisms, as scientific studies have shown poor correlation between indicator and pathogen levels and therefore may not indicate a significant potential for causing human illness. Despite this, fecal indicator bacteria are still the preferred monitoring parameter and are specified in water quality criteria and TMDLs. Fecal indicator bacteria are a constituent of concern because they are routinely found at high concentrations in stormwater and because the SCR Reach 7 is identified as impaired by high fecal coliform counts from point and nonpoint sources.
- Petroleum Hydrocarbons (Oil and Grease and PAHs): The sources of oil, grease, and other petroleum hydrocarbons in urban areas include accidental or illicit spillage of fuels and lubricants, road runoff, discharge of domestic and industrial wastes, leachate from asphalt roads, tire wearing, and deposition from automobile exhaust. Some petroleum hydrocarbons, such as polycyclic aromatic hydrocarbons (PAHs), can bioaccumulate in aquatic organisms from contaminated water, sediments, and food and are toxic to aquatic life at low concentrations. Hydrocarbons can persist in sediments and result in adverse impacts on the diversity and abundance of benthic communities. Hydrocarbons can be measured as total petroleum hydrocarbons (TPH), oil and grease, or as individual groups of hydrocarbons, such as PAHs.
- Pesticides: Pesticides (including herbicides, insecticides and fungicides) are chemical compounds commonly used to control insects, rodents, plant diseases, and weeds. Application of a pesticide may result in runoff containing toxic levels of its active component. The pesticides encountered in urban runoff usually are of two types: organochlorine pesticides or organophosphorus pesticides, the former being associated with persistent bioaccumulative pesticides (e.g., DDT and other legacy pesticides) which have been banned. Organophosphorus pesticides include diazinon and chlorpyrifos which are commonly

encountered urban pesticides and whose uses also are being restricted by EPA. The Santa Clara River estuary, approximately 45 miles downstream of the project site, is listed as impaired for legacy pesticides.

- **Trash and Debris:** Trash (such as paper, plastic, polystyrene packing foam, and aluminum materials) and biodegradable organic debris (such as leaves, grass cuttings, and food waste) are general waste products on the landscape that can be entrained in urban runoff. The presence of trash and debris may have a significant impact on the recreational value of a water body and aquatic habitat.
- **Bioaccumulation:** Certain pollutants, such as pesticides, selenium, and mercury, have a tendency to bioaccumulate in aquatic organisms. The Basin Plan contains a toxicity objective prohibiting discharges of toxic substances at levels that bioaccumulate in aquatic resources to levels harmful to human health. Additionally, concentrations of toxic substances are not to adversely affect beneficial uses.
- **Chloride:** High levels of chloride in downstream Santa Clara River reaches are causing impairment of listed beneficial uses for agricultural irrigation and groundwater recharge. Irrigation of salt sensitive crops such as avocados and strawberries with water containing elevated levels of chloride results in reduced crop yields.
- **Methylene Blue Activated Substances (MBAS):** Common MBAS are detergents incidentally found in urban runoff due to commercial and/or residential vehicle washing or other outdoor washing activities. Detergents are surfactants (surface active substances) that when discharged to natural waters disturb the surface tension so as to affect insects and can adsorb and affect gill functions in some aquatic organisms.
- **Hydromodification:** Runoff from development can potentially alter the hydrologic character of streams by accelerating streambed erosion or changing the riparian habitat in a way that adversely affects beneficial uses. Stream channel morphology is established through a balance between the imposed flow energy and the ability of the channel to resist erosion, as well as transport the available sediment load from its watershed through the stream system. A natural stream channel is defined as “stable” when its cross section, plan form, and profile features are maintained over time such that the stream neither aggrades, degrades, or changes in dimension or meander pattern; at least during the present climatic regime. Urbanization can modify the natural watershed and stream hydrologic and geomorphic processes by introducing impervious surfaces and drainage infrastructure into a watershed. Potential changes to the hydrologic regime may include increased runoff volumes, frequency of runoff events, long-term cumulative duration, as well as increased peak flows. Urbanization may also introduce dry weather flows where only wet weather flows existed prior to development. These changes are referred to as “hydromodification.” Hydromodification intensifies sediment transport and often

leads to stream channel enlargement and loss of habitat and associated riparian species. Under certain circumstances, development can also cause a reduction in the amount of sediment supplied to the stream system, which can lead to channel incision and widening. These changes also have the potential to impact downstream channels and habitat integrity. A project that increases runoff due to impervious surfaces and traps sediment from upland watershed sources creates compounding effects. A change to the project site's hydrologic regime would be considered a condition of concern if the change would have a substantial adverse effect on the stability of downstream natural channels or their habitat integrity, alone or in conjunction with impacts of other projects. Drainages A, B and C are potentially sensitive to hydromodification in the form of increased erosion by higher and more frequent flows and by changes in habitat from increases in dry weather flows. These sensitivities are addressed in terms of Proposed Project PDFs. The Santa Clara River may also be sensitive to increased flows, and it has also been addressed in this analysis in the context of the total upstream watershed and potential cumulative impacts.

A water quality model was used to estimate pollutant loads and concentrations for certain pollutants of concern for pre-development conditions, post-development conditions, and post-development conditions with PDFs. The model is an empirical, land-use based, pollutant loading model that is appropriate for planning level assessment. The model used in this work was developed in a spreadsheet format and utilized available stormwater monitoring and rainfall data, as well as a relationship for the prediction of runoff volumes. The model is capable of estimating changes in runoff volumes, pollutant loads, and resulting pollutant concentrations that may occur with changes in land-use and/or implementation of treatment BMPs. A detailed description of the water quality model is presented in Appendix 7-C. It should be noted that, for reasons outlined in detail in Appendix 7-C, the modeling results are conservative and tend to overestimate pollutant loads and concentrations.

The pollutants of concern for which there are sufficient flow composite sampling data in the Los Angeles County database include Total Suspended Solids (sediment), Total Phosphorus, Nitrate+Nitrite-Nitrogen, Ammonia, TN, Dissolved Copper, Total Lead, Dissolved Zinc, and Chloride. These pollutants were addressed quantitatively using the pollutant loads model to estimate stormwater pollutant concentrations and loads under the pre- and post-development conditions. The other pollutants of concern were addressed based on literature information and professional judgment because available data were not deemed sufficient for modeling, including Turbidity, Pathogens (Bacteria, Viruses, and Protozoa), Hydrocarbons (Oil and Grease, PAHs), Pesticides, Trash and Debris, Bioaccumulation, MBAS, Temperature, Dry Weather Flows, and Hydromodification.

Analysis Results

Detailed results of the water quality modeling effort are contained in Appendix 7-C in a series of tables showing predicted mean annual pollutant loads (lbs/yr) and mean annual concentrations. Projections

were made for two conditions: (1) existing condition and (2) developed condition with the PDFs. Note that the developed condition modeling results account for pollutant reductions achieved by the treatment PDFs only and do not account for additional pollutant reductions that would occur due to the site design and source control PDFs. Following the tables comparing pre- and post-development water quality loads and concentrations for each constituent is a table comparing the post-development runoff quality to the benchmark water quality objectives and criteria. Water quality measured in the Santa Clara River is also included on these tables to provide comparison to the modeled post-developed condition runoff quality. The results of this modeling and analysis are summarized below.

Quantitative and qualitative analyses support the following conclusions regarding the potential impact of the Proposed Project on the pollutants of concern in stormwater runoff, as well as on other conditions that have the potential to affect water quality in the project receiving waters (SCR Reach 7):

- **TSS.** Model estimates indicate that conversion from open to urban land-uses (with treatment) would reduce the average TSS concentration and the average annual load in stormwater runoff from the project site despite the estimated increase in the average annual stormwater runoff volume. PDFs include site design, source control, and treatment control BMPs in compliance with the requirements of the SUSMP, but only treatment control BMPs have been modeled. Site design PDFs include the preservation of open space, which will continue to provide higher levels of sediment to receiving waters than the permanently stabilized development areas. The project's introduction of impervious surface, combined with the proposed treatment BMPs, will effectively reduce TSS in the runoff from the proposed development. The estimated TSS concentration declines with development and is generally at the low end of range of observed concentrations in SCR Reach 5. Therefore, consistent with the Basin Plan objective, the TSS levels in stormwater runoff from the project would not cause a nuisance or adversely affect beneficial uses in the receiving waters. Based on the effective combination of source control, site design and treatment BMPs proposed, and in light of reduced loads and concentrations that are well below benchmark standards, project TSS impacts would be less than significant.
- **Nutrients.** Total phosphorus (TP) concentrations and loads in stormwater runoff are estimated to increase from existing conditions. These increases are associated with increased runoff volumes and higher event mean concentrations (EMCs) in the proposed urban land uses in comparison with the existing open space conditions. There are no numeric objectives for TP in the Basin Plan. A narrative objective for biostimulatory substances in the Basin Plan states: "waters shall not contain biostimulatory substances in concentrations that promote algal growth to the extent that such growth causes nuisance or adversely affects beneficial uses." Projected increases in TP concentration and loads in stormwater discharges from the project area are not expected to cause a violation of the narrative objective for biostimulatory substances for the following reasons:

1. *Ephemeral conditions do not support sustained growth of algae.* The receiving waters of the project area stormwater discharges in the SCR Reach 7 are ephemeral, only conveying flows for short periods following storm events. Such conditions do not support the sustained growth of algae.
2. *Source and treatment control will reduce phosphorus loads from the project.* Hydrologic source controls such as diversion of roof top runoff into yards and vegetated areas, and the infiltration of runoff from graded lots into on-site permeable soils will contribute to load reductions of TP. Treatment controls included in the project, especially the vegetated BMPs including swales and bioretention areas will substantially reduce TP loads from the project. Model estimates described in Appendix 7-C indicate that treatment controls will remove about 45 pounds of TP on an average annual basis.
3. *Estimated TP concentration in project discharges are comparable to historical levels.* Consideration of TP concentrations and loads in the SCR supports the proposition of no impact. There are no listed impairments in the SCR due to elevated phosphorus. Therefore, existing phosphorus levels in receiving waters in the SCR Reach 7 do not currently impair beneficial uses. Limited historical water quality data from receiving waters in the SCR Reach 7 (at Lang about nine miles upstream of the project) indicate that average TP levels are about 0.1 mg/L, and range between 0.01-8.3, while substantially larger concentrations were measured about three miles downstream of the project tract area at Bouquet Canyon Road. Recent data collected at the LACDPW mass emission station about five downstream of the project indicate wet weather TP concentration in the range of 0.3-0.45 mg/L. Thus, the estimated average TP concentration in the project area discharges is smaller than the historical levels in downstream receiving waters in the SCR, and comparable to recent levels measured downstream of the project receiving waters. If it is reasonably assumed that current TP levels in the project receiving waters range between levels at the LACDPW mass emission station and the historical levels in the SCR Reach 7 at Bouquet Canyon, then it logically follows that estimated TP concentrations in project area discharges would not be expected to impair beneficial uses, as no such impairments are presently identified.
4. *Loading increase is negligible in the context of existing levels.* A nutrient source identification and characterization study conducted as part of the TMDL analysis included a phosphorus loading evaluation. An average total daily, in-stream loading rate of 44 kg/d P was estimated for the SCR Reach 7. Using this value, the total annual phosphorus load from all sources to the SCR Reach 7 is approximately 35,000 lbs, which load is not adversely affecting beneficial uses of the SCR. The Proposed Project is estimated to increase annual phosphorus loads by about 33 pounds, which represents about 0.1 percent

of the total annual loads to Reach 7. The loading increase is negligible in light of existing loads.

For these reasons, and based on the comprehensive site planning, source control, and treatment BMPs, TP concentrations and loads from the project area comply with the narrative objective in the Basin Plan. Therefore, impacts to water quality are predicted to be less than significant.

With respect to nitrogen compounds, model estimates indicate that average runoff concentrations of nitrate-nitrogen would decrease, while average concentrations of total nitrogen and ammonia would increase with the proposed conversion from open-space to residential land-uses. The increases in levels of total nitrogen is largely the result of increases in particulate nitrogen (i.e. vegetative matter) as measured by TKN. Due to the increase in average annual runoff volumes, model estimates indicate that average annual loads of nitrate+ nitrite-nitrogen, ammonia and total nitrogen would increase with the proposed development. The Basin Plan objective for nitrate+ nitrite nitrogen in receiving waters in the SCR Reach 7 is 5.0 mg/L. The estimated average nitrate+ nitrite-nitrogen concentration in stormwater discharges from the project areas is 0.89 mg/L, which is well below the Basin Plan objective of 5.0 mg/L for the SCR Reach 7. The Basin Plan objective for ammonia is temperature and pH dependent. For comparison purposes, a representative 30-day ammonia objective of 2.2 mg/L was considered, which is more stringent than the one-hour objective, even though storm flows in the ephemeral receiving waters in the SCR occur for periods far less than 30-days. The predicted ammonia concentration in stormwater runoff (0.33 mg/L) is well below the 30-day Basin Plan objective and is even further below the one-hour objective, which is the more applicable standard for the short-term storm flows. The modeling predicts an increase in TN levels. There are a number of reasons why this is expected to result in impacts that are less than significant. First, the narrative objective for biostimulatory substances in the Basin Plan states: "waters shall not contain biostimulatory substances in concentrations that promote algal growth to the extent that such growth causes nuisance or adversely affects beneficial uses." There are no numeric objectives for TN in the Basin Plan. TN levels in project discharges are not expected to breach this narrative objective for two reasons:

1. The estimated increase in total nitrogen for post-development is largely due to increases in particulate forms of nitrogen (TKN) which is less available for photosynthesis. The inorganic species of nitrogen, namely ammonia, nitrite, and nitrate, are more important than particulate species because these species are more available for photosynthesis by algae and other plants.
2. More importantly, the receiving waters of the project area stormwater discharges are ephemeral, only conveying flows for short periods following storm events. Such conditions do not support the sustained growth of algae. Therefore, the predicted

increase in total nitrogen should not promote algal growth to the extent of causing a nuisance or adversely affecting beneficial uses.

Treatment and source control BMPs will be implemented to address increases in nitrogen compounds. Hydrologic source controls such as diversion of roof top runoff into yards and vegetated areas, and the infiltration of runoff from graded lots into on-site permeable soils will contribute to load reductions of nitrogen compounds. Treatment controls included in the project, especially the vegetated BMPs including swales and bioretention areas will substantially reduce nitrogen loads from the project. Model estimates described in Appendix 7-C indicate that treatment controls will remove about 475 pounds of TN on an average annual basis. Concentrations and loads of nitrate, nitrite, ammonia, and TN from the project area comply with the numeric and narrative objectives in the Basin Plan. Based on this assessment and the comprehensive source control, site design and treatment BMPs, impacts to water quality are predicted to be less than significant.

- **Metals.** Copper, lead, and zinc are the most prevalent metals typically found in urban runoff. Other trace metals, such as cadmium, chromium, and mercury, are typically not detected in urban runoff or are detected at very low levels. Post-development concentrations and loads of all modeled metals are estimated to increase compared to pre-development conditions. PDFs include site design, source control and treatment control BMPs in compliance with the SUSMP requirements. Specific site design PDFs that will minimize increases in trace metals include directing drainage from impervious areas to landscaped areas or bioretention facilities and the selection of building material for roof gutters and downspouts that do not include copper or zinc. Source control PDFs that target metals include education for property owners, BMP maintenance, and street sweeping private streets and parking lots. The treatment control water quality basins and vegetated swales will also reduce trace metals in the runoff from the proposed development. A narrative objective for toxic substances in the Basin Plan states: “all waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.” The CTR criteria are the applicable water quality objectives for protection of aquatic life. The CTR criteria are expressed for acute and chronic (four-day average) conditions; however, only acute conditions were considered to be applicable for stormwater discharges because the duration of stormwater discharge is consistently less than four days. The CTR criteria are also calculated on the basis of the hardness of the receiving waters. The CTR criteria are typically expressed at a hardness of 100 mg/L and are capped at a hardness of 400 mg/L. Lower hardness concentrations result in lower, more stringent CTR criteria. Although the dissolved copper loads and dissolved zinc loadings and concentrations are predicted to increase, the comparison of the post-developed with PDFs condition to the CTR values shows that all of the trace metal concentrations are well below the water quality criteria. The CTR criteria are based on a hardness concentration of 270 mg/L, which is the minimum hardness concentration measured at

the two USGS monitoring stations in the SCR. Predicted trace metal concentrations are generally within the range or are slightly above the observed concentrations in the Santa Clara River Reach 5, downstream of the project area. Based on the comprehensive site design, source control, and treatment strategy and the comparison with the water quality benchmark values, the project would not have significant water quality or toxicity impacts resulting from trace metals.

- **Chloride.** Model estimates indicate that conversion from open space to residential land uses would increase the average chloride concentrations and loads. The estimated chloride concentration in post-development project runoff is compared to the Basin Plan water quality objective and the range of observed concentrations in Santa Clara River Reach 7. The estimated average annual chloride concentration in stormwater runoff from the project area (9 mg/L) is well below the Basin Plan water quality standard, and is also less than the historical observations in the Santa Clara River at the USGS Station at Lang. There are no listed impairments in the SCR Reach 7 due to elevated chloride levels. However, the Santa Clara River Reach 6 and 5, which are approximately two and seven miles downstream of the project site, respectively, are impaired by chloride. The RWQCB has adopted TMDLs into the Basin Plan for chloride levels in these reaches. The wasteload allocation for MS4 discharges is 100 mg/L. The estimated chloride concentration in project area stormwater runoff is well below the wasteload allocation for MS4 discharges in downstream reaches of the Santa Clara River. Treatment and source control BMPs that contribute to reductions in runoff volumes will also help to reduce chloride loads from the project. Hydrologic source controls such as diversion of roof top runoff into yards and vegetated areas, and the infiltration of runoff from graded lots into on-site permeable soils will contribute to load reductions of chloride. Treatment controls included in the project, especially the vegetated BMPs including swales and bioretention areas will substantially reduce runoff volumes, and thereby concurrently reduce chloride loads in project discharges to receiving waters. Model estimates described in Appendix 7-C indicate that treatment controls will remove about 2,600 pounds of chloride on an average annual basis. Estimated chloride concentrations in stormwater runoff from the project are less than the numeric benchmark objectives in the Basin Plan. Therefore, based on a comparison to benchmark objectives and the comprehensive site design, source control, and treatment BMPs, impacts to water quality are predicted to be less than significant.
- **Turbidity.** Turbidity is a measure of suspended matter that interferes with the passage of light through the water or in which visual depth is restricted. The turbidity may be caused by a wide variety of suspended materials, which range in size from colloidal to coarse dispersions, depending upon the degree of turbulence and the basin geology. In streams and rivers under flood conditions, most of the turbidity will be due to relatively coarse dispersions. Erosion of clay and silt soils may contribute to in-stream turbidity. Organic materials reaching rivers serve as food for bacteria, and the resulting bacterial growth and other microorganisms that

feed upon the bacteria produce additional turbidity. Nutrients in runoff may stimulate the growth of algae, which also contribute to turbidity. Discharges of turbid runoff are primarily of concern during the construction phase of development. The Construction SWPPP must contain sediment and erosion control BMPs pursuant to the General Construction Activities permit, and those BMPs will control sediment and erosion along with other pollutants per the BAT/BCT standards³. Additionally, fertilizer control and non-visible pollutant monitoring and trash control BMPs in the SWPPP will combine to help control turbidity during the construction phase. In the post-development condition, placement of impervious surfaces will serve to stabilize soils and to reduce the amount of erosion that may occur from the project area, especially from the existing quarry area, during storm events and will therefore decrease turbidity in the runoff from the project area. PDFs include source control (such as common area landscape management and common area litter control) and treatment control BMPs in compliance with the SUSMP requirements that will prevent or reduce the release of organic materials and nutrients (which could contribute to algal blooms) to receiving waters. As discussed above, post-development nutrients in runoff are not expected to cause significant water quality impacts. Based on implementation of the project PDFs and construction-related controls, runoff discharges from the project would not cause increases in turbidity which would result in adverse affects to beneficial uses in the receiving waters. Based on these considerations, the impacts of the project on turbidity are considered less than significant.

- **Pathogens.** Pathogens are viruses, bacteria, and protozoa that can cause illness in humans. Identifying pathogens in water is difficult as the number of pathogens is exceedingly small requiring sampling and filtering large volumes of water. Traditionally, water managers have relied on measuring “pathogen indicators”, such as total and fecal coliform, as an indirect measure of the presence of pathogens. Although such indicators were considered reliable for sewage samples, indicator organisms are not necessarily reliable indicators of viable pathogenic

³ *BAT/BCT are Clean Water Act technology-based standards that are applicable to construction site stormwater discharges. Federal law specifies factors relating to the assessment of BAT including: age of the equipment and facilities involved; the process employed; the engineering aspects of the application of various types of control techniques; process changes; the cost of achieving effluent reduction; non-water quality environmental impacts (including energy requirements); and other factors as the Administrator deems appropriate. Clean Water Act §304(b)(2)(B). Factors relating to the assessment of BCT include: reasonableness of the relationship between the costs of attaining a reduction in effluent and the effluent reduction benefits derived; comparison of the cost and level of reduction of such pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources; the age of the equipment and facilities involved; the process employed; the engineering aspects of the application of various types of control techniques; process changes; non-water quality environmental impact (including energy requirements); and other factors as the Administrator deems appropriate. Clean Water Act §304(b)(4)(B). The Administrator of U.S. EPA has not issued regulations specifying BAT or BCT for construction site discharges.*

viruses, bacteria, or protozoa in stormwater because coliform bacteria, in addition to being found in the digestive systems of warm-blooded animals, are also found in plants and soil. Moreover, certain pathogen indicators can multiply in the field if the substrate, temperature, moisture, and nutrient conditions are suitable. In a review of bacteria monitoring data in southern, Paulsen and List (2005) summarized the debate over the use of pathogenic indicators and pointed out that scientific studies show no correlation between pathogens and therefore may not indicate a significant potential for causing human illness. In a recent field study, pathogens (in the form of viruses, bacteria, or protozoa) were found to occur in 12 of 97 samples taken, but the samples that contained pathogens did not correlate with the concentrations of indicator organisms.

There are extensive studies in which samples have been collected and analyzed for bacteria. Almost all of these data do not distinguish bacteria that may result from new development versus bacteria from other sources. Runoff from new development is just one of many potential sources of bacteria in urban runoff. Urban runoff reflects both anthropogenic and natural sources, and consists of runoff from existing development, new development, and open space or vacant land. The large majority of existing development areas that contribute runoff into the monitored channels of Los Angeles County and other areas do not have the myriad of project design features that have been incorporated into the Proposed Project. Consequently, it is likely that runoff from the project will not contain the same elevated levels of bacteria found in other urban runoff studies.

Available studies do not uniformly suggest that development increases indicator bacteria in runoff. For example, the City of San Diego currently monitors 20 shoreline stations within Mission Bay. Analysis of the 7,300 samples collected between 1987 and 1994 indicated that the highest geometric mean densities of total coliform, fecal coliform, and enterococcus occurred from December through March, which are historically the wettest months of the year in San Diego. Differences in mean densities between winter and summer months ranged over two orders of magnitude. The data also indicated that geometric densities for total coliform, fecal coliform, and enterococcus were always higher in wet weather samples than in dry weather samples. In a related study, 22 out of the 89 storm drain outfalls that discharge into Mission Bay were sampled during wet and dry weather. Only half of the storm drains contained measurable densities of indicator bacteria during dry weather while all 22 storm drains exceed water quality objectives during wet weather. The data also showed that indicator bacteria densities were as high from open space at the head of the watershed as at the mouth of the bay, indicating similar indicator bacteria contributions from urban and non-urban sources.

In addition to the Mission Bay data, the EPA has compiled an extensive stormwater database with data from 65 programs in 17 states throughout the United States. The data indicate that

median fecal coliform concentrations range from about 4,500 to 7,700 MPN/100mL for a range of commercial and residential land uses (land areas generally not having the type of source and treatment controls incorporated into the Proposed Project and thus not indicative of runoff from the project). Runoff from agricultural watersheds involving horticulture and row cropping is known to similarly contain relatively high levels of indicator bacteria. Data from a stormwater drain serving an agricultural watershed with predominantly row crops in nearby Ventura County showed similar median fecal coliform levels (~ 7000 MPN/100 mL) to that found for general urban runoff. Agricultural land probably shares some of same wildlife sources found in open land, but farm animals may be present as well. These data indicate that wildlife, farm animals, plants and/or soils can be a very important source of pathogens and/or pathogen indicators such as fecal coliform.

Additionally, Paulsen and List (2005) found that indicator bacteria concentrations in receiving waters downstream from developed/urban watersheds were essentially the same concentrations as in receiving waters downstream from undeveloped watersheds. This study supports the conclusion that the development of the Proposed Project is not expected to result in appreciably higher indicator bacteria levels in receiving waters relative to undeveloped conditions.

This conclusion that urban development is no different than undeveloped areas in producing elevated bacteria levels is also supported by studies on runoff from areas in northern coastal Orange County, southern Orange County, Los Angeles, and San Diego. Studies indicate that runoff from urban areas may not be the sole or even primary source of elevated bacteria in receiving waters, but that such elevated levels may be caused by non-human sources, such as terrestrial wildlife and birds or even local sediments. Furthermore, data collected from undeveloped watersheds or watersheds with little development indicate that bacterial standards are often exceeded when runoff comes from open space areas. For example, data obtained by the Serrano Water District during 2003 in a largely undeveloped watershed, Santiago Creek Reach 3, which is located upstream of Irvine Lake in Orange County, showed a total coliform concentration of 80,000 MPN/100 mL (compared to MUN water quality criteria of 100 MPN/100 mL) and a corresponding concentration of fecal coliform of 700 MPN/100 mL (compared to REC1 water quality criteria of 400 MPN/100 mL).

With particular regard to dry weather flows from urban areas, information from the Mission Bay and Grant studies supports the idea that the project will not significantly impact bacteria levels in receiving waters. The Mission Bay study indicates that even with diversion of dry weather urban flows during the summer dry season, indicator bacteria samples in receiving waters still were not at acceptable regulatory levels. Moreover, the Grant study found that significant bacterial die off occurred before dry weather flows reached receiving waters, leading the authors to conclude that other sources (including avian sources) were the predominant

source of bacteria to Huntington Beach State Park beaches and that dry weather flows were less significant than other sources of bacteria to the receiving waters.

For the Proposed Project, significant efforts have been made to reduce dry weather flows through project design features such as efficient irrigation systems, use of natural landscaping palettes, and infiltration/evaporation in treatment control facilities, making it unlikely that dry weather flows will persist as far as receiving waters. Even in the unlikely event that dry weather flows from the Proposed Project were to reach receiving waters, based upon the Grant and Schiff studies, it is not likely that such dry weather flows would noticeably increase bacteria concentrations in the receiving waters.

Based on findings of these studies, it is possible that predominant sources of bacteria in the project's receiving waters (in either existing conditions or Proposed Project conditions) may be soils, birds, or other wildlife found either within or on the waterbodies themselves or in the watersheds tributary to the receiving waters. These studies also suggest that the elevated levels of bacteria already present in receiving waters in the existing condition will not be altered substantially by the development of the Proposed Project. Also, as discussed in greater detail below, non-human sources of bacterial indicators may not reflect human health concerns pertinent to contact recreation use designations of local receiving waters. For all of these reasons, the RWQCB determined in their consideration of bacteria TMDLs for Santa Monica Bay that numeric standards were inappropriate for controlling stormwater and nonpoint source runoff water quality.

Regarding the use of fecal coliform as a bacterial indicator, the fecal coliform standards contained in the Basin Plan were recommended in 1968 and were based upon epidemiological studies conducted in 1948, 1949, and 1950. Several studies conducted since 1968 have questioned these criteria, recognizing that high levels of pathogen indicators due to natural sources of pollution do occur, and recommended use of alternatives. Subsequent studies initiated by the EPA were conducted at sites contaminated either with pollution from multiple or single point sources and found that fecal coliform densities showed "little or no correlation" to gastrointestinal illness rates in swimmers. Thus, EPA in 1986 proposed criteria for contact recreation based upon *E. coli* and/or enterococci rather than fecal coliform.

Bacterial indicators in receiving water samples are not an adequate proxy for determining significant water quality impacts of proposed development. Because measurements of indicator bacteria are not direct measurements of pathogens (and associated human health risk), many epidemiological studies have found conflicting results, and often fail to indicate a consistent relationship between a given bacteria indicator and a human-related illness (e.g., gastrointestinal illness). Furthermore, a comprehensive survey of the epidemiological literature

found that viral indicators were significantly stronger predictors of gastrointestinal illness than bacteria indicators. Several additional studies also indicate that public health risk (relevant to human-contact recreational uses) does not correlate with elevated levels of bacterial indicators in receiving waters, even in waters impacted by urban runoff. The Schroeder study analyzed highway runoff and found no correlation between the measured indicator organisms and the presence of pathogens. Similarly, a study of both pathogens and indicator bacteria in Southern California coastal waters impacted by urban runoff indicated that exceedances of bacteria indicators did not correlate with the presence of human adenoviruses and thus may not have indicated a human health risk. The EPA also has indicated that non-human sources of fecal contamination need not be considered in determinations of water quality standard attainment; meaning that if non-human bacteria sources are shown to be minimal and exposure to such sources based on epidemiological studies do not appear to result in human health risks, bacteria standards may be interpreted to relate only to human-derived bacteria. The World Health Organization (WHO) has adopted a similar approach, recognizing that “due to the ‘species barrier,’ the density of pathogens of public health importance is generally assumed to be less in aggregate in animal excreta than in human excreta which may therefore represent a significantly lower risk to human health”. Based on the information discussed above, the reliance on bacterial indicators to gage potential impacts human health-related beneficial uses in the project’s receiving waters would not be prudent.

It is recognized that natural levels of bacteria are present in the project area receiving waters and that control of such natural sources of bacteria is neither required nor desired by regulatory authorities. Both the San Diego and Los Angeles RWQCBs have made provisions for background sources of bacteria from undeveloped portions of watersheds in their Bacteria Total Maximum Daily Loads. To illustrate, the Los Angeles RWQCB stated that it was not their intent to “require treatment of natural sources of bacteria from undeveloped areas” as removal of such natural sources of bacteria from receiving waters “could adversely affect valuable aquatic life and wildlife beneficial uses supported by natural water bodies in the Region.” Thus, the project design features for the Proposed Project have appropriately focused on the control of potential anthropogenic bacteria sources.

The primary sources of fecal coliforms from the project would likely be pet wastes, and wildlife or vectors living in the storm drain itself. Other sources of pathogens and pathogen indicators, such as cross connections between sanitary and storm sewers, and other human-derived bacteria, are unlikely given the new systems to be installed with the project, modern sanitary sewer installation methods, and inspection and maintenance practices. The levels of bacteria in runoff from the Proposed Project would be reduced by virtue of source controls and treatment control PDFs, including extended detention basins, vegetated swales, and especially bioretention areas.

The most effective means of controlling pet wastes as a source of pathogens is through source control, specifically education of pet owners, and providing products and disposal containers that encourage and facilitate cleaning up after pets. Storm drain cleaning practices help to remove pathogens that may have accumulated in the storm drain system.

On-site bioretention facilities are proposed to treat stormwater runoff from major portions of the project, including the multi-family development areas, the school, YMCA, and associated facilities. The bioretention facilities are designed to capture 80 percent of the average annual stormwater runoff volume. These facilities are designed without underdrains. Thus, stormwater that is captured in the bioretention area is not directly discharged to the receiving waters, but rather is detained and lost by evaporation and transpiration and/or percolation into the underlying subsurface. Consequently, indicator bacteria that are captured in the bioretention areas are effectively treated and are not discharged to the receiving waters.

There is some data on the effectiveness of water quality basins to treat pathogen indicators. The treatment processes known to be occurring in the extended detention basins involve sunlight (ultraviolet light) degradation, sedimentation of bacteria attached to particulates, and infiltration, all of which reduce pathogen levels. A study of microbial removals in various BMPs conducted in Florida indicated that shallow wet basins with a five day drain time achieved about a 98 percent removal efficiency for fecal coliform. The extended detentions basins proposed for the project will drain in two days or less, therefore the expected pathogen removal would be less than 98 percent. According to the California State Stormwater BMP Handbook for New Development and Redevelopment, extended detention basins are considered to have "medium" removal effectiveness. The Center for Watershed Protection maintains a National Pollutant Removal Performance Database that indicates that removal performance for various types of water quality basins ranges between 70 to 80 percent. The database indicated a removal of about 78 percent for dry extended detention basins. Data on retention basins from the International Best Management Practice Database demonstrate a greater than 90 percent reduction in median e coli concentrations when comparing inlet to outlet concentrations. In addition the extended detention basins, bioretention areas, and swales will also have the effect of reducing the volume of stormwater and dry weather runoff from the Proposed Project area, thereby reducing any associated bacteria.

In summary, the Proposed Project, consistent with SUSMP requirements, includes a comprehensive set of source and treatment control BMPs proposed as PDFs selected to manage pathogen indicators which, in combination, would reduce pathogen indicator levels in runoff from the Proposed Project. With this series of PDFs, the project would not result in appreciable changes in pathogen indicator levels in the receiving waters compared to existing

conditions, and potential bacteria-related water quality impacts, including those associated with total coliform, are considered less than significant.

- **Pesticides.** Pesticides can be of concern where past farming practices involved the application of persistent organochlorine pesticides. Legacy pesticides Chlordane, Dieldrin, DDT, and Toxaphene are of particular concern, as TMDLs have been established for these pesticides in the SCR estuary, approximately 45 miles downstream of the project. Water, sediment or soil quality data from the project area are not available to verify the absence/presence of legacy pesticides in the project area. Historical pesticides should no longer be discharged in the watershed except in association with erosion of sediments to which these pollutants may have adhered in the past. However, there is no indication of commercial farming practices in the project area based on current knowledge. Also historical water quality monitoring data collected by the USGS in the SCR at Lang indicates an absence of legacy pesticides in the nearby receiving waters in the SCR (about ten miles upstream of the project area). Water quality data measured downstream of the project indicate a historical presence of legacy pesticides at the Bouquet Canyon Station, however, recent monitoring at the LACDPW mass emission station showed an absence of the compounds. Thus, there is no reason to suspect the presence of legacy pesticides in the project area. The focus therefore is on the construction and post-development conditions, where pesticides could be applied to common landscaped areas and residential lawns and gardens.

In the post-developed condition, pesticides will be applied to common landscaped areas and residential lawns and gardens. Pesticides that have been commonly found in urban streams include the organophosphate pesticides chlorpyrifos and diazinon. However, only 0 to 13 percent of the samples in the County database had detectable levels of diazinon (depending on the land use) while levels of chlorpyrifos were below detection limits for all land uses in all samples taken between 1994 and 2000. Other pesticides presented in the database were seldom measured above detection limits. Furthermore, these data represent flows from areas without treatment controls, unlike the Proposed Project, which does incorporate treatment control project design features.

Diazinon and chlorpyrifos are two pesticides of concern due to their potential toxicity in receiving waters. The EPA has banned the pesticides diazinon and chlorpyrifos for most urban applications. The EPA phased out retail sale of chlorpyrifos in 2001 and the applications of diazinon to lawns, gardens, and turf was discontinued in December 2003. Per the EPA mandate, these pesticides will not be used for landscape maintenance in the post-development conditions of the project.

Source control measures such as education programs for owners and occupants in the proper application, storage, and disposal of pesticides are the most promising strategies for controlling the pesticides that will be used post-development. Structural controls are less practical because of the variety of pesticides and wide range of chemical properties that affect their ability to treat these compounds. However, most pesticides are relatively insoluble in water and therefore tend to adsorb to the surfaces of sediment, which will be capped with development, or, if eroded, will settle out of the water column in the extended detention basins and vegetated swales and be filtered out in bioretention units. In addition, any dissolved pesticides will tend to adsorb in bioretention units. These pesticides will break down to some extent once trapped in the BMPs. Sedimentation, filtration and adsorption therefore should achieve some removal of any pesticides in stormwater within the PDFs, as TSS is reduced.

For common area landscaping in multi-family residential areas, recreation center, and parks, an Integrated Pest Management (IPM) program will be incorporated. The goal of an IPM is to keep pest levels at or below threshold level, reducing risk and damage from pest presence, while eliminating the risk from the pest control methods used. IPM programs achieve these goals through the use of low risk management options by emphasizing the use of natural biological methods and the appropriate use of selective pesticides. IPM programs also incorporate environmental consideration by implementing procedures that minimize intrusion and alteration of biodiversity in ecosystems.

While pesticides are subject to degradation, they vary in how long they maintain their ability to eradicate pests. Some break down almost immediately into nontoxic by-products, while others can remain active for longer periods of time. While pesticides that degrade rapidly are less likely to adversely affect non-targeted organisms, in some instances it may be more advantageous to apply longer lasting pesticides if it results in fewer applications or smaller amounts of pesticide use. As part of the IPM program, careful consideration will be made as to the appropriate type of pesticides for use on the project site. While pesticide use is likely to occur due to maintenance of landscaped areas, particularly in the residential portions of the development, careful selection, storage and application of these chemicals for use in common areas per the IPM program following Los Angeles Unified School District standards, will help prevent significant water quality impacts from occurring. Additionally, as discussed above, removal of sediments in the PDFs will also remove sediment-adsorbed pesticides.

Based on the incorporation of site design, source control, and treatment control BMPs pursuant to the SUSMP requirements and the use of an IPM program, potential post-development impacts associated with pesticides are predicted to be less than significant.

Transport of any legacy pesticides adsorbed to existing site sediments may be a concern during the construction phase of development. The SWPPP must contain sediment and erosion control BMPs pursuant to the General Construction Permit, and those BMPs must effectively control erosion and the discharge of sediment along with other pollutants per the BAT/BCT standards. Based on these sediment controls, construction-related impacts associated with pesticides are expected to be less than significant.

- **Hydrocarbons.** Various forms of hydrocarbons (oil and grease) are common constituents associated with urban runoff; however, these constituents are difficult to measure and are typically measured with grab samples, making it difficult to develop reliable EMCs for modeling. Based on this consideration, hydrocarbons were not modeled but are addressed qualitatively.

Hydrocarbons are a broad class of compounds, most of which are non-toxic. Hydrocarbons are hydrophobic (low solubility in water), have the potential to volatilize, and most forms are biodegradable. A subset of hydrocarbons, Polynuclear Aromatic Hydrocarbons (PAHs) can be toxic depending on the concentration levels, exposure history, and sensitivity of the receptor organisms. Of particular concern are those PAHs compounds associated with transportation-related combustion products.

The concentration of hydrocarbons is expected to increase slightly under post-development project conditions with treatment of stormwater runoff in the PDFs. This predicted increase results from the increase in roadways and vehicle use in the Project area. The Project PDFs are expected to prevent appreciable increases in hydrocarbon concentrations from occurring through removal of this pollutant. Because of the nature of the development (primarily residential), the major source of hydrocarbons will be from roads, driveways and parking areas. Source control PDFs that address petroleum hydrocarbons include educational materials on used oil programs, carpooling, and public transportation alternatives to driving; BMP maintenance; street sweeping private streets and parking lots; and use of biofiltration to treat major parking areas. Lastly, the vegetation and soils within the treatment control PDFs, including bioretention, swales, and extended detentions basins will adsorb the low levels of emulsified oils in stormwater runoff, preventing discharge of hydrocarbons and visible film in the discharge or the coating of objects in the receiving water.

The majority of PAHs in stormwater adsorb to the organic carbon fraction of particulates in the runoff, including soot carbon generated from vehicle exhaust. For example, one study found that the dissolved phase PAHs represented less than 11 percent of the total concentration of PAHs in stormwater runoff. Consequently, the water quality basins and vegetated swales

proposed as PDFs, which are designed to treat pollutants through settling and infiltration, will be effective at treating PAHs.

Los Angeles County conducted PAH analyses on 27 stormwater samples from a variety of land uses in the period 1994-2000. For those land uses where sufficient samples were taken and were above detection levels to estimate statistics, the mean concentrations of individual PAH compounds ranged from 0.04 to 0.83 µg/L. There are no CTR criteria for PAH, but these reported means were less than acute toxicity criteria available from the literature. Moreover, the Los Angeles County data do not account for any treatment, whereas the treatment in the project's PDFs should result in a reduction in hydrocarbon concentrations including PAHs. This makes it very unlikely that impacts will occur to the receiving water due to hydrocarbon loads or concentrations. On this basis, the effect of the project on petroleum hydrocarbon levels in local water bodies is considered less than significant.

During the construction phase of the project, hydrocarbons in site runoff could result from construction equipment/vehicle fueling or spills. However, pursuant to the General Construction Permit, the SWPPP must include BMPs that address proper handling of petroleum products on the construction site, such as proper petroleum product storage and spill response practices, and those BMPs must effectively prevent the release of hydrocarbons to runoff per BAT/BCT. PAHs that are adsorbed to sediment during the construction phase would be effectively controlled via the erosion and sediment control BMPs. For these reasons, construction-related impacts related to hydrocarbons on water quality are considered less than significant.

- **Bioaccumulation.** Water quality constituents that are appreciably toxic through bioaccumulation are not expected to be generated at levels of concern by the Proposed Project.
- **Trash and Debris.** Trash and debris in runoff can increase with urban development if left unchecked. The Proposed Project PDFs, including source control and treatment BMPs incorporated in compliance with the MS4 NPDES Permit and the SUSMP, would minimize trash and debris generation within the project. Source controls such as street sweeping, public education, fines for littering, covered trash receptacles, and storm drain stenciling are effective in reducing the amount of trash and debris that is available for mobilization during wet weather. Trash and debris that is generated would be captured on trash racks and in the treatment control PDFs.
- **Methylene Blue Activated Substances (MBAS).** MBAS, which is related to the presence of detergents in runoff, may be incidentally associated with urban development due to commercial and/or residential vehicle washing or other outdoor washing activities. Surfactants disturb the surface tension which affects insects and can affect gills in aquatic life. The presence of

surfactants in runoff from the Proposed Project would be controlled through the source control PDFs, including a public education program on residential and charity car washing.

- **Temperature.** Temperatures measured at the USGS monitoring stations in the river at Lang (upstream of the project site) ranged from approximately 10 degrees to 15 degrees C during the winter months. Temperatures in wet weather discharges from the project are not expected to be elevated in comparison to this baseline. In addition, the Santa Clara River is designated for warm water aquatic habitat. Thus, project runoff temperature is not expected to significantly impact receiving water beneficial uses.

Stormwater Runoff Volumes and Hydromodification. Mean annual runoff volumes are expected to increase with development of the project site. Proposed Project PDFs include site design, source control, and treatment control BMPs in compliance with the requirements of the SUSMP. The potential increase in runoff associated with urban development has been highly moderated by Proposed Project PDFs. Most of the site design PDFs, especially the minimization of impervious area and the conservation of approximately 60 percent open space areas within the tract area, reduce the impact of the proposed development on stormwater runoff volume. Hydrologic source control PDFs included in the Proposed Project would consist of diversion of rooftop runoff into yards and vegetated areas to promote onsite infiltration, the use of native and drought tolerant plants in landscaped areas, and the use of treatment control BMPs (detention basins and vegetated swales) that are expected to reduce post-development runoff volumes from developed areas of the site by 55 percent. Volume control measures included in the project are also intended to eliminate hydromodification potential due to erosion in the natural sections of Drainages A, B, and C. Thus, the total volume of discharges to these drainages post-development would be equal to or less than pre-development volumes. In addition to these source controls, hydromodification PDFs include localized outfall protection measures and energy dissipation to slow flow velocities, reduce flow energy, and disperse flows. The Proposed Project would also meet the recently adopted interim standard for control of peak flows from the 50-year capital flood and the 2-year, 24-hour storm through construction of upstream debris basins and appropriate sizing of the detention basin and bioretention areas. Should this interim standard change prior to project construction, the project would be required to comply with the revised standard.

Potential impacts of hydromodification (i.e. potential to cause erosion, siltation, or channel instability) will be controlled by PDFs in the following ways:

1. No runoff from proposed development will be discharged to Drainages A, B, and C. All runoff from development areas will discharge directly to the Santa Clara River
2. Treatment controls included in the project, especially bioretention areas, will greatly reduce the runoff volume from the development area

3. The project does not substantially increase the rates, velocities, frequencies, duration and/or seasonality of flows in the preserved portion of Drainages A, B, and C in a manner that harms sensitive habitats or species
4. Site design practices, including preservation of more than 50 percent of the tract area as open space, routing of roof runoff to open space, and use of efficient irrigation systems, will contribute to the reduction of runoff volume
5. The increased runoff volume to the Santa Clara River is minor in comparison to hydrologic and hydraulic capacity of the entire Santa Clara River watershed
6. Localized impacts of concentrated flows will be mitigated with energy dissipators at the discharge points to the Santa Clara River
7. The project will comply with adopted interim standard for control of peak flows from the 50-year capital storm event and the 2-year, 24-hour storm event, or other flow criteria that may be adopted by the LACDPW to meet the Permit requirements for hydromodification control.

For these reasons the hydromodification impacts of the project discharges on the Drainages A, B, and C and the Santa Clara River are considered less than significant.

- **Dry Weather Flows.** The preceding water quality assessment focuses on pollutant levels in stormwater discharges. While there are no specific requirements in the MS4 Permit and the SUSMP requirements to treat dry-weather discharges from the project area, pollutants in dry weather flows need to be addressed in this EIR because dry weather conditions occur throughout a large majority of the year and because some of the TMDLs in downstream reaches of the SCR are applicable for dry weather conditions (e.g., nutrients and chloride).

Dry weather flows are typically low in sediment because the flows are relatively low and coarse suspended sediment tends to settle out or is filtered by vegetation. As a consequence, pollutants that tend to be associated with suspended solids (e.g., phosphorous, some bacteria, some trace metals, and some pesticides) are typically found in very low concentrations in dry weather flows. The focus of the following discussion is therefore on constituents that tend to be dissolved, e.g., nitrate and trace metals, or constituents that are so small as to be effectively transported during dry weather flows, e.g., pathogens and oil and grease.

In order to minimize the potential generation and transport of dissolved constituents, landscaping in public and common areas will utilize drought tolerant vegetation that requires little watering and chemical application. Landscape watering in common areas, multiple family residential areas, and parks will be controlled utilizing evapotranspiration sensors to minimize

excess watering. In addition, educational programs and distribution of materials (source controls) will emphasize appropriate car and equipment washing locations (on pervious surfaces) and techniques (minimizing usage of soap and water), encourage low impact landscaping and appropriate watering techniques, and discourage driveway and sidewalk washing. Illegal dumping will be discouraged by stenciling storm drain inlets and posting signs that illustrate the connection between the storm drain system and the receiving waters and natural systems downstream.

The bioretention areas, vegetated swales, and the extended detention basin will provide treatment for and infiltrate dry weather flows and small storm events. Water cleansing is a natural function of vegetation, offering a range of treatment mechanisms. Sedimentation of particulates is the major removal mechanism. However the performance is enhanced as plant materials allow pollutants to come in contact with vegetation and soils containing bacteria that metabolize and transform pollutants, especially nutrients and trace metals. Plants also take up nutrients in their root system. Some pathogens would be removed through ultraviolet light degradation. Any oil and grease will be effectively adsorbed by the vegetation and soil within the low flow wetland vegetation. Dry weather flows and small storm flows will infiltrate into the bottom of the basin after receiving treatment in the low flow wetland vegetation. The swales and bioretention basins will not be designed to have open pools of standing water.

The Orange County Public Health Laboratory conducted a monitoring study in 1998 in the San Juan Creek watershed to help determine the sources of pathogen indicators during dry weather conditions. Monitoring stations were located in the ocean, in creeks in the San Juan Creek watershed, and in storm drains. One finding of the study was that “the highest concentrations of fecal coliforms and *Enterococcus* were found in the storm drains as compared to the creeks and ocean sampling sites. Samples taken from creek sites distant to human habitat also had low to moderate levels of bacteria, suggestive of fecal contamination by non-human sources.” The principal anthropogenic sources of pathogens into dry weather flows is leaking septic systems, cross-connections between sanitary sewers and storm drains, or leakage from the sanitary sewer system into groundwater, which feeds the dry and non-storm flows. However, the project will be new development with new storm drains and sanitary sewer systems, which are expected to have minimal, if any, leakage.

The vast majority of dry weather flows would be directed to the vegetated treatment control PDFs (detention basins, bioretention and swales), where they would be subject to infiltration and evaporation. Table V.H-10 shows estimated dry weather flows for the development catchments, as well as the available and required areas for infiltration in the associated treatment BMPs. The values shown in the table are based on conservative estimates of runoff and infiltration rates, and also do not take into evaporation losses. The information in the table

indicates that treatment control BMP final designs should have more than adequate surface area to capture and eliminate dry weather flows for all catchments, except for the roadway catchment KS-12 that is treated with the CDS unit (see Figure V.H-4). It is likely that the estimated dry weather runoff from KS-12 is overstated in Table V.H-10, since typical sources of dry-weather runoff (car washing, over-watering of landscaped areas, sidewalk cleaning) are not expected in this catchment area. Any dry-weather runoff that is generated in KS-12 would flow to the ephemeral streambed of the Santa Clara River, which is comprised of coarse alluvial soils. Using a conservative infiltration rate of 0.2 in/hr for the streambed soils, the table shows that the required area to infiltrate the dry weather runoff from KS-12 is about 500 ft². Thus, any dry weather flows that reach the Santa Clara River from KS-12 will likely infiltrate completely within close proximity to the outfall in the coarse alluvial sediments.

Table V.H-10
Estimated Dry Weather Runoff and Infiltration by Catchment

Catchment	Area (acres)	Average dry weather runoff ¹ (cfs)	Treatment BMP that intercepts dry weather flows	Assumed infiltration rate (in/hr)	Area available for infiltration (ft²)	Required area to infiltration all dry weather flow (ft²)
KS-1 + KS-2	31.2	0.0094	Extended detention Basin	0.05	13000	8700
KS-3	15.5	0.0047	Bioretention	0.2	56628	1000
KS-4	8.6	0.0026	Extended detention basin	0.05	5075	2200
KS-5	12.6	0.0038	Bioretention	0.2	43560	820
KS-6	12.7	0.0038	Bioretention	0.2	47916	820
KS-7	6.6	0.0020	Extended detention basin	0.05	2950	1700
KS-8 + KS-9	29.8	0.0089	Bioretention	0.2	56628	1900
KS-10 + KS-2	14.6	0.0041	Vegetated swales	0.1	6400	1800
KS-11	13.3	0.0040	Bioretention	0.2	43560	860
KS-12	8	0.0024	CDS Unit	0.2	0	500

^{1/} Assumed average dry weather runoff = 0.0003 cfs/urbanized acre. Based on dry weather flow measurements from the Irvine Ranch Water District (IRWD, 2003) and Santa Monica (Antich et al., 2003).

The treatment control PDFs will infiltrate or evapotranspire the vast majority, and possibly all of the expected dry weather runoff from the project. It is expected that little to no dry weather discharge will occur to the Santa Clara River from the project, and any dry weather flows that do reach the Santa Clara River will likely infiltrate completely within close proximity to the

outfall in the coarse alluvial sediments. Based on source control PDFs reducing the amount of dry weather runoff and treatment control PDFs capturing and treating the dry weather runoff that does occur, the impact from dry weather flows is considered less than significant.

- **MS4 Permit Requirements for New Development.** Proposed Project PDFs include site design, source control, and treatment control BMPs in compliance with the requirements of the MS4 Permit, including the SUSMP requirements and the SUSMP Manual. The MS4 Permit requires that discharges from MS4s shall not cause or contribute to exceedances of receiving water quality standards and also contains MEP technology standards. Treatment control PDFs will treat runoff from all urban areas of the project. Sizing criteria contained in the MS4 Permit and the SUSMP requirements will be utilized for designing the PDFs. On this basis, the proposed PDFs meet the MS4 Permit requirements for new development.
- **Groundwater Quality and Recharge.** Discharge of urban runoff from the project's developed areas to groundwater will occur at three locations: (1) through general infiltration of irrigation water, (2) through incidental infiltration in the proposed treatment control BMPs, and (3) in the Santa Clara River, which is the primary recharge zone for groundwater in the Santa Clara Valley. Groundwater quality will be fully protected through implementation of the project's site design, source control, and treatment control PDFs prior to discharge of project area runoff to groundwater.

Studies have examined the transport of pollutants in infiltration facilities. Although active infiltration facilities are not proposed in the project, the data in these studies provide insight into the transport and fate of pollutants in the incidental infiltration flows occurring in the project. One study evaluated the impact of two infiltration facilities on soil and groundwater. One facility was five years old, one was thirty years old and both served a road network with "classical" urban development. High concentrations of metals and hydrocarbons were found in the upper four inches of soil. However, concentrations fell off rapidly in the soil column, reaching low levels at depth of about a foot. Groundwater impact was low.

The impact of pollutants on soil and groundwater by infiltration of highway runoff over greened embankments was estimated in another study. The embankments had a substructure of gravels underlain by 4 to 12 inches of sandy, high permeable soil. The soils had high retention efficiencies; more than 95 percent for cadmium, 84 percent to 94 percent for zinc, and 77 percent to 98 percent for lead. Retention of copper was lower, 43 percent to 61 percent. This lower efficiency was attributed to high organic content in the soils.

A third study used the mathematical model LEACHM to simulate 50 years of heavy metal infiltration into soils and groundwater beneath porous pavement. Results indicated that metals were retained in the upper eight inches of soil, and it was concluded that "long-term pollution

risks for both soil and groundwater are low". However it was also noted this may be due to the weak pollutant concentrations flowing through the soils.

From a comprehensive study of shallow infiltration systems, a fourth study concluded that infiltration devices can safely deliver large fractions of stormwater surface flows to groundwater. This is assuming a reasonable degree of site-specific design considerations are used to compensate for soil characteristics. Nutrients, pesticides, organics, and heavy metals, with the exception of zinc, all had low to moderate groundwater contamination potential. Pathogens, zinc and chloride were classified as having high contamination potential, because they are more soluble and easily transported.

Lastly, a fifth study reviewed wastewater land disposal data, and assuming the infiltration basin was sized to treat runoff from a one-inch storm, found that pollutant removal efficiency in infiltration basins was 99 percent for total suspended solids, 65 percent to 75 percent for total phosphorus, 60 to 70 percent for total nitrogen, and 95 to 99 percent for metals.

Information in the literature indicates that any pollutants in infiltration flows are generally transported only for short distances in the subsurface. This indicates that compliance with applicable regulations requiring a minimum six-foot separation between the infiltration basin and the groundwater table will be protective of groundwater quality.

The information above indicates that the primary pollutant of concern with respect to groundwater are the more mobile constituents, nitrate-N+ nitrite-N and chloride. The Basin Plan groundwater quality objective for nitrate-nitrogen plus nitrite-nitrogen is 10 mg/L (which is more stringent than the objective for nitrate-nitrogen alone (10 mg/L) and for nitrite-nitrogen alone (1 mg/L). The estimated nitrate-nitrogen plus nitrite-nitrogen concentration in runoff after treatment in the PDFs is about 0.9 mg/L, which is well below the groundwater quality objective. The typical irrigation water supply nitrate-nitrogen concentration is 0.63 mg/L, which is also well below the groundwater quality objective.

Chloride is also a pollutant of concern with respect to groundwater. The Basin Plan groundwater quality objective for chloride in the Castaic Valley aquifer is 150 mg/L. The estimated chloride concentration in runoff after treatment in the project PDFs is 9 mg/L, which is well below the groundwater quality objective. The typical irrigation water supply nitrate-nitrogen concentration is 81 mg/L, but can be higher (up to 105 mg/L or higher) if there is an extended drought in Northern California. Therefore, it is expected that chloride levels irrigation water will be below the groundwater quality objective. On this basis, the potential for adversely affecting groundwater quality is considered less than significant.

In a groundwater basin, the effect of urbanization on recharge to underlying groundwater is dependent on land uses, water uses, vegetative cover, and geologic conditions. Groundwater recharge from undeveloped lands occurs from precipitation alone, whereas areas that are developed for agricultural or urban land uses receive both precipitation and irrigation of vegetative cover. In an urban area, groundwater recharge occurs directly beneath irrigated lands and in drainages whose bottoms are not paved or cemented. A memorandum entitled "Effect of Urbanization on Aquifer Recharge in the Santa Clarita Valley" discusses the general effects of urbanization on groundwater recharge and the specific effects in the Santa Clarita Valley. Their analysis found that urbanization in the Santa Clarita Valley has been accompanied by importation of water from the State Water Project, the long term stability in groundwater levels, and no change in the groundwater storage in the Valley.

Currently the project area is undeveloped open space. As a result, in the existing condition recharge occurs within the project site from precipitation alone. On the other hand, development of the site will increase runoff volume discharged after treatment to the Santa Clara River, whose channel is predominantly natural and consists of vegetation and coarse-grained sediments (rather than concrete). The porous nature of the sands and gravels forming the SCR streambed will allow for significant infiltration to occur to the underlying groundwater. Also, the project will introduce landscaping, irrigation, and PDFs designed to infiltrate runoff, and irrigation water is predicted to be fully infiltrated during dry weather. These project effects will increase groundwater recharge from the project. It is likely that the project will result in a slight net increase in groundwater recharge in the project vicinity.

Based on the above discussion, the project's impact on groundwater recharge is considered less than significant.

- **Construction Related Impacts.** The potential impacts of construction activities, construction materials, and non-stormwater runoff on water quality are principally associated with sediment (TSS and turbidity). Construction-related activities that are primarily responsible for sediment releases are related to exposing soils to potential mobilization by rainfall/runoff and wind. Such activities include removal of vegetation from the site, grading of the site, and trenching for infrastructure improvements. Non-sediment related pollutants that are also of concern during construction relate to construction materials and non-stormwater flows. Construction impacts would be minimized through compliance with the General Construction Permit. To comply with this permit, a SWPPP would be prepared and implemented. The SWPPP would include erosion and sediment control BMPs that would meet or exceed measures required by the General Construction Permit, as well as BMPs that control the other potential construction-related pollutants.

Construction on the project site may require dewatering and non-stormwater related discharges. For example, dewatering may be necessary for the construction of bridge abutments, bank stabilization, and outfall protection; if groundwater is encountered during grading; or to allow discharges associated with testing of water lines, sprinkler systems and other facilities.

In general, the General Construction Permit authorizes construction dewatering activities and other construction related non-stormwater discharges as long as they (a) comply with Section A.9 of the General Permit; (b) do not cause or contribute to violation of any water quality standards, (c) do not violate any other provisions of the General Permit, (d) do not require a non-stormwater permit as issued by some RWQCBs, and (e) are not prohibited by a Basin Plan provision. Full compliance with applicable local, state and federal water quality standards by the applicant would assure that potential impacts from dewatering discharges are not significant.

An additional PDF will be implemented to protect receiving waters from dewatering and construction related non-stormwater discharges. Such discharges will be implemented in compliance with the Los Angeles RWQCB's General Waste Discharge Requirements (WDRs) under Order No. R4-2003-0111, NPDES No. CAG994004 governing construction-related dewatering discharges within the project development areas. Typical BMPs for construction dewatering include infiltration of clean groundwater; on-site treatment using suitable treatment technologies; on-site or transport offsite for sanitary sewer discharge with local sewer district approval; or use of a sedimentation bag for small volumes of localized dewatering. Compliance with these WDRs constitutes a PDF for the project, further assuring that the impacts of these discharges are not significant.

On this basis, the impact of construction-related runoff from the project is considered less than significant.

Significance of Project Impacts

Project impacts on hydrology and water quality have been assessed with respect to the thresholds of significance listed earlier in this section. These thresholds are again presented below in association with a summary determination of the degree to which project impacts exceed each threshold.

Water Quality Standards/Waste Discharge

The Proposed Project includes a mix of uses, each of which has the potential to directly and indirectly impact water quality through point and nonpoint source discharges given their proximity to the Santa Clara River. In addition, short-term construction activities also have the potential to cause a variety of water quality impacts. Although the project proposes a wide range of design features to minimize its water quality impacts and must comply with regulations designed to prevent water quality degradation

(e.g., the General MS4 NPDES Permit, the General Construction NPDES Permit, the SUSMP, and City of Santa Clarita requirements), nevertheless, the potential for the Proposed Project to violate water quality standards or waste discharge requirements remains. Therefore, project impacts are considered potentially significant and mitigation is required.

Groundwater Supplies and Groundwater Recharge

The Proposed Project would not be supplied with water drawn from either regional or local groundwater sources. Thus, the Proposed Project would not substantially deplete groundwater supplies such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. As a result, impacts to groundwater supplies would be less than significant.

According to the Basin Plan, the project site is not located directly over a regional groundwater basin. Thus, the Proposed Project would not 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. As a result, impacts to groundwater recharge would be less than significant.

Alteration of Existing Drainage and Erosion

With project implementation, the total debris volume from the approximately 677-acre tributary watershed would decrease from 15,948 cy to 8,401 cy, a 47 percent decrease. County- and City-defined criteria for the design of flood control systems establish the more severe burned and bulked hydrologic condition as the basis for impact evaluation. With development of the Proposed Project, burned and bulked condition runoff from the site would also decrease from 1,946 cfs to 1,706 cfs, a 14.1 percent decrease. Two-year storm flows from both of the drainage areas on the site would increase from 470 cfs to 496 cfs. Two detention basins would be constructed on-site to offset this increase. The reduction in sedimentation and debris production is a result of reduced erosion of the site due to coverage of much of the development area with pavement, roofs, vegetation, and other non-erosive surfaces. It is also a result of the proposed debris basins that would capture sediment and debris in upstream runoff. With these improvements in place, the project would reduce post-construction impacts concerning on- and off-site erosion, downstream sedimentation, and debris production and transport and would therefore represent a less than significant impact.

Alteration of Existing Drainage and Flooding

The Proposed Project would alter the existing drainage pattern on the site by placing fill in canyons and directing surface runoff into storm drainage facilities. However, all site runoff would continue to flow in approximately the same location as it does currently and would be discharged to the Santa Clara River as it is currently. Further, as discussed above, compared to existing site conditions during a 50-year storm, burned and bulked runoff volumes would be reduced by approximately 14 percent.

Therefore, the Proposed Project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. Therefore, the Proposed Project would have a less-than-significant impact with respect to alteration of existing drainage patterns.

Project Runoff Water and Stormwater Drainage Systems/Additional Sources of Polluted Runoff

The Proposed Project would increase the amount of runoff from those areas of the site that would be covered by roads, buildings, paved parking areas, and other relatively impermeable or impervious features. Specifically, impervious surfaces on the site would increase the amount of clear flow runoff from the site, while burned and bulked runoff and debris volumes would be reduced because the developed portions of the site would be over-covered with impervious surfaces and non-erodible vegetation, and because debris basins that would reduce the amount of debris and sediment in the runoff are proposed at upstream locations. Clear flows would increase by 7 percent over existing conditions while burned and bulked flows being discharged from the site would be reduced by 14 percent. This reduction in burned and bulked flows is largely due to the proposed upstream debris basins that would capture upstream bulk flows and allow debris to settle out from the runoff before it enters the storm system through the developed portion of the site. As a result, there would be a net decrease in runoff and the project would not result in downstream flooding. Therefore, site runoff would not cause an exceedance of river capacity and project impacts under this criterion would be less than significant.

Furthermore, since storm flows from upstream off-site areas would be channeled through the site in facilities designed for the 50-year capital storm, and since on-site runoff would be accommodated in facilities designed for the 25-year urban storm pursuant to LACDPW requirements, no on-site or upstream flooding resulting from inadequately designed storm drainage facilities would occur. As a result, project impacts under this criterion would be less than significant.

As discussed above, the inclusion of BMPs in the project design can be expected to prevent the Proposed Project from providing substantial additional sources of polluted runoff. Therefore, project impacts associated with polluted runoff would be less than significant.

Project Degradation of Water Quality

Construction and operation of the Proposed Project have the potential to cause the degradation of water quality and the violation of water quality standards and waste discharge requirements. These concerns are addressed by the incorporation of project design features, required compliance with established regulations intended to minimize water quality impacts, and additional mitigation measures. Other than those issues already discussed above, the Proposed Project also has the potential to degrade water quality as a result of on-site sewage generation. However, as discussed in Section V.L.2, Utilities – Sewers, the Proposed Project would connect to public sewers and its sewage treated by the Santa Clarita Valley Joint Sewerage System. There would be no on-site sewage disposal. Since the Santa

Clarita Valley Joint Sewerage System has more than enough capacity to handle the additional sewage generated by the Proposed Project, the project would not be expected to otherwise substantially degrade water quality and would therefore have a less than significant impact under this criterion.

Housing Within a 100-year Flood Hazard Area

The project encroaches upon the existing FEMA flood hazard area, but the area that encroaches include only open space areas with no proposed housing. Therefore, project-related impacts with respect to the placement of housing in a flood zone would be less than significant.

Structures Within a 100-year Flood Hazard Area Impeding or Redirecting Flood Flows

The project encroaches upon the existing FEMA flood hazard area, but the area that encroaches include only open space areas with no proposed housing. Therefore, project impacts to flood flows within the river would be less than significant.

Exposure of People or Structures to a Significant Risk of Loss, Injury or Death Involving Flooding

The project site is located inland from the Pacific Ocean and not in proximity to any large, continuously filled bodies of surface water; therefore, it is not subject to seiche or tsunamis. There are no dams situated upstream of the project site. Furthermore, the site is subject to some debris flows; however, adequate building setbacks from natural slopes and debris control facilities proposed in upstream areas of the site would protect the project development from mudflow hazard. Therefore, project impacts relating to exposure of people or structures to a significant risk of loss, injury, or death involving flooding would be less than significant.

Exposure of People or Structures to a Risk of Levee or Dam Failure

As discussed above, the project site is not in the potential inundation area of an upstream levee or dam. Therefore, the Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam and is, therefore, a less than significant impact.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The

following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Flood Control and Drainage

All development within the portion of the watershed of the Santa Clara River located in Los Angeles County, including that within the City of Santa Clarita, is required to comply with the Los Angeles County capital flood control requirements to ensure that upstream or downstream flooding does not occur. Compliance with these requirements ensures consistency with the County's Qcap model. Pursuant to LACDPW requirements, all drainage systems in developments that carry runoff from developed areas must be designed for the 25-year urban storm, while storm drains under major and secondary highways, open channels (main channels), debris carrying systems, and sumps must be

designed for the 50-year capital flood storm. LACDPW also prohibits significant increases in off-site post-development storm flows and significant increases in storm flow velocities. Development in the Los Angeles County portion of the watershed must also comply with LACDPW design criteria. As a result of compliance, overall storm runoff discharge quantities from the watershed under post-development runoff conditions would be less than or equal to existing conditions largely because the runoff would be free of the debris that is typical of undeveloped watershed and flow velocities would not increase significantly. Because on-site facilities would already have been built for burned and bulked flows from undeveloped areas, they would have more than adequate capacity to accommodate off-site flows as the off-site portions of the drainage areas develop.

Runoff from all of the 12 related project sites ultimately discharges to the Santa Clara River, though not all do so to Reach 7, as does the Proposed Project site. This would continue to be the case following the development of these projects, with some allowances for on-site infiltration and/or evaporation. However, only Related Project Nos. 4 (Riverpark) and 9 (Plum Canyon) would appear to have the potential to directly impact the same tributary drainages as the Proposed Project. As the analysis of the Proposed Project demonstrates, development in these drainage courses in compliance with the requirements outlined above would result in a decrease in burned and bulked runoff as the hillsides of each drainage catchment develop. Detailed design of individual project stormwater conveyance systems that would rely in part on storm drainage facilities built under another project would be required to coordinate so that the facilities are sized correctly to address combined runoff quantities. Discharge quantities into the Santa Clara River from these drainages under post-development conditions would be less than under existing conditions because the runoff would be free of the debris that is typical of undeveloped watersheds. As a policy, both the City of Santa Clarita and the LACDPW prohibit significant increases in flow velocity from a project site; therefore, adherence to this policy would result in no significant cumulative increases in velocity or erosion/sedimentation impacts within SCR Reach 7 to which these related projects and the Proposed Project would drain.

Other projects within the City of Santa Clarita and Los Angeles County would be subject not only to the same general requirements as the Proposed Project, but also to such other requirements as the City of Santa Clarita (as applicable) and LACDPW would specifically identify for them based on their unique topographic and geologic characteristics.

The analysis of project conditions, above, demonstrates that project development, which must comply with all these City and County requirements, would not create any unmitigable significant impacts. Compliance with applicable regulations would result in a reduction in post-development discharges from the project site as compared to pre-development levels, and thus runoff from the project would not cumulatively increase the drainage impact of watershed-wide development.

Because cumulative project drainage improvements in the City of Santa Clarita and Los Angeles County would be required to conform to the requirements of the City of Santa Clarita Department of Engineering Services and the LACDPW in order to handle the capital flood from the affected watershed, no potentially significant cumulative project flooding impacts are expected to occur from the incremental impacts of the project. The development criteria of each jurisdiction will ensure that no potentially significant cumulative impacts will occur.

Hydromodification

The limited hydromodification impact research to date has focused on empirical evidence of channel failures in relationship to directly connected impervious area (DCIA) or total impervious area in a particular watershed or drainage area. Impervious area that drains directly to a storm drain system and then to the receiving water is considered “directly connected,” whereas impervious area that drains through vegetation or to infiltration facilities is considered “disconnected.”

Booth and Jackson (1997) reported finding a strong correlation between loss of channel stability and increases in DCIA. In Washington State, streams display the onset of degradation when the DCIA increases to 10 percent or more. Even a lower imperviousness of five percent was found to cause significant degradation in sensitive watersheds. The Center for Watershed Protection describes the impacts of urbanization on stream channels and establishes thresholds based on total imperviousness within the tributary drainage area. It states “a threshold for urban stream stability exists at about 10 percent imperviousness.” It further states that a “sharp threshold in habitat quality exists at approximately 10 percent to 15 percent imperviousness.” GeoSyntec’s work in the San Francisco Bay area’s Santa Clara Valley also evaluated the relationship between imperviousness and stream channel degradation in an area that had predominately directly connected impervious areas. GeoSyntec found similar results to those published by Booth and Schuler, where channel erosion was observed at approximately six to nine percent imperviousness for two separate watershed systems. More recent studies conducted by GeoSyntec in this same watershed area showed that levels as low as two to three percent total imperviousness could lead to stream channel degradation.

The Southern California Coastal Water Research Project (SCCWRP) found signs of hydromodification impacts in Southern California streams when watershed percent imperviousness was around two to three percent for streams with a catchment drainage area of less than 5 mi². Recognizing that their findings are limited to the type and size of catchments that were measured, the researchers in the SCCWRP study attempted to develop a framework by which their results could be extended to other stream types. They developed a classification system based on watershed characteristics, stream channel characteristics, and stream channel resistance, and suggested these features could be important in selecting management strategies and approaches.

The Level 1 classification developed by the SCCWRP study is based on watershed characteristics that include the size, shape, and topography of the watershed. The catchment drainage area (CDA) is stated to be the most obvious differentiator among watersheds, as this is likely to have the greatest effect on runoff. The SCCWRP study focused on small watershed (< 5 mi²) whereas the CDA of the Santa Clara River at the project site is about 240 mi². Based on the differences in CDA it is unclear if the results of the SCCWRP are applicable to the Santa Clara River. Information in the SCCWRP report, based in part on the work of Zielinski (2002) suggests that smaller watersheds are more responsive and sensitive to changes in land use, whereas larger watersheds (> 30 mi²) were said to be less responsive to land use changes. However, other studies, including GeoSyntec's work in the San Francisco Bay area found significant hydromodification impacts on streams of watersheds that were 40 mi² in size. This suggests that the CDA by itself should not be used to guide management strategies, but rather it is the amount of development relative to the size of the contributory CDA that should be considered. If a large watershed is densely developed over its entire area, it too will likely show significant hydromodification impacts.

Based upon the lack of scientific consensus regarding threshold level of DCIA that trigger hydromodification, there does not appear to be sufficient information to establish a quantitative significance criterion for hydromodification impacts to the Santa Clara River. Together, the information above suggests that a threshold for hydromodification impacts in the Santa Clara River is in the range of two to 10 percent total cumulative impervious area in the contributing watershed. The absolute measure of watershed imperviousness that can cause stream instability in the Santa Clara can depend on many factors including watershed area, land cover, and soil type; development impervious area and connectedness; longitudinal slope of the river; channel geometry and local boundary materials, such as bed and bank material properties, and vegetation characteristics. Therefore, taking into account several factors, we must qualitatively assess the likelihood for cumulatively significant hydromodification impacts associated with the project.

The estimated cumulative level of percent impervious area at build-out in the Santa Clara River watershed upstream from the Proposed Project is 8.9 percent. This estimate is based on land use data provided by the LACDPW using general plan zoning compiled by the Southern California Association of Governments. The estimates are conservative and likely represent a maximum level of impervious cover (based on current zoning) because they assume that all zoned areas are built-out with maximum levels of DCIA. This assumption may not be appropriate for two reasons. First, as a matter of land planning and zoning standards, often certain percentages of open space, set back, and landscape area are required, which will reduce DCIA. For example, project includes development clustering that retains a considerable portion of the project tract area as open space, such that the percent impervious cover within the tract area is significantly less than the impervious cover based on representative values for zoned land-uses.

Second, the MS4 Permit contains site design BMPs for all new development projects and significant redevelopment projects that require clustering of land use, and minimization of DCIA, and incorporation of hydromodification controls to meet flow criteria adopted by the LACDPW under Part 4, § D.1 of the MS4 Permit. While all projects must abide by these regulatory requirements, no attempt is made to quantify the likely level of decrease in DCIA that will be achieved as a result. Therefore, the ultimate impervious cover in the watershed above the project location based on current zoning information could be as high as about eight percent, but could be somewhat lower if future developments comply with MS4 requirements. It is also possible that future changes to land use zoning could result in increases to the impervious area in the watershed, however any attempt to estimate future zoning changes would be speculative.

The contribution of the project to cumulative hydromodification impacts to the Santa Clara River is difficult to assess. As the MS4 Permit recognizes, a larger regional study, and more quantitative approach to determining the potential cumulative hydromodification impacts to the Santa Clara River is needed to more definitely assess the project contributions to the cumulative impacts. However, such a regional study is not yet available. The information above indicates that the project could potentially contribute to adverse cumulative hydromodification impacts to the Santa Clara River.

The cumulative development of about nine percent of the watershed with impervious surface is within the two percent to ten percent total impervious surface range identified by prior studies as a threshold for hydromodification impacts to the Santa Clara River. As the MS4 Permit recognizes, a larger regional study that considers all the factors affecting channel stability is needed to more definitely assess whether development of approximately nine percent of the watershed will substantially affect channel stability and, as a result, habitats within the Santa Clara River. However, this regional study is still pending, and is not yet available. In the absence of such a regional study for the entire Santa Clara River system we conclude that, collectively, the information above indicates that adverse cumulative hydromodification impacts may result from planned build-out of the project watershed.

However, it is estimated based on the land use data provided by LADPW, that the Proposed Project will comprise 0.2 percent of the total impervious area in the watershed above the project location at ultimate planned build-out for the watershed. Therefore, the project's incremental contribution to the total impervious area at build-out is minor. Further, as discussed above, the project includes a number of hydrologic source control PDFs, including site planning project design features to protect the natural drainage course, promote infiltration and minimize DCIA, as well as swales, detention basins and bioretention areas to reduce runoff volumes. To assure that the project complies with any new flow standards that may be adopted in the future, the project will be conditioned to require, as a design feature, design of the hydrologic features to control post-development runoff as necessary to meet flow criteria that may be adopted from time to time under Part 4, § D.1 of the MS4 Permit. These measures assure that the project contributes to hydromodification control for the Santa Clara River in accordance

with standards designed to reduce impacts from changes in flow to natural drainage systems. These avoidance and minimization measures substantially lessen the project contribution to hydromodification impacts to the Santa Clara River.

Remaining impacts to channel stability will be localized impacts associated with storm drainage outlets to the Santa Clara River. Scour or erosion may occur at outlet locations. To mitigate these impacts, stabilization measures, such as ungrouted or grouted rip rap, will be located in the vicinity of the outlet structure in accordance. Localized outlet protection will be sufficient to mitigate localized scour and erosion caused by construction of project storm drain outlets.

Based on the area of impervious surface proposed, the avoidance and minimization provided by the various hydromodification source controls as PDFs, the fact that the project will be conditioned to include PDFs to meet future flow control standards established under the MS4 Permit to protect the river from hydromodification impacts, and that future development projects within the watershed will control flow in compliance with the requirements of the MS4 Permit, the project's contribution to cumulative hydromodification impacts to the Santa Clara River would be less than significant and consistent with the requirements of the MS4 Permit.

Construction

Compliance of the Project with the MS4 Permit, the SUSMP Manual, and the Construction General Permit and General Waste Discharge Requirements constitutes compliance with regulatory requirements that address cumulative water quality impacts sufficiently to protect receiving water beneficial uses and water quality objectives. Compliance of this project and of probable future projects with these regulatory requirements assures mitigation of those impacts to a level of insignificance.

Groundwater Quality and Recharge

The anticipated quality of urban runoff discharges from the project's developed areas to groundwater will not contribute loads or concentrations of pollutants of concern that would be expected to cause or contribute to a violation of the groundwater quality standards. Therefore, the project's incremental effects on groundwater quality are not expected to be significant.

The project's discharges to groundwater, after PDFs, both during construction and post-development, is predicted to comply with adopted regulatory requirements that are designed by the RWQCB to assure that regional development does not adversely affect water quality, including MS4 Permit and SUSMP requirements; General Construction Permit requirements; General Dewatering Permit requirements; and benchmark Basin Plan groundwater quality objectives. Any future urban development occurring in the Santa Clara River watershed must also comply with these requirements. Therefore, cumulative impacts on groundwater quality from the Proposed Project and future urban development in the Santa

Clara Watershed are addressed through compliance with the MS4 Permit and SUSMP requirements, General Construction Permit requirements, General Dewatering Permit requirements, and benchmark Basin Plan groundwater quality objectives, which are intended to be protective of beneficial uses of the groundwater. Based on compliance with these requirements designed to protect beneficial uses, cumulative groundwater quality impacts are mitigated to a level that is less than significant.

Increased urbanization in the Valley has resulted in the irrigation of previously undeveloped lands. The effect of irrigation is to maintain higher soil moisture levels during the summer than would exist if no irrigation were occurring. Consequently, a greater percentage of the fall/winter precipitation recharges groundwater beneath irrigated land parcels than beneath undeveloped land parcels. In addition, urbanization in the Santa Clarita Valley has occurred in part because of the importation of State Water Project (SWP) water, which began in 1980. SWP water use has increased steadily, reaching nearly 44,500 acre-feet (AF) in 2003. Two-thirds of this water is used outdoors, and a portion of this water eventually infiltrates to groundwater. The other one-third is used indoors and is subsequently routed to local water reclamation plants (WRPs) and then to the Santa Clara River (after treatment). A portion of this water flows downstream out of the basin, and a portion infiltrates to groundwater.

Records show that groundwater levels and the amount of groundwater in storage were similar in both the late 1990s and the early 1980s, despite a significant increase in the urbanized area during these two decades. This long-term stability of groundwater levels is attributed in part to the significant volume of natural recharge that occurs in the streambeds, which do not contain paved, urban land areas. On a long term historical basis, groundwater pumping volumes have not increased due to urbanization, compared with pumping volumes during the 1950s and 1960s when water was used primarily for agriculture. Also, the importation of SWP water is another process that contributes to recharge in the Valley. In summary, urbanization has been accompanied by long-term stability in pumping and groundwater levels, plus the addition of imported SWP water to the Valley, which together have not reduced recharge to groundwater, nor depleted the amount of groundwater that is in storage within the Valley.

Based on the above discussion, the cumulative impact on groundwater recharge is considered less than significant.

MITIGATION MEASURES

Project Mitigation Measures

The following mitigation measures are required in order to reduce the potentially significant impact of the Proposed Project on receiving water quality to a less than significant level:

- H-1** The Proposed Project shall comply with the MS4 Permit including the SUSMP requirements to reduce the discharge of pollutants to the maximum extent practicable.
- H-2** The Project Applicant shall obtain authorization through the RWQCB for coverage under the Construction General Permit for general construction activity and the General Dewatering Permit. The applicant shall avoid and minimize potential temporary water quality impacts by including provisions in the final engineering plans and specifications of each project component together with associated instructions to the contractors, assuring compliance with applicable RWQCB and City of Santa Clarita requirements. The project engineer shall file a notice of intent to discharge stormwater and an application for coverage under the NPDES stormwater permit for general construction activity with the RWQCB before starting construction. All construction activities shall be subject to this requirement, including preparation of a SWPPP.
- H-3** The project's Drainage Concept Study and Hydrologic Analysis shall be reviewed and approved by the LACDPW prior to the issuance of any grading permits. This analysis shall demonstrate that site drainage can adequately be collected and conveyed via the proposed drainage facilities without significantly impacting downstream hydrology, wetland functions, and/or water quality.
- H-4** The Project Applicant shall prepare an Erosion and Sediment Control Plan to address construction impacts and long-term operational effects on downstream environments and watersheds. This plan shall be prepared by a qualified Civil Engineer. Proposed management efforts may include (but not be limited to) provisions for the use of vegetative filtering, preparation of detailed erosion control plans, appropriate use of temporary debris basins, silt fences, sediment traps, and other erosion control practices. The proposed plan shall also address all relevant NPDES requirements and recommendations for the use of best available technology. The erosion control plan shall be reviewed and approved by the City Engineer prior to issuance of grading permits.
- H-5** The Project Applicant shall submit a final drainage report including an evaluation of adequacy of all on-site drainage improvements. The final drainage report shall be based on final project plans and shall provide engineering detail on all proposed drainage improvements demonstrating that such improvements meet all County of Los Angeles requirements and design standards for stormwater infrastructure. The final drainage report shall be submitted to the City of Santa Clarita and LACDPW for review and approval prior to issuance of any project permits.
- H-6** All BMPs proposed in the project's SWPPP shall be implemented prior to and during construction activities. The project contractor shall implement all BMPs as described in the

SWPPP to reduce potential water quality impacts. Final review and approval of this plan shall be completed by the City of Santa Clarita prior to issuance of grading permits. At a minimum, the BMPs shall address soil stabilization, sediment control, wind erosion control, tracking control, non-stormwater control, waste management and materials pollution control practices, and emergency spill control and response measures. Typical BMPs that shall be considered for inclusion in the SWPPP include:

- temporary sediment control: silt fencing, sandbagging, strawbale ground-covering, fiber roll barriers, and desilting basins;
- temporary soil stabilization: hydroseed straw or mulch, seeding, soil binders, erosion control mats or blankets;
- preservation of existing vegetation outside construction areas;
- stockpile management: size restriction, runoff control, covers;
- sediment tracking control: street sweeping, cover hauling trailers; and
- waste management: spill prevention, concrete wash management, material delivery and storage, vehicle fueling and cleaning.

- H-7** The on-site storm drain (pipes and reinforced concrete boxes) and open channels shall be designed and constructed for either the 25-year urban storm or 50-year capital storm per Los Angeles County requirements.
- H-8** Debris basins shall be constructed pursuant to LACDPW requirements to intercept flows from undeveloped areas entering into the developed portions of the site.
- H-9** Energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters shall be installed as required by LACDPW at outlet locations to reduce velocities of runoff into the SCR where necessary to prevent erosion.
- H-10** All on- and off-site flood control improvements necessary to serve the project are to be constructed to the satisfaction of the City of Santa Clarita and/or LACDPW Flood Control Division.
- H-11** Per the General Construction Permit, a contingency “Sampling and Analysis Plan” shall be developed in the event that the BMPs implemented at the construction site fail to prevent non-visible pollutants from discharging from the site. BMPs shall be inspected prior to storm events, every 24 hours during extended events, and after the storm events to ensure proper function of the BMPs and to identify necessary repairs in a timely manner. A record of the inspections and repairs shall be documented in the SWPPP.

- H-12** Following the completion of the construction project and when the site has been stabilized, a Notice of Termination for coverage under the General Construction Permit shall be filed with the RWCQB.
- H-13** During all construction phases, temporary erosion control designed to retain soil and sediment on the site shall be implemented, including:
- re-vegetating exposed areas as quickly as possible;
 - minimizing disturbed areas;
 - diverting runoff from downstream drainages with earth dikes, temporary drains, slope drains, etc.;
 - velocity reduction through outlet protection, check dams, and slope roughening/terracing;
 - dust control measures, such as sand fences, watering, etc.;
 - stabilizing all disturbed areas with blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, and/or other erosion resistant soil coverings or treatments;
 - stabilizing the construction entrance/exist with aggregate underdrain with filter cloth or other comparable method;
 - placing sediment control BMPs at appropriate locations along the site perimeter and all operational internal inlets to the storm drain system at all times during the rainy season (sediment control BMPs may include filtration devices and barriers, such as fiber rolls, silt fence, straw bale barriers, and gravel inlet filters, and/or with setting devices, such as sediment traps or basins); and/or
 - eliminating or reducing, to the extent feasible, non-storm water discharges (e.g., pipe flushing, and fire hydrant flushing, over-watering during dust control, vehicle and equipment wash down) from the construction site through the use of appropriate sediment control BMPs.
- H-14** All necessary permits, agreements, letters of exemption or a Verification Request Letter from the ACOE and/or the CDFG for project-related development are to be obtained prior to issuance of grading permits.

H-15 By October 1st of each year, a separate erosion control plan for construction activities shall be submitted to the local municipality describing the erosion control measures that will be implemented during the rainy season (October 1 through April 15).

Cumulative Mitigation Measures

No significant cumulative hydrology and water quality impacts would occur; therefore, no cumulative mitigation measures are recommended.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Implementation of the proposed design features and BMPs in combination with the required mitigation measures, H-1 through H-15 would reduce project water quality and drainage impacts to less-than-significant levels.

Cumulative

Because cumulative project drainage improvements in the City of Santa Clarita and Los Angeles County would be required to conform to the requirements of the City of Santa Clarita Department of Engineering Services and the LACDPW in order to handle the capital flood from the affected watershed, no potentially significant cumulative project flooding impacts are expected to occur from the incremental impacts of the project. Therefore the project's incremental contribution is not considerable and impacts would be less than significant.

Compliance of the proposed and related projects with the MS4 Permit, the SUSMP requirements, and the Construction General Permit and General Dewatering Permit constitutes compliance with regulatory requirements that address cumulative water quality impacts and reduce them to a less-than-significant level. Thus, project and related project impacts cumulatively are not expected to exceed thresholds of significance and no unavoidable significant water quality impacts are expected to occur. Therefore the project's incremental contribution is not considerable and impacts would be less than significant.

V. ENVIRONMENTAL IMPACT ANALYSIS

I. LAND USE

ENVIRONMENTAL SETTING

The project site is located between Bouquet Canyon Road, Plum Canyon Road and Soledad Canyon Road. Topographically, the site consists of two steep canyons, three ridgelines (one primary and two secondary) and a series of mesas. The site drains to the south and discharges into the Santa Clara River. The most southeasterly canyon drains portions of the project site, as well as some off-site development to the east. This canyon is steep sided and supports riparian vegetation. The other canyon is the location of the LA DWP right-of-way with transmission lines. This canyon is less steep and supports a coastal sage scrub plant community.

Existing Land Uses

The project site is vacant. The site is not in pristine condition as portions have been subject to mining and farming activities in the past. In addition, the site exhibits scars from illegal off-road activity, mostly associated with motorcycles and Quad-runners. Also, the site includes trash, construction debris, abandoned automobile parts and numerous 55-gallon drums.¹

Surrounding Land Uses

The project site is situated immediately west of an existing single-family residential neighborhood. Property to the north is currently under construction with a residential development that includes extension of Golden Valley Road from Plum Canyon Road south to the project site boundary. Northwest of the project site is an existing single-family residential neighborhood. To the west of the project site, the City Council recently approved a development project, Riverpark that will include residential and commercial uses. South of the site, new commercial and industrial parks are being developed south of the Santa Clara River. Farther south, new single-family and multi-family residential neighborhoods have been recently developed. For greater discussion on surrounding land uses, see Section III. Environmental Setting.

¹ Phase I Environmental Site Assessment, Proposed Ermine Street Project, 17-acre site, Santa Clarita, California (Job No. 2003-400-51, RTFA, Geotechnical Engineering & Engineering Geology, November 10, 2003

Applicable Land Use Plans and Codes

The land use for the Project Site and immediate area to the east, west and south is regulated by the City of Santa Clarita. Though the area to the north is unincorporated Los Angeles County and regulated by that agency, the land is within the Planning Area of the City of Santa Clarita.²

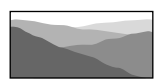
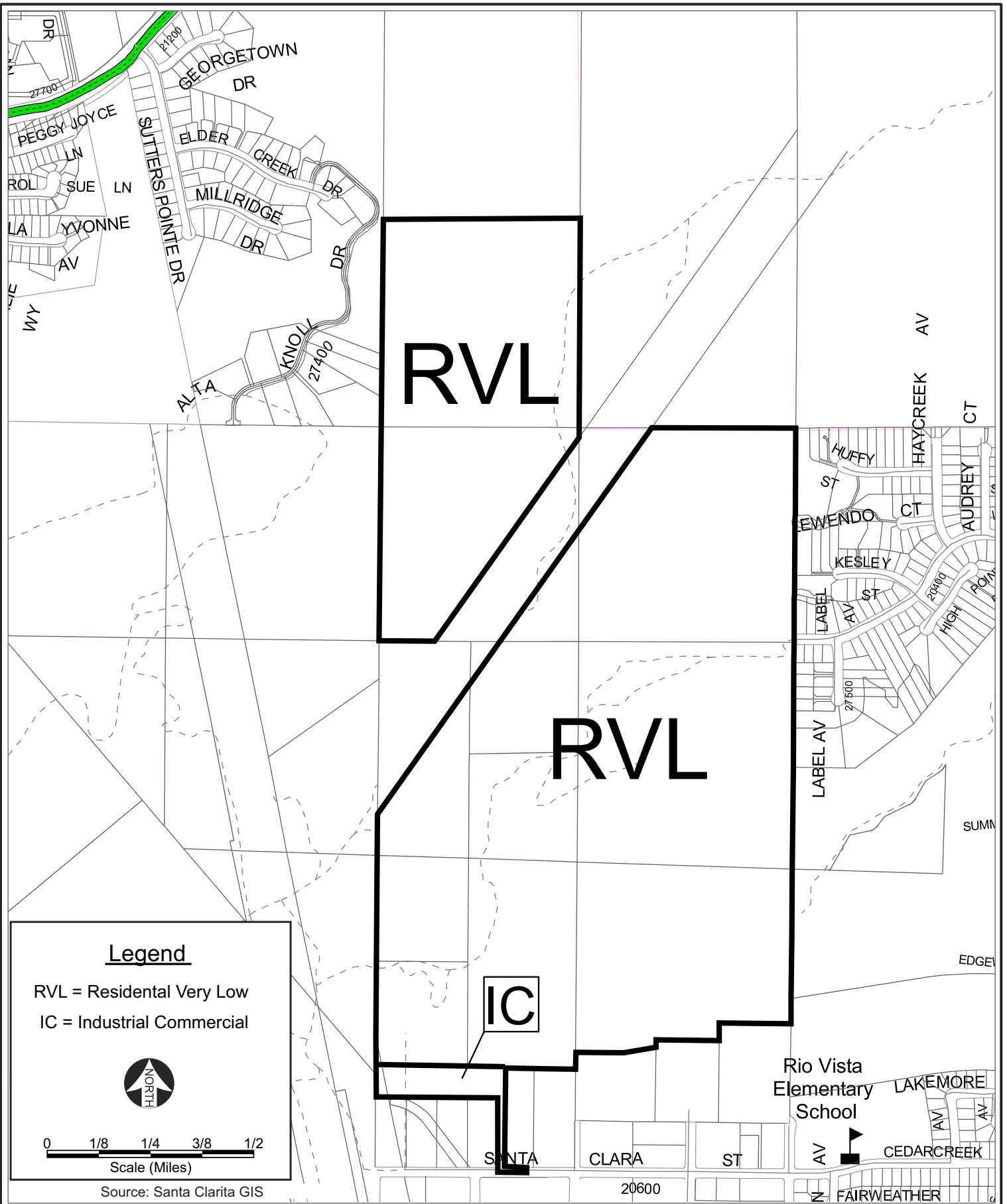
City of Santa Clarita General Plan

The City of Santa Clarita General Plan was developed in accordance with State planning and zoning law, which requires each County and City to adopt a comprehensive, long-term General Plan. The General Plan is the foundation upon which all land use decisions are based. It expresses community development goals and embodies public policy relative to the distribution of future land use pursuant to State Government Code Section 65300. The City is currently in the process of preparing a comprehensive update to the 1991 General Plan. The current General Plan includes the state mandated elements including the land use element which is perceived as the single most representative element of the General Plan. Specifically, the land use element serves as the guide for future development, indicating the location and extent of existing and planned land uses.

Existing Land Use Designations

The focus of the land use element is on the goals and policies for land use development, including population and building densities and intensities for property. Land use categories are used in the land use element to depict the general distribution, location and extent of public and private use of land. The General Plan Land Use Map indicates that the project site is designated as Residential Very Low (RVL) and Industrial Commercial (IC). Due to the topography of the site with the two ridgelines forming steep canyons and a series of mesas, the majority of the 246-acre site is designated RVL, 242.1-acres, with IC constituting 3.7-acres of flat land connecting the site across the Santa Clara River to Santa Clara Street to the south. These existing land use designations for the project site are depicted on Figure I-1.

² *City of Santa Clarita General, 1988, identifies the planning are to encompass the 256 square mile Santa Clarita Valley generally bounded on the west by the Ventura County line, on the north by the Los Padres and Angeles National Forests, on the south by the Santa Susana and San Gabriel Mountains and on the east by the community of Acton.*



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Figure V.I-1
 Existing General Plan Land Use and Zoning

The RVL designation as indicated in the Santa Clarita General Plan Land Use Element states the following:

“Residential Very Low (RVL) is a single-family detached category to encourage the development of 1 unit per gross acre. There are already areas of development existing at this density within the City. This category will permit the rural and country character of a number of existing neighborhoods to be maintained. The keeping of horses and related animals is generally found in this category. Large custom single-family homes are expected to develop in this category.”

The Santa Clarita General Plan Land Use Element indicates that the IC permits a limited, low patronage range of commercial uses, quasi industrial and light industrial activities, research and development activities, encourages the provision of employees recreation opportunities, and acts as a transitional or mixed land use. The element further states:

“The purpose of this category is to provide a designation for the continuation of the commercial and manufacturing activity now in existence in the Honby, Pine Street, and Sierra Highway areas and permit reasonable and controlled expansion, if warranted. Development intensity for this category will be governed by floor area ratios ranging between 0.5 – 01.0:1.”

The Land Use Element also provides for the concept of overlay land uses. The City states that “an overlay land use provides an opportunity for the property owner to accomplish more detailed planning for the property, consistent with the goals and policies of the general plan. Overlay land uses are also used to designate areas of environmental significance, such as significant ecological areas (SEA) and mineral and oil areas (MOCA). In cases where these overlays are utilized, development of the base land use must take into account the preservation, continued viability, usage, ownership, maintenance, or in the case of mineral and oil, the termination of that land use. If it is determined through a site specific land use study approved by the City of Santa Clarita, then the designation will have no effect on the development of the base land use.” Approximately 15.6 acres of the southern portion of the project site boundary (lots 101 and 121) includes SEA Number 23, the Santa Clara River; however, it does not include a MOCA.

Unified Development Code

Existing Zoning Districts

The City of Santa Clarita Unified Development Code (UDC) is a codification of the general and permanent subdivision and zoning ordinances of the City of Santa Clarita. Specifically, the UDC includes development standards for all zoning districts in the City.

Zoning is the main implementation tool of the General Plan; thus, zoning corresponds to the General Plan land uses designations. The corresponding zoning classifications for the project site include Residential Very Low (RVL) and Industrial Commercial (IC).

Residential Very Low (RVL)

As set forth in the UDC, Title 17, Zoning, the RVL zoning district is planned for single-family dwellings with a maximum land use intensity of 1 dwelling unit (du) per acre. Corresponding to the General Plan land use designation of RVL, this zoning district is intended for large custom single-family homes. This zone will permit the rural character of a number of existing neighborhoods to be maintained.³ The keeping of horses and related animals as an accessory uses is generally found in this zone.” Table V.I-1, provides the development standards for the RVL.

**Table V.I-1
Residential Very Low (RVL) Development Standards**

	Development Standards
Density – maximum units per gross acre	1.0 du/ac ¹
Net Lot area	40,000 sq. ft.
Lot Width	100 ft.
Cul-de-sac/knuckle lot width	40 ft.
Front yard setback	20 ft.
Side yard setback/each side	5 ft./5 ft.
Side yard setback, reverse corner lot	20 ft.
Rear yard setback	15 ft.
Maximum height of main structure	35 ft.
Maximum height of accessory structures	35 ft.
Distance between main structures	10 ft.
Distance between main and accessory structures	6 ft.

Source: Santa Clarita Unified Building Code, Section 17.15.010

³ Santa Clarita Unified Building Code, Section 17.11.020.

**Table V.I-1
Residential Very Low (RVL) Development Standards**

	Development Standards
<p><i>1 Santa Clarita Unified Building Code, Section 17.15.010 permits density-maximum unit per gross acre in RVL zone of 1 dwelling unit. This is the only difference between RVL and RE (Residential Estate) zone.</i></p>	

Industrial Commercial (IC)

Industrial Commercial (IC) corresponds to the General Plan Land Use Designation IC. This zone district permits a limited, low patronage range of commercial uses, quasi industrial and light industrial activities and encourages the provision of employee recreation opportunities and acts as a transitional zone. As set forth in Title 17, Zoning of the UDC, development standards for the IC zone district is provided in Table V.I-2.

**Table V.I-2
Industrial Commercial (IC) Development Standards**

	Development Standards
Floor area ratio (FAR)	0.75:1
Setback from right-of-way ¹	10 ft./5 ft.
Building and structure height ²	35 ft.
Structure setback from residential zones or uses	25 ft.
<p><i>Source: Santa Clarita Unified Building Code, Section 17.15.010</i></p> <p><i>1 A minimum of five (5) foot wide landscaped setback shall be required where structures are located adjacent to a right-of-way, except where they are located adjacent to a major or secondary highway where they are located adjacent to a major or secondary highway where the minimum setback shall be increased to ten (10) feet. -</i></p> <p><i>2 Buildings and structures exceeding thirty-five (35) feet in height shall require approval of a conditional use permit.</i></p>	

Subdivision Ordinance

Pursuant to the State Subdivision Map Act, the City of Santa Clarita adopted a Subdivision Ordinance (Title 16 of the UDC), which requires review and approval of the subdivision of land within the City of Santa Clarita. A tentative tract map is required for any subdivision of land consisting of four lots or more for residential purposes.

Ridgeline Preservation and Hillside Development Ordinance

The Ridgeline Preservation and Hillside Development Ordinance (Chapter 17.80 of the UDC) is intended to “regulate the development and alteration of hillside areas and ridgelines, to minimize the adverse effects of hillside development and to provide for the safety and welfare of the City of Santa

Clarita while allowing for reasonable development of hillside areas.” The methods specified in the ordinance are intended to maintain the essential natural characteristics of the area, preserve certain ridgelines to retain the integrity of the predominate off-site and on-site views in hillside areas to “maintain the identity, image and environmental quality of the city.

According to the City’s ridgeline map, the highest ridgeline on the site is designated as a “Primary Ridgeline” while two other ridges have been classified as “Secondary Ridgelines”. These designations are intended to protect the hill forms from grading. Figure III-5 (Environmental Setting Section) depicts the primary and secondary ridgelines on the project site.

Grading

The UDC (Chapter 17.29) establishes grading procedures for development within the City of Santa Clarita. The purpose of the regulation is to ensure that development, grading and landscaping are sensitive to the natural surroundings of the development site.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, a project may be deemed to have a significant impact on the environment if it will:

- a) Physically divide an established community;
- 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; or
- c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Project Impacts

Requested Discretionary Applications or Actions

Discretionary entitlements requested for the proposed Keystone project would include requests to construct 979 dwelling units (96 single-family lots, 667 multi-family condominium units and 216 multi-family apartments), a 1,200-1,600 student and 60 faculty/staff junior high school, approximately 30,500

square foot community/fitness YMCA center, a trail system, and open space, extension of Golden Valley Road, of which, 1,890 feet is located off-site connecting to Newhall Ranch Road.

To implement the Proposed Project, the City of Santa Clarita has received applications for the following actions, permits or entitlements:

1. **General Plan Amendment 03-002.** The current General Plan designates 242.1-acres of the project site as Residential Very Low (RVL) and 3.7-acres as Industrial Commercial (IC). A General Plan Amendment has been requested by the Project Applicant to change the land use designation of the project site to Residential Suburban (RS) and Residential Medium High (RMH). However, 0.5 acres that are currently designated IC would remain IC under project implementation. The current Significant Ecological Area (SEA) overlay zone would remain.
2. **Zone Change 03-002.** Approximately 242.1-acres of the project site is currently zoned Residential Very Low (RVL) and 3.7-acres Industrial Commercial (IC). The Proposed Project includes a request to revise the site zoning for approximately 52-acres to Residential Suburban (RS) and approximately 193.3-acres Residential Medium High (RMH) including the 3.2-acre area from IC to RMH. The 0.5-acre lot would remain as IC zone classification under project implementation.
3. **Vesting Tentative Tract Map (VTTM 060258) 0-003.** Approval of the Vesting Tentative Tract Map is required to subdivide the site into 96 single-family lots, four lots for multi-family residential development (216 apartments, 667 condominiums totaling 883 multi-family units) and one lot as industrial (no proposed development), a junior high school, recreation use (YMCA facility), trails, utilities, roadways and open space. The proposed Vesting TTM would subdivide the site into 132 lots.
4. **Conditional Use Permit 03-016.** The Proposed Project requires approval of a Conditional Use Permit for approval of: (1) the Innovative Application for development on ridgelines; (2) gate guarded residential entries; (3) height of project entry monument accessory structure (4) YMCA use and height of structure; and (5) height of multi-family structures.
5. **Hillside Plan Review 03-006.** A hillside plan review is necessary for proposed development on slopes with an average cross slope of greater than 10 percent and development on ridgelines classified as primary or secondary. The intent of the hillside ordinance is to “regulate the development and alteration of hillside areas and ridgelines, to minimize adverse effects of hillside development and to provide for safety and welfare of the City of Santa Clarita while allowing for the reasonable development of hillside areas” (UDC Section 17.80.010). An Innovative Application is required to develop on City identified ridgelines

classified as primary or secondary. The Project Applicant proposes development on two ridgelines classified as “secondary”.

6. **Oak Tree Permit 03-066.** An Oak Tree Permit is required for the removal of two off-site oak trees for the construction of the off-site extension of Golden Valley Road to Newhall Ranch Road. In addition, one on-site oak tree would require removal for grading of a slope on Lot 115.

Community Division

The potential for the Proposed Project to physically divide an established community is based on comparison of the existing land uses on and adjacent to the Proposed Project site. As previously discussed, the project site is currently undeveloped. The project site is currently bounded to the north by a residential project (Sun Cal) currently under construction and to the northwest by an existing single-family residential neighborhood. Further, the land to the east is currently developed with single-family homes. In addition, the City Council recently approved Riverpark project to the west for residential development. Therefore, the Proposed Project would not physically divide any established community or uses and impacts would be less than significant.

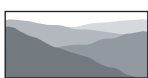
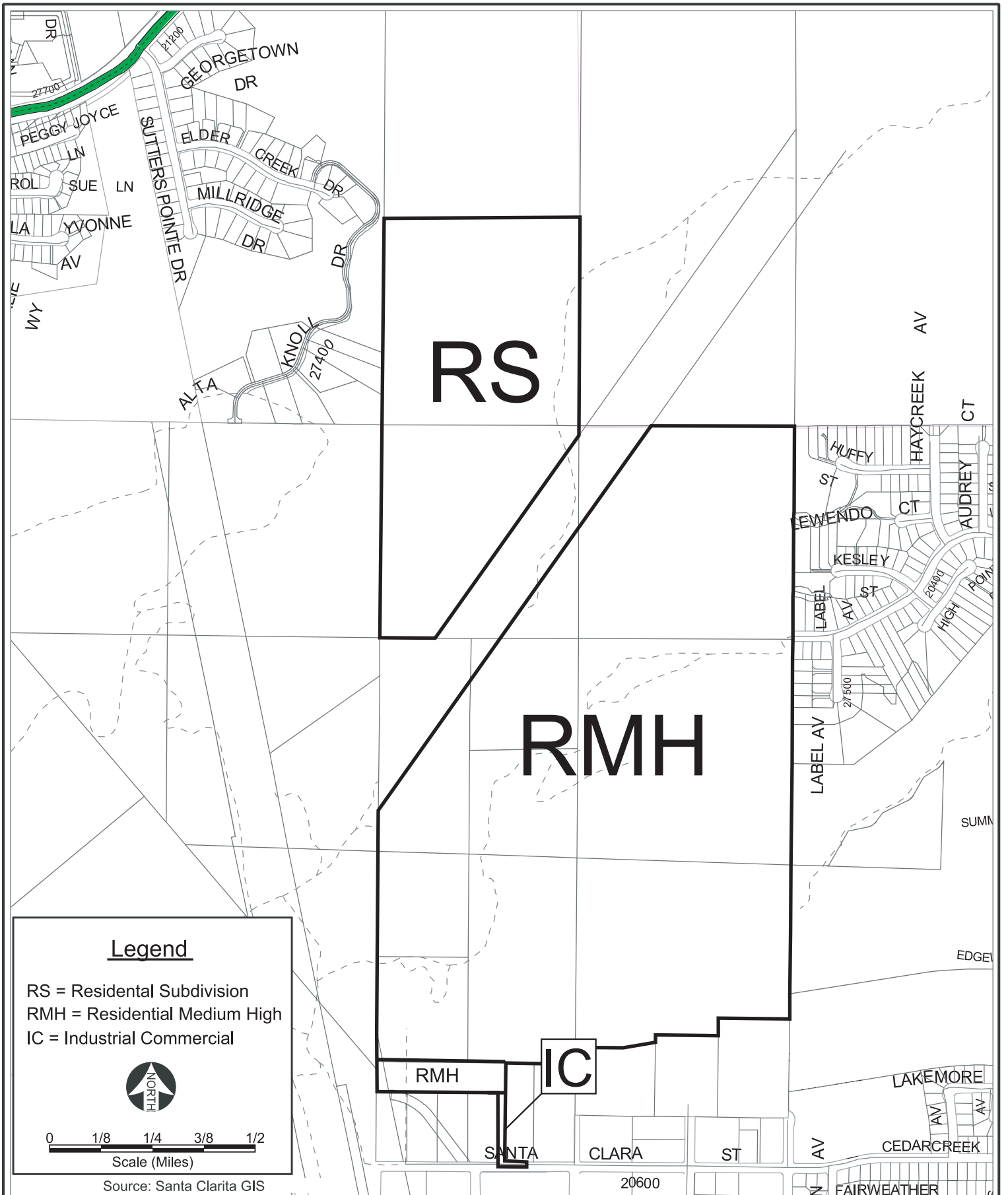
Conflict with any Applicable Conservation Plan or Natural Community Conservation Plan

The project site boundary includes portions of the Santa Clara River (Lot 123), which is designated as a Significant Ecological Area (SEA)(No. 23). The Project Applicant does not propose development within the SEA. Further, there are no habitat conservation plans or natural community conservation plans that are applicable to the Proposed Project. Therefore, the Proposed Project would not conflict with any habitat conservation plan or community conservation plan and impacts would be less than significant.

Consistency with Land Use Plan

City of Santa Clarita – General Plan

The City of Santa Clarita General Plan is the primary policy-planning document, which guides land uses in the City. The Project Applicant is requesting a General Plan Amendment that would include residential land use designations. The Amendment would allow for greater density than what is permitted under the current designation of RVL (Residential Very Low), which would also allow the construction of the proposed Keystone project. Figure VI.I-2 presents the project site area proposed land use designations. The proposed General Plan designations include: Residential Suburban (RS) and



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Figure V.I-2
Proposed General Plan Land Use and Zoning

Residential Medium High (RMH). The existing Industrial Commercial (IC) designation would remain with some minor adjustments as described in the following paragraphs.

Residential Suburban (RS)

The northern area west of the LA DWP right-of-way and transmission lines is proposed as Residential Suburban (RS). This designation would permit the proposed single-family residential development for this area of the project site.

The General Plan defines Residential Suburban (RS) as a designation “intended to correspond to the typical single-family detached tract home developments found throughout the planning area. The density range in this category is from 3.4 to 6.6 dwellings per gross acre with a mid-range density of 5 dwellings per gross acre.”

Based on the slope analysis for the project site in the northern area, west of the LA DWP right-of-way and transmission lines, the proposed RS designation would permit 98 dwelling units and the project proposes 96 single-family units. This proposal would be consistent with the use and density requirements of the RS designation, if the requested General Plan Amendment is approved by City Council.

Residential Medium High (RMH)

The area east of LA DWP right-of-way and transmission lines and north of the Santa Clara River is proposed as Residential Medium High (RMH). This residential designation would permit the proposed apartment and condominium development of the project with approval by City Council. In addition, a small portion (approximately 3.2 acres) of the land designated as Industrial Commercial (IC) located at the southerly end of the existing Residential Very Low (RVL) designation is also proposed as RMH. The 0.5-acre lot would remain as Industrial Commercial (IC) with no proposed development.

The General Plan defines RMH designation to allow “grouped housing in townhomes, triplexes, fourplex and larger group housing. Ownership generally would be through condominium or fee simple, when the complex is provided as rental housing. Specialized development, such as senior housing and affordable housing are possible at the upper end of the density range.”

The density of development for this category ranges from 15.1 to 25.0 units per gross acre, with a mid-range density of 20 dwelling units per gross acre. Under this designation, the General Plan would permit 1,144 dwelling units for the project area east of the LA DWP right-of-way and transmission

lines.⁴ The project proposes 883 multi-family residential units for this area. The proposed YMCA and junior high school are each subject to a Conditional Use Permit within the RMH designation.⁵ This proposal would be consistent with the use and density requirements of the RMH, if the General Plan Amendment is approved by City Council.

Industrial Commercial (IC)

The 0.5 acre industrial commercial lot that crosses the Santa Clara River to the industrial area on Santa Clara Street is proposed to remain as Industrial Commercial. A small portion (approximately 3.2 acres) of the area currently designated IC immediately adjacent to the lot to the north is proposed to change to RMH as described above.

According to the General Plan, the IC designation “permits a limited, low patronage range of commercial uses, quasi industrial and light industrial activities, research and development activities, encourages the provision of employee recreation opportunities and acts as a transitional or mixed land use. Development intensity for this category is governed by floor area ratios ranging between 0.5-1.0:1.” The Project Applicant does not propose development in the 0.5-acre lot.

Project Consistency with General Plan Designations Conclusion

Project consistency is dependant upon City Council approval of the proposed General Plan Amendment. With the General Plan Amendment approval, The Keystone project’s proposed uses may be considered consistent with the RS, RMH and IC development standards. However, the proposed GPA is required to be approved by City Council and the proposed YMCA and junior high school are each subject to Conditional Use Permits in the RMH designation as required by the City of Santa Clarita’s Unified Building Code.

Consistency with City of Santa Clarita General Plan Element Goals and Policies

The City of Santa Clarita General Plan contains goals and numerous policies to guide development and uses planned within the City. Existence of an inconsistency between a Proposed Project and an applicable general plan is a legal determination, vested in the City Council and subject to court review if challenged. Inconsistency is not an impact under CEQA – plan inconsistencies in and of themselves

⁴ Sikand Engineering, memorandum, January 20, 2005.

⁵ Santa Clarita Uniform Building Code, Section 17.13.030.

are not significant impacts on the environment under CEQA. The City of Santa Clarita General Plan Element Goals and Policies and their applicability to the Proposed Project are discussed in Table V.I-4.

Consistency with the Unified Development Code

Implementation of the Proposed Project would be subject to a Zone Change and application of the Ridgeline Preservation and Hillside Development Ordinance. Like the General Plan Amendment, the Zone Change and the Innovative Application for Ridgeline Preservation and Hillside Development Ordinance are subject to approval by City Council. With approval, The Keystone project’s proposed densities may be considered consistent with the RS and RMH zones and the permitted hillside densities of the Ridgeline Preservation and Hillside Development Ordinance. Inconsistency is not an impact under CEQA – plan inconsistencies in and of themselves are not significant impacts on the environment under CEQA.

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES		ANALYSIS
Noise Element		
Goal 2:	To prevent and mitigate adverse impacts of traffic generated noise on the residents of the City and the planning area.	<i>Section V.K, Noise, proposes, as impact mitigation, noise attenuation walls to shield residential uses located along Golden Valley Road from vehicular noise impacts. Subject to approval by City Council, The Keystone project would include a variety of street widths designed to accommodate the Proposed Project’s housing product. Section V.K. Noise includes recommended mitigation measures to provide either specified setbacks along certain portions of Golden Valley Road to or provide barriers (e.g. earthen berms or solid masonry walls) between the buildings and roadways to attenuate traffic noise impacts to some of the multi-family residences. The recreational facility, YMCA, and the junior high school are proposed on site in an area that is not immediately adjacent to residential uses. An</i>
Policy 2.2:	Encourage existing and future noise sensitive land uses to construct sound barriers to protect against significant noise levels, where appropriate and feasible. Noise absorbing barriers are encouraged.	
Policy 2.4:	Reduce significant noise levels related to through-traffic in residential areas by promoting subdivision circulation designs to contain a hierarchy of streets,	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>which efficiently direct traffic to highways.</p> <p>Policy 2.6: Work with local transit agencies to improve and expand current public transit services and routes to reduce trip-generated noise.</p> <p>Policy 2.8: Design parks, recreational facilities, and schools to minimize noise impacts to residential uses.</p>	<p><i>existing residential neighborhood is located to the northeast and Proposed Project residential uses are separated by the proposed extension of the Golden Valley Road; thus, separating the recreational and school facilities from residential uses. Further, Section VII. Alternatives include analysis of two alternatives relating to potential noise impacts. One alternative examines the project with the recommended setbacks provided in Section V.K. Noise as recommended mitigation measures. The other alternative examines a re-aligned Golden Valley Road Alternative, which re-locates the roadway westerly away from the existing Ermine Street residential neighborhood.</i></p>
<p>Goal 3: To prevent and mitigate significant noise levels in residential neighborhoods.</p> <p>Policy 3.1: Require that developers of new single-family and multi-family residential neighborhoods in areas where the ambient noise level exceed 55 dB (A)(night) and 65 dB (A)(day) provide mitigation measures for the new residences to reduce the interior noise level.</p> <p>Policy 3.2: Ensure that special noise sources, such as construction activities, leaf blowers, motorized lawn mowers, garbage collection, truck</p>	<p><i>Section V.K. Noise, includes mitigation measures that would reduce indoor noise levels and noise impacts to residential uses so that noise levels will not exceed 65dBA CNEL. With implementation of these measures, impacts would be less than significant. Residences of the Ermine Street neighborhood to the east are also separated by approximately 250 feet from the nearest on-site uses and would be located at a higher elevation (see Section V.K. Noise, for greater discussion). Further, project construction is subject to the City's Noise Ordinance construction hours of 7:00 AM to 7:00 PM Monday through Friday and 8:00 AM through 6:00 PM on Saturday if construction occurs within 300 feet of existing residential</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>deliveries, and other activities, which produce significant discernible noise do not create undue disturbances in residential neighborhoods.</p> <p>Policy 3.3: Require that those responsible for construction activities develop techniques to mitigate or minimize the noise impacts on residences, and adopt standards which regulate noise from construction noise activities which may occur in or near residential neighborhoods.</p> <p>Policy 3.4: Require that developers of schools, child care centers, senior housing and other noise sensitive uses in areas where the ambient noise level exceeds 65 dB(A)(day) provide mitigation measures for these uses to reduce interior noise levels.</p>	<p>uses.</p>
<p>Goal 4: To prevent, mitigate, and minimize noise spillover from commercial/industrial uses into adjacent residential neighborhoods.</p> <p>Policy 4.1: Develop, adopt and enforce a standard for all commercial uses of 70 dB (A) (night) and 80 dB</p>	<p><i>The proposed Keystone project does not include any proposed commercial/industrial development. However, the project would be located in proximity to existing commercial/industrial uses. However, these uses are separated by the project site by the Santa Clara River and due to the distance, any potential noise generated by the existing uses would be attenuated by the distance and</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>(A) (day), which cause adverse levels of significant discernible noise on adjacent residential neighborhoods.</p> <p>Policy 4.2: Require appropriate noise buffering between commercial and industrial and residential land uses.</p> <p>Policy 4.3: Establish standards for the control of noise from commercial and entertainment establishments when adjacent to residential land uses.</p>	<p><i>intervening topography.</i></p>
Air Quality Element	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>Goal 2: To reduce emissions resulting from work and non-work vehicle trips by private and local government employees.</p> <p>Policy 2.3: Develop in the City and promote in the planning area alternative transportation systems including, but not limited to, comprehensive bus service, bicycle and pedestrian trails, and associated support facilities.</p> <p>Policy 2.4: Promote programs that reduce vehicle emissions, including walking, bicycling, ridesharing, transit subsidies, staggered work schedules, public transit enhancement, telecommuting, tele-education, and park-and-ride facilities.</p> <p>Policy 2.7: Encourage the use of communication technology as an alternative to vehicle trips.</p>	<p><i>Local transit routes along Soledad Canyon Road would serve the project site. Subject to approval, the Proposed Project would include class 1 bicycle lanes along Golden Valley Road that would connect to Newhall Ranch Road's class 1 bicycle lanes. Theoretically, the Newhall Ranch Road bicycle lanes, when constructed would provide access to nearby commercial and retail uses that can be reached by bike. In addition, the proposed Keystone project would include a multi-use trail along the Santa Clara River that allow non-motorized vehicle use. This trail would connect to the west to the western boundary of the recently approved Riverpark project's multi-use trail. This trail can be used by non-motorized vehicles and horses which would also connect to other trails in the area providing access to nearby commercial and retail uses. Further, Golden Valley Road would include bus turn outs and bus stops for the local transit system. The Proposed Project would not include any standard that would prevent individuals from using technology to tele-educate or tele-commute.</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>Goal 3: To reduce emissions from peak-period truck travel and number and severity of truck-involved accidents.</p> <p>Policy 3.4: Require on-street haul routes for earth movement to identify appropriate, safe travel routes to minimize impacts to other vehicular traffic, pedestrians, and sensitive land uses.</p>	<p><i>The proposed Keystone project does not include commercial or industrial development; thus, no commercial truck traffic would be generated by the project. No import or export of dirt is proposed. No on-street haul routes would be required for the project as the site would be a balanced cut and fill project. Section V.C. Air Quality addresses construction truck traffic impacts.</i></p>
<p>Goal 4: To reduce transportation source emissions by promoting efficient and creative parking plans which reduce vehicle emissions.</p> <p>Policy 4.1: Promote local solutions to parking management, including such actions as parking facility design which reduces vehicle idling or programs which discourage the use of single occupant vehicles in congested areas.</p> <p>Policy 4.2: Encourage parking areas that provide appropriate technology (such as electric vehicle charging stations) and parking preferences for alternative fuel/low emission vehicles.</p> <p>Policy 4.3: Encourage commercial and industrial uses to provide</p>	<p><i>Subject to approval by City Council, the YMCA and recreation building and the junior high school would include drop off lanes in front of the proposed facilities. On-site traffic congestion and off-site vehicle queuing onto the site, and associated vehicle idling would be minimized. Further, parking areas would be provided in accordance with the existing City's UDC parking standards.</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
employee carpool and vanpool areas.	
<p>Goal 5: To reduce vehicle emissions through traffic flow improvements.</p> <p>Policy 5.1: Develop and implement traffic flow improvements in order to reduce congestion, conserve energy, and improve air quality.</p> <p>Policy 5.3: Maintain adequate levels of service on roadways and at intersection to reduce emissions from delays.</p> <p>Policy 5.4: Provide Class One bike trails to increase capacity of on-street travel lanes.</p>	<p><i>Section V.O. Transportation includes mitigation measures that address traffic flow. The project would involve construction of the Golden Valley Road and extension of Golden Valley Road by approximately 1,890 feet outside of the project site boundary to connect to the future extension of Newhall Ranch Road as part of the City's implementation of its master circulation plan. Construction of these roadways would assist in traffic flow in the area and overall help to reduce congestion in the area and thus improve air quality conditions and the project site. The project also proposes provision of right-of-way for class one bike trails. Construction of the project, roadways and bike lanes are subject to approval by City Council.</i></p>
<p>Goal 6: To reduce vehicle emissions through promotion of appropriate building and site design criteria.</p> <p>Policy 6.1: Encourage new development, through the project review process, to incorporate appropriate building and site design criteria to minimize vehicular emissions, such as those resulting from on-site circulation patterns.</p>	<p><i>The proposed traffic mitigation measures and on-site circulation plan have been prepared to the satisfaction of SCAQMD and the City of Santa Clarita. The Proposed Project is primarily a residential subdivision with a YMCA and junior high school. The proposed circulation plan includes curvilinear streets, which minimize street gradients and grading impacts. No commercial or industrial development is proposed that would exercise lot orientation and building design to minimize dependency on heating and cooling systems that result in the use of air polluting energy</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>Policy 6.5: Promote building and landscaping design that incorporates the use of solar energy, particularly the use of solar water heating for structures and swimming pools.</p>	<p><i>sources. Sidewalks and trails are proposed in the project site plan that would take pedestrians from the site to nearby commercial. Further, the Proposed Project has gone through the City's development review process and site design review.</i></p>
<p>Goal 7: To reduce reactive organic gas (ROG) and particulate emissions from building materials and methods.</p> <p>Policy 7.1: Encourage the use of low-polluting building and construction methods and materials.</p> <p>Policy 7.2: Encourage building designs, materials and equipment that reduce the potential for indoor air pollution.</p>	<p><i>Paints, solvents and other materials that result in evaporative emissions generally generate indoor air polluting materials. The SCAQMD has rules for construction materials and architectural coatings. Materials not meeting SCAQMD rules are not for sale or use within the South Coast Air Basin.</i></p>
<p>Goal 8: To reduce emissions from energy consumption in residential, commercial, and governmental facilities.</p> <p>Policy 8.3: Promote the use of landscaping, especially trees, to reduce heat buildup, save energy and help cleanse the air.</p> <p>Policy 8.6: Establish the use of appropriate, well-directed lighting to minimize</p>	<p><i>The encouragement of the use of alternative energy sources is the responsibility of the City of Santa Clarita. The project would include landscaping and shade trees to reduce heating and cooling needs and to help cleanse the air. The project is subject to the requirements of Title 24, which reduces on-site energy consumption. With the exception of solar energy, no other alternative energy sources are readily available in the Santa Clarita Valley. There is no guarantee that project residents would continuously utilize and maintain energy</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>light spillover and conserve energy.</p>	<p><i>solar systems, if installed; therefore, the requirement that energy solar systems be installed does not guarantee long-term reduced energy consumption. Green Building Guidelines are policies that must first be prepared and adopted by the City of Santa Clarita and are not the responsibility of the Project Applicant. Section V.B. Aesthetics provides mitigation encouraging the use of lighting fixtures that would minimize light spillover and conserve energy.</i></p>
<p>Goal 10: To reduce vehicle emissions by creating an urban form that efficiently utilizes urban infrastructure and services.</p> <p>Policy 10.1: Contribute to the reduction of vehicle miles traveled by achieving a more reasonable job/housing balance.</p> <p>Policy 10.2: Develop and encourage efficient transportation systems and land use patterns which minimize total trips and vehicles miles traveled.</p> <p>Policy 10.7 Encourage transit-friendly and pedestrian friendly improvements and design in commercial, industrial and residential development to provide convenient alternatives to single-</p>	<p><i>The Proposed Project involves construction of 979 residential units, provision of a finished graded lot for a YMCA facility and a finished graded lot for a junior high school. The project is housing rich, however the project would help reduce VMT by placing a junior high school within the project area for both future residents and existing adjacent residential neighborhoods. In addition, the project would be in close proximity to the local MetroLink station on Soledad Canyon Road that would be available for residents to use for commuting to employment centers in the San Fernando Valley, Los Angeles and beyond. Also, the project would include class one bike trails that would connect to other existing trails linking residential to commercial areas. The use of the transit and bike trails could reduce some motor vehicle trips. As a result of reduced commutes and other vehicle trips, vehicle miles traveled and air pollutant emissions could be reduced if</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
occupancy vehicle travel.	<i>the project were approved by City Council.</i>
<p>Goal 13: To reduce particulate (dust) emissions.</p> <p>Policy 13.1: Implement measures to reduce particulate emissions from paved and unpaved roads, parking lots, and road and building constructions sites.</p>	<p><i>SCAQMD requires implementation of all rules and regulations adopted by the Governing Board of the SCAQMD, which are applicable to the development of the subdivision (such as rule 402 – Nuisance and Rule 403 – Fugitive Dust) and which are in effect at the time of development.</i></p> <p><i>The purpose of the air quality impact analysis conducted for The Keystone project is to evaluate air quality impacts relative to the methodologies and standards set forth by the SCAQMD. By calculating project air quality impacts and by recommending mitigation measures to reduce these impacts to the extent required by SCAQMD and as feasible, mitigation is proposed in Section V.C., Air Quality, to reduce project-related air quality impacts to less than significant levels. However, no feasible mitigation exists which would reduce peak construction and daily operational emissions below the SCQAMD’s recommended thresholds of significance. With mitigation, impacts would be significant and unavoidable for construction and operational air quality.</i></p>
Safety Element	

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City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>Goal 2: Minimize risks to life and property associated with geologic hazards, including, but not limited to, landsliding, liquefaction, debris flow, mudslides, rockfalls, and expansive soils.</p> <p>Policy 2.2: Continue to require site-specific geotechnical studies for new development proposals in zones of required investigation as defined in the Seismic Hazards Mapping Act and elsewhere as appropriate.</p>	<p><i>The City of Santa Clarita is responsible for ensuring that all construction be prepared in accordance with current building codes and regulation and for preparing and updating the Ridgeline Preservation and Hillside Development Ordinance. The Project Applicant has proposed development that requires removal and relocation of the site's two secondary ridgelines. The Project Applicant has submitted to the City an Innovation Planning Application outlining site design and grading techniques in relation to development on the secondary ridgelines, which is subject to approval by City Council. Section V.B Aesthetics addresses the visual implications of the project and application of the Ridgeline Preservation and Hillside Development Ordinance. Section V.I Land use addresses the project's application of the zoning regulations (e.g., slope density) of the Ordinance. The City has required the Project Applicant to provide site-specific geotechnical reports.</i></p>
<p>Goal 5: To minimize potential damage and hazards resulting from fire.</p> <p>Policy 5.2: All new development must be served by a water system that meets the fire flow requirements established by the Fire Department.</p>	<p><i>The Fire Department has reviewed and commented on the Proposed Project and has required mitigation measures (refer to V.M.1, Public Services, Fire Protection) that would ensure fire protection. Further, the project would construct all roadways to the established standards of the City of Santa Clarita. The project includes construction of Golden Valley</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>Policy 5.3: Require all public and private roadways to be constructed according to the minimum standards provided for in this <u>General Plan</u> to ensure that vehicular access for emergency vehicles can be maintained.</p> <p>Policy 5.4: Promote adequate fire protections service to ensure the maximum safety feasible throughout the Valley and work to maintain a less than 6-minute response time in the urbanized portions of the planning area.</p> <p>Policy 5.8: Encourage dual access, particularly in mountainous and high fire risk areas.</p>	<p><i>Road (of which approximately 1,890 feet is off-site) that would connect with Newhall Ranch Road and a secondary access is proposed from Ermine Street to Golden Valley Road. In addition, the single-family development would have a secondary emergency access to "I" Street. The Proposed Project as described in Section IV. Project Description is subject to approval by City Council.</i></p>
<p>Open Space and Conservation Element</p>	
<p>Goal 1: To preserve the special natural features which define the Santa Clarita planning area and give it its distinct form and identity.</p> <p>Policy 1.1: Utilize major environmental features (significant landforms, significant ridgelines, significant vegetation, ecologically significant areas, other natural resources) as</p>	<p><i>The project includes approximately 71-acres (or nearly 30 percent) of the site would remain as natural open space and another 88-acres as graded open space lots. The project site design preserves the on-site primary ridgeline, though the two secondary ridgelines would be altered with housing, roadways, and construction of a faux ridgeline. The project is subject to approval by City Council. The open space lots in the Santa Clara River are not proposed for</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>open space within the planning area.</p>	<p><i>development and those lots would remain in the current natural conditions as open space.</i></p>
<p>Policy 1.6: Link buffer areas, whenever possible, to provide for contiguous area of open space.</p>	<p><i>Thus, the project would contribute to establishing and maintaining the river as a major open space corridor. The project proposes a multi-use trail along the Santa Clara River linking trails proposed in the project vicinity. Homeowners associations would maintain the open space areas outside of the Santa Clara River.</i></p>
<p>Policy 1.9: Establish the Santa Clara River and its tributaries, when appropriate, as a major centralized open space corridor linking a variety of public recreation and open space uses.</p>	<p><i>The proposed junior high school site would include outdoor recreational amenities to be jointly used by the school district and the general public for recreation. The project would include trail system linking the junior high school with residential neighborhoods and the general community at large.</i></p>
<p>Policy 1.10: Establish and implement landform grading standards which minimize the impact of grading operations and foster replication of naturally recurring landforms.</p>	
<p>Policy 1.11: Encourage the expansion of the paseo systems and the building of paseos or linkages between parks and streets.</p>	
<p>Policy 1.12: Require, where practical, the incorporation of unique or significant natural features into new development, new roadways, and new trails through the Municipal Zoning Code</p>	

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City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>Goal 2: To preserve designated and natural ridgelines in the planning area to maintain the aesthetic character of the Santa Clarita Valley.</p>	
<p>Policy 2.1: Adopt a Ridgeline Preservation Ordinance that identifies prominent primary and secondary ridgelines, which shall be preserved as open space and which should not be modified, incorporating sensitive slope and grading regulations to interface with such primary and secondary ridgelines, including identification and standards for other significant physiographic features.</p>	<p><i>The City of Santa Clarita is responsible for adopting a Ridgeline Preservation and Hillside Development Ordinance. The Ordinance is Chapter 17.80 of the City of Santa Clarita's Unified Development Code. The Ordinance establishes slope rating and provides guidelines for grading and development. The Proposed Project site includes a prominent ridgeline and two secondary ridgelines as the dominant topographic features of the site. The project site also includes the edge of the Santa Clara River. The Project Applicant has submitted an innovative development application to the City for consideration as part of the requested discretionary approvals. Uses and development within the envelope of the ridgelines is permitted as long as the development meets criteria of the Ordinance and Innovative Development application process. The Proposed Project is subject to approval by City Council which would include construction of homes on the secondary ridgelines.</i></p>
<p>Policy 2.2: Establish and require a slope rating system (steep, moderate, low) to identify development suitability and to establish guidelines for grading and development practices.</p>	
<p>Policy 2.4: Protect and provide for scenic vista points, where consistent with other policies of this plan, for protection of ridgelines and sensitive development techniques.</p>	
<p>Policy 2.5: Consider the use of building height restrictions to lessen the</p>	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>impact of development of ridgeline lots.</p>	
<p>Goal 3: To protect significant ecological resources and ecosystems, including, but not limited to, sensitive flora and fauna habitat areas.</p> <p>Policy 3.3: Identify and protect areas of significant ecological value, including, but not limited to, significant ecological habitats such as the wildlife corridor between the Santa Susana Mountains and the San Gabriel Mountains and preserve and enhance existing Significant Ecological Areas (SEAs).</p> <p>Policy 3.4: Consolidate open space areas that represent regionally significant wildlife corridors to promote continued wildlife productivity and diversity on a regional scale and restrict development and intensive human activity in areas which sustain rare or endangered species, such as migratory bird species, fish, and rare plant species.</p> <p>Policy 3.5: Promote only compatible and,</p>	<p><i>Section V.D. Biological Resources of this EIR identifies areas of significant ecological value and proposes mitigation measures to reduce impacts on site. Further, the project does not propose development within the Santa Clara River SEA, which ensures preservation of the SEA. Subject to approval by City Council, the project would involve construction in the canyons that are tributaries to the Santa Clara River and thus eliminate these areas as wildlife corridors. Lots within the River are proposed as open space with no development; thus no development within the Santa Clara SEA and the project would help preserve the River as a wildlife corridor. Since the project does not propose development in the SEA, the integrity as a wildlife corridor is protected and thus human activity is discouraged in the SEA. The project proposes a trail along the Santa Clara River edge and thus does not introduce intense human activity within the Santa Clara River.</i></p>

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City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>where appropriate, passive recreational uses in areas designated as Significant Ecological Areas (SEA) consistent with the particular needs and characteristics of each SEA, as determined by field investigation.</p> <p>Policy 3.7: Preserve to the extent feasible natural riparian habitat and ensure that adequate setback is provided between riparian habitat and surrounding urbanization.</p> <p>Policy 3.10: Development shall consider to the extent feasible, preservation of wildlife corridors and provide adequate setbacks.</p>	
<p>Goal 4: To preserve open space areas for recreational use as a natural buffer to more intensive land uses.</p> <p>Policy 4.1: Identify potential sites for parks and recreational open space within the City, including the Santa Clara and South Fork Rivers.</p> <p>Policy 4.3: Provide a diverse mix of recreational use and scenic view areas within open space sites.</p> <p>Policy 4.4: Encourage the cohesive development of trails and open</p>	<p><i>The Proposed Project does not designate the project areas as open space or recreational within the Santa Clara River. However, the project proposed a multi -use (bike, horse, hiking) recreational trail along the river edge. The project would include approximately 21.4 acres for a school site and 4.3 acre site for the YMCA site facility. The school would include outdoor recreational facilities such as tennis courts, basketball courts and soccer/ball fields that would be used by the community at large for recreational purposes. In addition, the project would include class one bike trails and hiking trails throughout the project site. The provision of the YMCA and school site facilities</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>space as a unified system, contiguous throughout the City and planning area with linkages to County, state, federal, and other parklands and trail systems.</p>	<p><i>would allow use of these recreational facilities for the greater community. The Project Applicant proposes trails on-site that would connect to the Citywide trail system. The proposed multi use trail along the Santa Clara River as well as the Class 1 bike trails on Golden Valley Road would be conveyed to the City of Santa Clarita. The Proposed Project trails support open space linkages throughout the community. The project does not propose active recreational uses immediately adjacent to existing residential uses. The project would create a Homeowners Association, which would maintain landscaped areas. The project as proposed would be subject to approval by City Council.</i></p>
<p>Policy 4.5: Utilize the Santa Clara River as a focal point for development of an integrated system of bikeways, trails, parks, water features, and open space.</p>	
<p>Policy 4.6: Promote the development of equestrian/bike/pedestrian trails along routes which are viable to the health and safety of horse and rider.</p>	
<p>Policy 4.7: Promote the extension of the County trails system within the planning area in accordance with the Los Angeles County Master Trails Plan and as specifically tailored to the Santa Clarita Valley.</p>	
<p>Policy 4.8: Identify, encourage and request the transfer of trails development and maintenance responsibilities from County jurisdiction to the City Parks and Recreation Department, where appropriate.</p>	
<p>Policy 4.11: Encourage open space linkage</p>	

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City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>opportunities throughout the City and adjacent park and forest areas.</p>	
<p>Policy 4.12: Protect adjacent neighborhood areas from noise, visual, and traffic impacts of new active recreational areas through such measures as the use of buffer zones, landscaping and walls as mitigation.</p>	
<p>Policy 4.14: Promote a coordinated public system of hiking, bicycle, pedestrian, and equestrian trails.</p>	
<p>Policy 4.15: Ensure the provision of a multiple use regional trail system which links major recreational facilities and populated areas.</p>	
<p>Policy 4.16: Seek park sites and open space areas having areas of natural scenic beauty which can be conserved and enjoyed by the public, as well as areas having recreational opportunities.</p>	
<p>Policy 4.17: Promote the establishment of Homeowners Associations and/or Landscape Maintenance Districts within new developments as a means of preserving and maintaining on-site recreation and</p>	

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City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>open space areas.</p> <p>Policy 4.18: Maintain public access to open space areas.</p>	
<p>Goal 5: To use the open space designation to ensure the public health and safety and welfare in areas subject to natural hazards.</p> <p>Policy 5.1: Integrate natural hazard areas, such as floodways, seismic fault zones, and unstable soils, into the open space network.</p> <p>Policy 5.2: Provide adequate flood hazard measures to protect residents, employees, and buildings from flood hazards by restricting development in areas which may be significantly impacted by flooding, within major flood zones or below large dams and reservoirs.</p> <p>Policy 5.3: Prevent public exposure to flood hazards in recognized floodways consistent with Federal Emergency Management Agency (FEMA) requirements.</p> <p>Policy 5.4: Protect public health and safety by designating areas of significant unmitigatable environmental</p>	<p><i>No structures are proposed in the Santa Clara River and thus groundwater recharge can occur, as well as preservation of native habitat. Unstable soils would be addressed consistent with Section V.F. Geology and Soils of this EIR. There are no significant unmitigatable environmental hazard areas on the project site. Section V. H. Hydrology and Water Quality discusses the drainage concept for the project, including slope drainage techniques and methods which would minimize the need for slope irrigation and the construction of large-scale slope drainage systems.</i></p>

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City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>hazards for less intensive uses or permanent open space areas.</p> <p>Policy 5.5: Incorporate the use of flood control measures, which maximize groundwater recharge, and the use of floodways as native habitat.</p> <p>Policy 5.6: Design slope drainage concepts consistent with the identity of community character in the area which:</p> <ul style="list-style-type: none"> • Minimize the need for slope irrigation. • Provide measures for groundwater recharge, either on site or off site. • Minimize the construction and placement of slope drainage structures which are intrusive, out-of-scale, and/or incompatible with the surroundings. 	
<p>Goal 6: To encourage the management and protection of valuable mineral resources in a manner, which will ensure productivity, and utility of</p>	<p><i>A small portion of the project site adjacent to the southern site margin is contained within a Mineral Resources Zone 2 (MRZ-2), which is defined as an area "... where adequate</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>these resources for present and future uses while minimizing disturbance, as feasible, to dissimilar/incompatible surrounding uses.</p> <p>Policy 6.1: Use open space to buffer potentially valuable mineral resource areas from future residential and other sensitive land uses.</p>	<p><i>information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.” However, the vast majority of the project site lies within a Mineral Resource Zone 3 (MRZ-3), which is defined as an area “... containing mineral deposits the significance of which cannot be evaluated from available data. Given that no development is proposed within the project site land classified as MRZ-2, implementation of the project would not preclude or impede mineral resource extraction form MRZ-2 classified land</i></p>
<p>Policy 6.2: Maintain and require buffer areas between mineral extraction operations and adjacent uses as appropriate.</p>	
<p>Policy 6.3: Incorporate environmental mitigation measures into project review and review operations on an ongoing basis to assure that any mitigated environmental effects are continually lessened through the state-of-the-art technology and other innovations.</p>	
<p>Policy 6.4: Require that mineral extraction operations provide and fund a plan for the use of the extraction site once the resource minerals are exhausted. This plan shall include the removal of structures related to mineral extraction, the removal of any on-site toxic materials, and</p>	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>the restoration of the site to a more natural condition or to a form usable for urban uses, if the latter is a suitable land use.</p>	
<p>Goal 7: To protect the quality and quantity of local water resources, including the natural productivity of all surface and groundwater, and important watershed and recharge areas.</p> <p>Policy 7.1: Protect and preserve the supply and quality of water resources in cooperation with federal, state, and regional water resource planning programs and regulations.</p> <p>Policy 7.2: Maintain high water quality standards for all water bodies used for public recreation.</p> <p>Policy 7.3: Maintain the natural productivity</p>	<p><i>The project water quality is discussed in Section V.H. Hydrology and Water Quality with implementation of techniques to protect water quality and water supply in Section V.N. Utilities for water saving strategies and mitigation measures. The project does not propose water bodies for public recreation use. The City of Santa Clarita is responsible for identifying and protecting groundwater recharge areas and encouraging the development of spreading and impound areas. The City has not designated the project site as one of these areas. The project drainage plan is analyzed in Section V.H. Hydrology and Water Quality. It should be noted that the project would include bio-swales⁶ and water quality basins on the project site. The bio-swales⁷ would</i></p>

⁶ Tentative Tract Map 060258, dated 3/25/04, revised 5/10/05, has delineated "bioswale" along the western edge of "I" Street from the 96 single-family lots emergency access road, south to Golden Valley Road.

⁷ Keystone Project Water Quality Technical Report, GeoSyntec, page 54 defines "vegetated swales" as part of the project's Best Management Practices for water quality. The vegetated swales are engineered vegetation-lined channels that provide water quality benefits in addition to conveying stormwater runoff. The swales provide pollutant removal through settling and filtration in the vegetation lining the channels and provides an opportunity for volume reduction through infiltration and evapotranspiration.

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GOALS AND POLICIES	ANALYSIS
<p>of streams, rivers, and other water bodies by supporting regulatory practices which prevent erosion and minimize pollutant content in surface runoff from major development.</p>	<p><i>divert water to the proposed water quality basins located at the southern entrance to the project site along Golden Valley Road. The water quality basin is designed as a functional element allowing for seasonal flooding and has been designed to appear as a small meadow. The project does not</i></p>
<p>Policy 7.4: Prohibit the flow of polluting chemicals or sediments into groundwater recharge areas.</p>	<p><i>propose development within the Santa Clara River even though it provides a multi-use trail above the edge of the river. Thus, scenic relief, groundwater recharge and wildlife protection would occur in the Santa Clara River along the project edge. Section V.H. Hydrology and Water Quality addresses water quality and the projects proposed water quality features. The Proposed Project would utilize, as much as possible, native and drought tolerant plant species for re-vegetation. The Proposed Project connects to the City's wastewater system.</i></p>
<p>Policy 7.5: Identify and protect groundwater recharge areas and encourage the development of spreading and impoundment areas.</p>	
<p>Policy 7.6: Require storm control systems, where necessary, to conform to the natural drainage patterns of the area.</p>	
<p>Policy 7.7: Utilize floodways for the purpose of recreation, scenic relief, groundwater recharge, wildlife protection, and other compatible uses.</p>	
<p>Policy 7.8: Protect watersheds that represent significant components of local and regional waterways and/or which contribute to the integrity of surrounding associated habitats.</p>	
<p>Policy 7.12: Encourage the use of native and drought tolerant plant species for</p>	

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GOALS AND POLICIES	ANALYSIS
<p>revegetation and landscaping.</p> <p>Policy 7.13: Protect groundwater quality through the establishment of a sanitary sewer system hook-up program to require the connection of all urban uses/densities.</p> <p>Policy 7.14: Monitor all industries whose operation or refuse is potentially contaminating to the water supply or whose use of a private well may seriously overdraft the aquifer.</p>	
Circulation Element	
<p>Goal 1: To provide a circulation system to move people and goods safely and efficiently throughout the City of Santa Clarita and the general planning area.</p> <p>Policy 1.5: Establish street standards which are sensitive to topographical constraints, necessary grade separations and other special needs.</p> <p>Policy 1.9: Where alignments are known, the preservation of corridor rights-of-way should be immediately established.</p>	<p><i>The Keystone project includes curvilinear streets that are designed to minimize street gradients. The street layout responds to the existing natural contours of the hillside topography. Consequently, the proposed street system would be sensitive to topography. The project has preserved the corridor rights-of-way for Golden Valley Road that would be constructed.</i></p> <p><i>Extension of Golden Valley Road is part of the City of Santa Clarita Master Plan of Roadways designed to improve circulation in the City. Currently, Golden Valley Road extension from Plum Canyon Road (in unincorporated Los Angeles County) to the northern project site boundary is under</i></p>

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GOALS AND POLICIES	ANALYSIS
<p>Policy 1.11: Improve circulation facilities to provide improved levels of service and standards of safety over current traffic operations with a priority to improve local transportation patterns.</p>	<p><i>construction. The project would extend Golden Valley Road from Newhall Ranch Road through the project to the northern boundary of the project site where it would connect with the current extension under construction. The traffic study incorporated into this EIR includes mitigation measures designed to maintain appropriate levels of service at intersections to ensure that traffic delays are kept to a minimum by requiring roadway improvements.</i></p>
<p>Policy 1.12: Maintain appropriate levels of service at all intersections in the City during peak hours to insure that traffic delays are kept to a minimum.</p>	<p><i>Primary access for the project is provided from Golden Valley Road with residential neighborhood access by secondary internal roadways from that major street. Further, access would be provided from Ermine Street. Golden Valley Road grade and roadway width would be designed for carrying trucks and larger volumes of traffic, which would by-pass residential neighborhoods. Implementation of the project would not impede access to Soledad Canyon or other major roadways with connection to Interstate 5, State Route 126 and State Route 14.</i></p>
<p>Policy 1.13: Preserve the quality of residential neighborhoods by discouraging the flow of truck and through traffic in these areas consistent with circulation and emergency needs.</p>	<p><i>The project's proposed street plan would include a secondary street from Golden Valley Road (proposed "I" Street), which would intersect at two locations along Golden Valley Road; one point at the southern boundary of the site at the YMCA/School site and the other at the northern boundary.</i></p>
<p>Policy 1.15: Maximize and improve the operating efficiency and safety of the existing roadway system wherever possible.</p>	<p><i>The project's proposed street plan would include a secondary street from Golden Valley Road (proposed "I" Street), which would intersect at two locations along Golden Valley Road; one point at the southern boundary of the site at the YMCA/School site and the other at the northern boundary.</i></p>
<p>Policy 1.16: Limit the number of intersections and driveways on all major, secondary and limited secondary roadways to accommodate a safe, efficient and steady flow of traffic.</p>	<p><i>The project's proposed street plan would include a secondary street from Golden Valley Road (proposed "I" Street), which would intersect at two locations along Golden Valley Road; one point at the southern boundary of the site at the YMCA/School site and the other at the northern boundary.</i></p>
<p>Policy 1.18: Require vehicular access to higher density land uses and commercial</p>	<p><i>The project's proposed street plan would include a secondary street from Golden Valley Road (proposed "I" Street), which would intersect at two locations along Golden Valley Road; one point at the southern boundary of the site at the YMCA/School site and the other at the northern boundary.</i></p>

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GOALS AND POLICIES	ANALYSIS
<p>developments from major, secondary and limited secondary roadways, and not from low-density residential neighborhoods.</p>	<p><i>Only one other intersection is proposed at Golden Valley Road and Ermine Street. Therefore, the project would limit the number of intersections for safety and traffic flow purposes.</i></p>
<p>Policy 1.19 Maintain adequate access to state highways and freeways serving the Santa Clarita planning area including Interstate 5 on the west, State Route 14 on the southeast and State Route 126 on the northwest.</p>	<p><i>The project provides access to residential neighborhoods from "I" Street. Access to the multi-family residential neighborhood would be from "I" Street as would the proposed single-family residential neighborhood. Proposed "I" Street would provide access to both lower density and higher density areas without traversing through other residential neighborhoods.</i></p>
<p>Policy 1.20 Optimize use of all major, secondary and limited secondary roadways while minimizing use of all collectors and local streets. Encourage development design that ensures that local streets function as designed and not as collector streets or other higher capacity roadways.</p>	<p><i>The project proposes roadway alignments that are consistent with established City standards. The design of the project includes cul-de-sacs, which serve to calm traffic and prevent roadways used as throughways. The City of Santa Clarita has a synchronized traffic light program, which would be implemented on Golden Valley Road.</i></p>
<p>Policy 1.21: Establish roadway alignments and require appropriate dedication of right-of-way for all major and secondary highways.</p>	<p><i>The project proposes to gate the single-family residential neighborhood and each multi-family development pad area would be gated. Access to these areas would be from "I" Street and gating would not impede "through" access. Prior to issuance of a Final Map, the Project Applicant would be required to delineate street names consistent</i></p>
<p>Policy 1.22: Implement traffic calming measures to slow traffic on local and collector residential streets and prioritize these measures over congestion management. Include traffic circles and other traffic</p>	<p><i>calming measures to slow traffic on local and collector residential streets and prioritize these measures over congestion management. Include traffic circles and other traffic</i></p>

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<p>calming devices among these measures.</p> <p>Policy 1.24: Traffic lights shall be synchronized where advantageous for circulation.</p> <p>Policy 1.28: Discourage the creation of new, gated private roadways that block areawide through routes.</p> <p>Policy 1.29: Encourage consistent through-street names.</p>	<p><i>with the other street names in the project.</i></p>
<i>Need for Local and Regional Transit Services</i>	
<p>Goal 2: Promote a diversified public transportation system that is safe, convenient, efficient and meets the identified needs of the City of Santa Clarita and the general planning area.</p> <p>Policy 2.5: Incorporate accommodations and facilities to support local transit services (i.e., bus lanes, bus stops and bus shelters) in new and redeveloped projects, where feasible that are consistent with local transit planning.</p> <p>Policy 2.6: Provide for the mobility of City residents to access local services</p>	<p><i>The project would provide bus turn outs as deemed necessary by the City of Santa Clarita transit division and include trails to serve the project and general community.</i></p>

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<p>and employment, particularly for those who may experience mobility difficulties, including the elderly, disabled, low income residents and youth.</p> <p>Policy 2.8: Develop adequate pedestrian access and encourage the use of these systems.</p> <p>Policy 2.9: Require right-of-way dedication and/or construction of appropriate facilities in support of a public transportation system in new and redeveloped projects.</p>	
<i>Transportation Alternatives</i>	
<p>Goal 3: To promote safe and effective alternatives to the personal automobile that will meet the needs of all planning area residents.</p> <p>Policy 3.3: Provide a system of sidewalks or pathways, tunnels and bridges in residential, commercial and industrial areas that features a safe, attractive and convenient environment, integrating pedestrians and bicycles in a manner harmonious with the surrounding neighborhoods.</p>	<p><i>The project would provide bus stop turnouts as deemed necessary along Golden Valley Road. The Keystone project would include pedestrian and Class I bicycle trails, as well as horse trails, which provide multi-use system of walkways and pathways. The multi-use trails and pathways proposed with the project provide both bicycle and pedestrian access to all uses located on or adjacent to the project site. These trails are part of the Proposed Project, which is subject to approval by City Council</i></p>

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<p>Policy 3.4: Identify and reserve rights-of-way for local transit to connect to regional systems.</p> <p>Policy 3.5: Establish multi-use corridors and reserve appropriate rights-of-way.</p> <p>Policy 3.7: Promote bicycle and pedestrian accessibility to all commercial, industrial, multifamily residential, and public facilities, including parks, schools, and centers of civic activity.</p>	
<i>Parking Facilities</i>	
<p>Goal 4: To provide for and ensure an adequate supply of off-street private and public parking to meet the needs of local residents and visitors to the City and the planning area.</p> <p>Policy 4.2: Provide public parking resources and transportation alternatives in response to the demand for such facilities (including park-and-ride facilities), through development exactions, special assessment districts or other appropriate funding mechanisms.</p> <p>Policy 4.3: Screen and/or buffer large parking areas from public view through</p>	<p><i>The project proposes a parking area to be shared by the YMCA and junior high school which would be located on a lower elevation than the proposed Golden Valley Road and multi-family development pad areas. The parking area would be set back approximately between 10- and 150-feet from the roadway. This setback would be landscaped and the parking area would include ornamental landscaping. In addition, the YMCA and the school would include bicycle parking and there would be locker facilities available for use at the YMCA for patrons and at the school for students. The project provides trails and would provide bus turnouts on as deemed necessary by the local transit agencies. The Keystone project provides for landscaping and setbacks along Golden Valley Road, Ermine Street</i></p>

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<p>the use of landscape setbacks, earth berms and hedge screens (to headlight level) and trees and landscaping in parking areas while providing convenient pedestrian access.</p> <p>Policy 4.4: On-street parking should generally be eliminated from all major, secondary and limited secondary roadways.</p> <p>Policy 4.6: Encourage enclosed bicycle lockers at major destinations.</p> <p>Policy 4.7: Consider the use of shared parking and jointly operated parking structures, as appropriate.</p>	<p><i>connection and the proposed "I" Street</i></p>
Regional System Impacts	
<p>Goal 6: Encourage the implementation of trip reduction methods to reduce daily auto trip generation through alternative transportation, land use planning and other strategies.</p> <p>Policy 6.2: Develop coordinated plans for land use, circulation, and transit with City and County departments to concentrate high-density housing, employment and commercial areas close to transit</p>	<p><i>The higher density residential uses of the project are located adjacent to Golden Valley Road and consequently would be concentrated near the transit corridor. The proposed Keystone project includes pathways, bicycle and pedestrian trails throughout the development. Mitigation measures incorporated in the project would include the payment of transit fees. The project would provide as deemed necessary bus turnouts on Golden Valley Road. No commercial uses are proposed that would require the use of transportation demand management strategies</i></p>

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<p>corridors.</p> <p>Policy 6.3: Encourage implementation of the City’s <u>General Plan</u>, Transportation Development Plan, Bikeway Master Plan, Infrastructure Master Plan and other documents with transportation policies through new development and redevelopment.</p>	<p><i>and therefore is not applicable to The Keystone project. The project would support improvements to roadways to CMP facilities.</i></p>
<p>Policy 6.5: Encourage “transit friendly” residential, commercial and industrial development that provides convenient pedestrian and bicycle access.</p>	
<p>Policy 6.6: Encourage new development to use pedestrian “zipper” or walkways to provide a convenient link between different residential neighborhoods and between residential neighborhoods and commercial centers.</p>	
<p>Policy 6.8: Synchronize the expansion of public transportation facilities with new development with implementation of “pay as you go” for expansion of public transportation facilities.</p>	
<p>Policy 6.9: Use attractive bus stops and</p>	

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<p>transfer points to promote transit.</p> <p>Policy 6.11: Support improvements to CMP facilities and aid in the implementation of the CMP to improve mobility corridors in the Santa Clarita</p>	
Land Use Element	
<p>Goal 2: To achieve the development of a well-balanced, financially sound, and functional mix of residential, commercial, industrial, open space, recreational, institutional and educational land uses.</p> <p>Policy 2.1: Encourage the development of a broad range of housing types to meet the needs of the existing and future residents of the planning area, including, but not limited to, the development of single-family detached homes, condominiums, apartments, and manufactured housing.</p> <p>Policy 2.11: Provide for the reservation of adequate land to meet projected institutional and infrastructure needs.</p> <p>Policy 2.12: Promote the retention of open space to preserve significant</p>	<p><i>The Keystone project includes a mixture of single-family residential units and a variety of multi-family units with condominium and apartment units. The LA DWP right-of-way separates the project into two areas, thereby leaving the right-of-way in a natural undeveloped condition. The Proposed Project includes a junior high school site and YMCA site and provides extension of Golden Valley Road (including 1,890 feet of off-site roadway extension from Newhall Ranch Road), thus providing institutional and infrastructure for the area. Extension of Golden Valley Road from Newhall Ranch Road to Plum Canyon Road is part of the City's master plan of roadways and circulation. The roadway from Plum Canyon Road to the project site's northern boundary is currently under construction. Provision of the road from Newhall Ranch Road north to the project boundary helps the City realize its master plan. The project preserves the site's primary ridgeline, however it does not preserve the on</i></p>

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<p>ridgelines, to provide land use buffers, and to provide for both public safety and oak tree preservation.</p> <p>Policy 2.18: Promote the retention and provide opportunities for expansion of existing manufacturing and industrial land uses in industrial/commercial and business park locations.</p>	<p><i>site secondary ridgelines as open space. The project does not include industrial or commercial development.</i></p>
<p>Goal 3: To achieve a balanced physical environment through sensible land use planning and urban design, while establishing the City's role as a regional center.</p> <p>Policy 3.1: Promote the development of City centers where more intensive land uses will be encouraged, including the development of a regional commercial center, office/business park centers, an entertainment complex, and a civic town center.</p> <p>Policy 3.2: Designate a central commercial core of concentrated and higher intensity commercial activities to serve the region and ultimate populations, create an identity and progressive image for the City, and capitalize on related economic</p>	<p><i>The project is located outside of the City center. However, the project would support the intensive commercial land uses in the City center as The Keystone project includes 979 residential units which support commercial. The proposed Keystone project's residential units would support a commercial center and is in proximity to the Metrolink station. The Proposed Project would include preservation of the project site's primary ridgeline..</i></p>

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GOALS AND POLICIES	ANALYSIS
<p>and employment benefits.</p> <p>Policy 3.3: Identify a primary town center and other centers which encourage a pedestrian orientation and can accommodate a clustered mix of commercial, entertainment, recreation, town square/meeting place(s), multi-use complexes, and multimodal transportation activity opportunities.</p>	
<p>Policy 3.6: Locate higher density residential development in proximity to regional and subregional centers and public transportation corridors.</p>	
<p>Policy 3.7: Continue the established pattern of attractive greenbelts, golf courses, open space (including the protection of adjacent Significant Ecological Areas), and entertainment/recreational amenities along Interstate 5, and promote a similar pattern along State Route 14 to strengthen and enhance the image of the City as a pleasant and fun place to live, work, visit, and play.</p>	

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<p>Goal 4: To ensure the development in the City is consistent with the overall community character and that it contributes in a positive way toward the City’s image.</p>	<p><i>The Proposed Project includes bicycle and pedestrian trails, equestrian trails oriented along the Santa Clara River corridor.. The project does not include any commercial development, however signage for the YMCA building, junior high school, and project monument entry would be required to secure sign permits for these uses. The project would be required to receive architectural approval. There are no significant architectural, historical or cultural structures or landmarks on the project site. Section V.B. Aesthetics includes mitigation measures that regulate light and glare. The Keystone project proposes a streetscape and landscape design, which would be subject to approval by City Council.</i></p>
<p>Policy 4.1: Establish a land use pattern that is constructed around a framework of established greenbelts and a linear system of equestrian, pedestrian and bike trails tied to the primary network of the river corridor.</p>	
<p>Policy 4.9: Ensure that signage on new and existing development is visually attractive and provides a high quality image for the City.</p>	
<p>Policy 4.10: Enforce design and maintenance standards to ensure that buildings and property in the City are adequately maintained.</p>	
<p>Policy 4.13: Encourage the preservation of significant architectural, historical, and cultural structures and landmarks within the planning area whenever possible.</p>	
<p>Policy 4.14: Regulate lighting in new and existing development so that it does not unduly contribute to nighttime visual pollution and</p>	

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<p>glare, and is compatible with surrounding land uses (tailor standards for lighting so they are compatible with the setting).</p> <p>Policy 4.15: Maintain and/or enhance the character of the various communities through compatible land use standards and design guidelines, while promoting an overall identity for the Santa Clarita Valley.</p> <p>Policy 4.16: Encourage landscaping, art, and other design amenities that complement and enhance the streetscape and the design of new development.</p> <p>Policy 4.17: Promote the development of greenscape corridors and setbacks along major streets and arterials.</p>	
<p>Goal 5: To provide protection of the environmental setting and habitat through the location of land uses and the use of sensitive design.</p> <p>Policy 5.1: Allow only responsible and sensitive development of hillside areas and prohibit development on ridgelines designated as Significant Ridgelines.</p>	<p><i>The City of Santa Clarita is responsible for the enforcement and update of the Ridgeline Preservation and Hillside Development Ordinance and standards. The project preserves the site's primary ridgeline, however, proposes development on the site's two secondary ridgelines. However, the Ordinance provides opportunity for development on the ridgelines with restrictions through an Innovative Application for Significant Ridgelines. The Project Applicant has</i></p>

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<p>Policy 5.2: Ensure the new development, grading, and landscaping are sensitive to the natural topography and major landforms in the planning area.</p>	<p><i>proposed an “innovative development” under the provisions of the ordinance, which would result in alteration of the secondary ridgelines, as well as four main drainages on the site. The project as proposed and the Project Applicant’s Innovative Application are subject to approval by City Council. Section V.B. Aesthetics addresses the visual effects of the project in relation to the proposed innovative development which includes preservation of primary ridgeline in the northern area of the project site, west of the LADWP right-of-way; re-creation of secondary prominent ridgeline which includes grading techniques replicating topographical characteristics of the surrounding area; creation of super slopes with varying steepness creating the look of a natural hillside, which is subject to approval by City Council. Section V.D. Biology, addresses the project’s effect of the site’s drainages.</i></p>
<p>Policy 5.3: New development must be sensitive to the Significant Ecological Areas (SEAs) through utilization or creative site planning techniques to avoid and minimize disturbance of these and other sensitive areas.</p>	
<p>Policy 5.5: Follow the recommendations of the Santa Clara River Study.</p>	
<p>Policy 5.8: Preserve and protect designated wildlife corridors from undue encroachment and disruption.</p>	
<p>Policy 5.9: Promote the public acquisition of Significant Ecological Areas with the intent of preserving them as natural open space.</p>	
<p>Policy 5.10: Promote the concept that development and circulation improvements should not adversely affect wildlife corridors.</p>	
<p>Policy 5.11: Preserve and protect endangered fauna and flora species, and their habitats.</p>	
<p><i>The project does not propose development within the Santa Clara River SEA. The project proposes development within the tributaries to the Santa Clara River and thus would not preserve these wildlife areas. However the project protects the Santa Clara River with no development in the SEA.</i></p>	

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<p>Goal 6: To protect and enhance the integrity of existing residential neighborhoods and to provide for affordable housing.</p> <p>Policy 6.1: Focus housing rehabilitation efforts, or if necessary, replacement programs, on deteriorating residential neighborhoods located in Newhall and elsewhere.</p> <p>Policy 6.2: Continue to provide for the development of new housing while ensuring that the character, scale, and density of new residential development is sensitive, compatible and complimentary to existing residential neighborhoods.</p> <p>Policy 6.3: Provide for the retention and maintenance of existing residential neighborhoods, which are primarily developed with single-family homes and ensure that new development is compatible with and complimentary to existing development in terms of scale, architecture, and density.</p> <p>Policy 6.4: Provide for the retention and maintenance of multiple-family neighborhoods and ensure that</p>	<p><i>The project includes 96 single-family homes located on site near existing single-family neighborhoods to the northwest. There are no existing multi-family residential neighborhoods near the project site. However, the City Council has recently approved a development project (Riverpark) to the west of the site that includes 657 multi-family units. The Proposed Project would provide a variety of housing types (single-family, apartments, condominiums) however, no affordable or senior housing would be provided.</i></p>

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<p>new development is compatible with and complements existing structures, in scale and architecture, where a distinctive neighborhood character exists.</p> <p>Policy 6.5: Provide low and moderate income family and senior citizen households with housing opportunities by promoting types of development that can accommodate such households.</p>	
<p>Goal 7: To preserve the character of the communities and the integrity of the Santa Clarita Valley through orderly development practices and the provision of private and public capital improvements, facilities, and services to support existing and future development.</p> <p>Policy 7.1: Ensure demand for public facilities and services do not exceed the ability to provide and maintain such facilities and services; necessary facility improvements should precede or be coordinated with future development.</p> <p>Policy 7.2: Ensure, within the City's power, that facilities and services are provided in a timely manner</p>	<p><i>All public services will serve the project and all improvements shall be built concurrently with development of the project. The City collects developer fees prior to the issuance of grading and construction permits to ensure that facilities and services are provided in a timely manner. Sections V.F. Geology and Soils, V.G. Hazards and V.H. Hydrology and Water Quality, V.M. Public Services include mitigation applicable to the project site in response to geotechnical hazards, flooding, fire, etc. The project proposes provision of a finished graded lot for a junior high school and Section V.M. Public Services indicates that school impacts are mitigated with payment of the school impact fees to less than significant. Section V.N Utilities indicates that there will be adequate water</i></p>

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<p>through collection of developer fees.</p> <p>Policy 7.3: Establish and implement necessary safety measures and standards to ensure that development is appropriately restricted in areas where natural hazards are present (seismic, geologic, flooding, fires, etc.), unless such hazards can be mitigated.</p> <p>Policy 7.4: Consider school adequacy when evaluating development proposals under the land use plan.</p> <p>Policy 7.5: Consider water availability when evaluating development proposals under the land use plan.</p> <p>Policy 7.9: Encourage “pay as you go” fees for development.</p>	<p align="center"><i>for the Proposed Project</i></p>
<p>Park and Recreation Element</p>	
<p>Goal 1: Provide, develop, and maintain parks with quality recreational facilities dispersed throughout the area.</p> <p>Policy 1.1: Provide a combination of local park acreage, park facilities, and recreation programs to serve neighborhoods needs.</p>	<p><i>The project includes a 21.4-acre junior high school site with basketball courts, tennis courts, ball fields that would not be dedicated to the City of Santa Clarita; however these facilities would be available for use by the public. The project would include multi-use trails with views of the river, which would connect to the City’s network of trails and pedestrian trails leading to lookout points</i></p>

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GOALS AND POLICIES	ANALYSIS
<p>Policy 1.2: Develop a variety of park types and sizes (regional, community, neighborhoods), which are distributed adequately to serve all area residents and to prevent overcrowding and overuse.</p> <p>Policy 1.3: Provide programs for a variety of passive, educational, and active recreational opportunities for all area residents.</p> <p>Policy 1.5: Promote the integration of the network of trails and open space to provide linkages to parks within and outside the planning area.</p>	<p><i>within the project site. Though the project does not include the provision of public parks and facilities, there are private recreational facilities proposed for the multi-family developments that would include swimming pools, children play equipment and picnic facilities. The Project Applicant would be required to pay Quimby Fees to improve off-site park facilities.</i></p>
<p>Goal 2: To establish standards and implementation measures to guide future parkland development throughout the area as provided in this element.</p> <p>Policy 2.1: Implement the standards for park acquisition concerning the location, size, service radius, configuration, slope evaluation, access, and infrastructure as described in the Parks and Recreation Element.</p> <p>Policy 2.2: Implement those service and park area standards identified in the</p>	<p><i>The project does not include provision for public parks and facilities. However, the project would provide a 21.4-acre junior high school site with basketball courts, tennis courts, ball fields that would be available for use by the public. In addition, the project would include a multi-use trail to be maintained by the City and pedestrian trails maintained by homeowner associations. The Project Applicant would be required to pay Quimby Fees to be used for park acquisition.</i></p>

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GOALS AND POLICIES	ANALYSIS
Parks and Recreation Element.	
<p>Goal 3: To encourage the improvement, rehabilitation, and maintenance of existing parks and recreational facilities.</p> <p>Policy 3.1: Improve existing athletic fields with lights and equipment as recommended by the City Department of Parks and Recreation.</p> <p>Policy 3.3: Provide low-maintenance, vandal-resistant parks, recreational facilities, and equipment.</p> <p>Policy 3.6: Use reclaimed water, where possible, for park irrigation purposes.</p>	<p><i>The project site is currently vacant and no athletic fields exist on-site. The project is not providing parks and public recreation facilities.</i></p>
<p>Goal 4: Aggressively pursue acquisition of future parkland.</p> <p>Policy 4.1: Encourage the use of developer fees and land dedication incentive programs.</p> <p>Policy 4.2: Encourage the use of existing public easements for parks development, subject to safety limitations.</p>	<p><i>The project is not proposing public recreational facilities and parks. The Project Applicant will pay fees in accordance with the City's adopted Quimby Act. The project is divided by the LA DWP right-of-way but does not propose development within the right-of-way including public park and recreational facilities.</i></p>

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<p>Policy 4.3: Incorporate standards to acquire, improve, and maintain new park sites in development agreements.</p>	
<p>Goal 5: Utilize the Santa Clara River as a central recreational corridor and identify other significant natural features to be designated as open spaces, parks, and recreational opportunities.</p> <p>Policy 5.1: Establish the Santa Clara River as a major recreational focal point within the Valley.</p> <p>Policy 5.2: Encourage multiple uses of public easements and public lands, such as the flood inundation areas of the Santa Clara River and its tributaries, for recreational purposes.</p> <p>Policy 5.3: Promote the implementation of the Santa Clara River Recreation and Water Features Study.</p> <p>Policy 5.4: Investigate and implement, where appropriate, buffer zones between Sensitive Ecological Areas and proposed development.</p> <p>Policy 5.5: Encourage the development of compatible uses next to the Santa Clara River and the inclusion of</p>	<p><i>The project does not propose development within the Santa Clara River and would remain in its natural condition. Approximately 15 acres of reconfigured slope area (which includes a multi-use trail) would buffer the Santa Clara River SEA and the proposed development of the YMCA facility and junior high school lot. The project provides for a public trail adjacent to the Santa Clara River which would connect to Citywide trails.</i></p>

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<p>development features which provide for public access and use of the river.</p> <p>Policy 5.6: Encourage development of a linear greenway system.</p> <p>Policy 5.8: Encourage the development of a regional plan for the Santa Clara River which incorporates trails to the ocean.</p>		
<p>Goal 6: Develop and implement the design criteria for park areas described in the Parks and Recreation Element, which consider park access, safety, appropriate signage, parking requirements, and the preservation of natural features.</p> <p>Policy 6.1: Design new recreational areas to minimize the visual, noise, and traffic impacts on neighboring communities.</p> <p>Policy 6.2: Implement design guidelines which provide for appropriate access, safety, parking requirements, and signage.</p>		<p><i>The proposed junior high school would include active recreational uses such as ball fields, basketball courts and tennis courts that could be available to the public. However, the location of the school site is not adjacent to existing residential areas and thus, the project minimizes the visual, noise and traffic impacts on the neighboring communities. Section V. B Aesthetics addresses visual effects of the project, Section V.K Noise addresses potential noise effects and Section V.O Transportation, addresses project traffic and circulation effects.</i></p>
<p>Goal 7: Provide an efficient public trails system linking public space and adjacent regional systems to meet</p>		<p><i>The Proposed Project incorporates that portion of the Citywide trail system within its project boundaries with access from the proposed</i></p>

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<p>transportation and recreational needs of the area.</p>	<p><i>YMCA facility and junior high school parking lot. The Proposed Project incorporates the Santa Clara River into the Proposed Project and does not include any development and would remain in its natural condition. A multi use trail is proposed along the Santa Clara River which would promote safety for horse and rider. The project includes for the provision of trails adjacent to the Santa Clara River and includes Class I bicycle trails along Golden Valley Road. Views of the Santa Clara River would be seen from the proposed multi-use trail along that river corridor. Access to public trails from private open space areas would be provided.</i></p>
<p>Policy 7.1: Establish a Valleywide regional trail system complete with staging areas and trail heads which link City parks, wilderness open space areas, regional parks, and the trail system.</p>	
<p>Policy 7.2: Design trail routes, trail heads, and staging areas and designate trail uses to minimize impact upon adjacent property, neighborhoods and fragile habitats.</p>	
<p>Policy 7.4: Encourage multiple use and dedication of existing public easements for trail development including, but not limited to, utility lines and access easements, where appropriate.</p>	
<p>Policy 7.5: Developments along the Backbone Trail System shall be conditioned to provide public trail corridors.</p>	
<p>Policy 7.6: Consider the implementation of recommendations for trail alignments and staging areas, as proposed in the adopted Master Trails Plan.</p>	

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City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
Policy 7.8: Utilize the Santa Clara River as a focal point for development of an integrated system of trails, parks, and open space.	
Policy 7.9: Provide equestrian, bicycle, and pedestrian trail development along routes, which are viable to the health and safety of horse and rider.	
Policy 7.10: Provide equestrian and pedestrian trails and bikeways which are separate from vehicular traffic and provide maximum safety when the crossing the streets or highways is necessary.	
Policy 7.12: Provide trail access to scenic viewpoints and provide scenic overlooks and picnic areas along trail routes.	
Policy 7.13: Pursue the development of a bike trail that connects with existing and planned trails in Ventura and Los Angeles counties.	
Policy 7.15: Public open space acquisitions shall be designed to provide trail segments to accommodate public access.	
Policy 7.16: Private open space areas shall be conditioned to provide public trail	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>easements at appropriate locations.</p>	
<p>Goal 10: To promote public/private cooperation in developing park improvements, recreational services, and facilities.</p> <p>Policy 10.1: Promote the expansion of joint-use agreements with the school district to provide recreational programs and facilities in existing and future residential neighborhoods.</p> <p>Policy 10.2: Encourage private joint-use agreements for facilities provided by nonprofits agencies such as the YMCA and Boys and Girls Club.</p> <p>Policy 10.6: Encourage developers to improve and/or construct parks and recreational facilities in lieu of paying fees as partial fulfillment of park and recreation requirements.</p>	<p><i>The project proposes a junior high school site that would be sold to and developed by the William S. Hart School District. The school site would include outdoor recreational facilities available to the public. Further, the project includes a site for a YMCA facility that would be dedicated to and developed by the YMCA.</i></p>
Community Design Element	
<p>Goal 1: To protect and preserve the scale and character of existing neighborhoods while providing for new development which is</p>	<p><i>Subject to approval by City Council, The Keystone project proposes a mix of single-family and multi-family residential dwelling units. The single-family development</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES		ANALYSIS
<p>consistent with the goals and policies of the <u>General Plan</u>.</p> <p>Policy 1.1: Maintain or enhance the character of existing neighborhoods with policies and regulations that emphasize compatible architecture and landscaping.</p> <p>Policy 1.2: Ensure the clustering of new development is compatible with the character of the existing surrounding neighborhoods.</p> <p>Policy 1.3: Consider all design elements, including building size, height, mass, and architectural design, in the design review process so that new development does not conflict with the character of the neighborhoods.</p>	<p><i>component would be consistent with the scale and character of the residential uses found to the northwest and east of the site. The multi-family component would not be in character to the existing surrounding residential areas as these areas are lower density than the Proposed Project multi-family development. However, City Council is has recently approved a residential development project to the west, Riverpark project, that includes 657 multi-family units as part of the proposal. The proposed Keystone project would be similar in character to the neighboring project to the west with regard to multi-family units. In addition, the Sun Cal project to the north of The Keystone site is under construction and out of the total of 498 units, 292 units are multi-family (small lot detached and courtyard homes). The proposed Keystone project would be consistent with both the Riverpark project to the west and the Sun Cal project to the north with the multi-family units as proposed for The Keystone project.</i></p>	
<p>Goal 2: To encourage design excellence in the development of all public and private projects in the City.</p> <p>Policy 2.1: Identify important design and aesthetic attributes that contribute to the unique character of the</p>	<p><i>The project would include the Santa Clara River as open space, which creates an overall important aesthetic within the project and community. The project is not within walking distance of commercial centers; however, the project includes pedestrian trails that encourage walking and alternative modes of</i></p>	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>City.</p> <p>Policy 2.2: Provide for residential uses in proximity to business/commercial centers in a manner which promotes the neighborhood/village/town center planning concept and maintains the hierarchy of community centers and the concept of the Valley Center.</p> <p>Policy 2.3: Promote opportunities for greater pedestrian orientation and lifestyles.</p> <p>Policy 2.7: Promote opportunities for greater bicycle orientation and lifestyles.</p> <p>Policy 2.8: Develop performance and design standards for buffer areas at the interface between uses.</p> <p>Policy 2.10: Encourage public art as an entry focal point for residential developments.</p>	<p><i>access. Bicycle and walking paths will provide access to the river areas and will connect to the master plan of trails proposed throughout the City.</i></p>
<p>Goal 5: To preserve and integrate the prominent and distinctive natural features of the community as open spaces for the use and visual enjoyment of all City residents.</p> <p>Policy 5.1: Retain designated major landforms, such as ridgelines,</p>	<p><i>The project includes preservation of the primary on-site ridgeline. The Keystone project site also includes two secondary significant ridgelines and drainage course that are tributaries to the Santa Clara River, which would be altered with implementation of the project and subject to approval by City</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>natural drainage ways, streams, rivers, valleys, and significant vegetation, especially where these features contribute to the overall community identity.</p> <p>Policy 5.3: Where possible, incorporate attractive natural amenities, such as rock outcroppings, vegetation, streams, and drainage areas, into the development of future projects to protect the environment and provide landscape opportunities, visual interest, scale and/or recreational opportunities.</p>	<p><i>Council. The Project Applicant has proposed a site plan that responds to the natural terrain with recreation of the secondary ridgelines and manufactured slopes to resemble natural hillsides with varying topography such as undulating slopes and berms representing ridgelines and summits. The engineering of the project is subject to approval by City Council</i></p>
<p>Goal 6: To protect and enhance open space areas that provides visual and aesthetic character and identity to the community.</p> <p>Policy 6.1: Establish programs and ordinances that will be effective in providing visual relief and separation between development and parks.</p> <p>Policy 6.2: Promote open areas, such as plazas, interior arcades, galleries, rooftop gardens, and scenic viewplaces, within intensive urban developments.</p> <p>Policy 6.3: Establish recreational areas for</p>	<p><i>The Proposed Project includes landscaped buffer areas between uses such as multi-family development and Golden Valley Roadway, junior high and YMCA site and Santa Clara River, etc. The Proposed Project includes provision of a junior high school site with active outdoor recreational facilities and includes trails within the site and others connecting to the Citywide trail system. Further, the site includes passive open space areas such as the landscape buffer. The project provides trails for hiking, pedestrians, bicyclists, as well as equestrian. No development is proposed within the project boundaries of the Santa Clara River and the area would remain in its natural condition. The project does not propose development</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>both passive and active activities.</p> <p>Policy 6.4: Develop a park classification program (regional, community, neighborhood/local, special use parks) which conforms to community recreation needs and encourages community identity throughout the planning area.</p>	<p><i>within the LA DWP right-of-way which provides a visual buffer between the single-family development and the multi-family apartments and condominiums. Further, the project proposes to recreate the secondary ridgelines to resemble natural hillsides of the area with varying topography using such techniques as undulating slopes and berms representing ridgelines and summits. Such engineering techniques are subject to approval by City Council. The proposed Keystone project proposes a multi-use trail for equestrian use, as well as for pedestrians and bicyclists.</i></p>
<p>Policy 6.5: Promote the concept of a network of neighborhood parks and open spaces areas; where possible integrate neighborhood parks with a larger communitywide system; incorporate jogging and hiking trails, bicycle paths, and equestrian trails links wherever possible.</p>	
<p>Policy 6.6: Promote the preservation recreational uses tied to the enhancement of open spaces and Santa Clara River Corridor as identified in the Land Use Element.</p>	
<p>Policy 6.7: Promote visual and physical buffers, where appropriate, by use of easements, roadways, trails, ridgelines, and other features, to delineate various communities in the Valley.</p>	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>Policy 6.8: To the extent possible, promote the development of equestrian trails in river and stream channels and other open space areas away from urbanization and to connect with trails in the national forest in addition to locations within and adjacent to road easements.</p>	
<p>Goal 7: To develop a safe and efficient circulation system that protects and enhances the overall community character.</p> <p>Policy 7.1: Develop design principles for major roadway types which are consistent with roadway function and which address roadway improvements, landscaping, aesthetics, roadway signage, lighting, and pedestrian enhancements.</p> <p>Policy 7.2: Encourage and enhance identifiable entryways for the overall community, individual residential neighborhoods, and unique or principal business/commercial districts of the City.</p> <p>Policy 7.4: Roadways in hillside areas should be developed in accordance with special standards to ensure</p>	<p><i>The circulation system proposed is consistent with the General Plan and will improve circulation and access in the project area by extending Golden Valley Road (including the 1,890-feet of off-site roadway from Newhall Ranch Road). Extension of Golden Valley Road is a part of the Master Plan of Roadways and Circulation in the City. Improved access throughout the City will enhance the overall community design and will benefit regional traffic. The project proposes an identifiable entry at the intersection of Golden Valley Road and "I" Street. The project would also provide for sidewalks. The project proposes curvilinear streets to minimize street gradients and grading impacts. The proposed street layout responds to the existing natural contours of the hillside topography. The multi-use trails and pathways proposed provide bicycle and pedestrian access to on-site residential uses and connect to other trails leading to off-site commercial and industrial areas.</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>roadway design consistent with topography and sensitive to local relief.</p> <p>Policy 7.5: Except where special rural standards are necessary to maintain the rural characteristics of an area, sidewalks should be provided in all areas; such sidewalks need not always be located adjacent to the street and may meander within landscaped areas, interconnect businesses such as in an industrial park setting and link neighborhoods and services such as the paseo system.</p> <p>Policy 7.6: Encourage the design and development of multi-use trails and pedestrian ways as an alternative transportation mode and to reduce traffic.</p>	
<p>Goal 10: To achieve architectural themes and forms that promote human scale and provide a comfortable human interaction with buildings.</p> <p>Policy 10.1: Provide design flexibility for urban design and architectural concepts in order to avoid architectural monotony and lack</p>	<p><i>Conceptual architectural design has been proposed for the project and would be subject to approval by City Council. All architecture proposed will be reviewed and approved by the Santa Clarita Department of Planning and Economic Development. The architecture proposed and discussed in detail in Section V.B. Aesthetics is consistent with surrounding developments and are to scale with other</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>of design innovation.</p> <p>Policy 10:2 Encourage the use of materials that complement adjacent buildings and their surroundings.</p> <p>Policy 10.3: Encourage design solutions that consider physical scale of the area and adjacent buildings.</p> <p>Policy 10.4: Examine potential opportunities for community theme elements within individual residential areas, neighborhood centers, recreation centers, landscaped street medians, and other community facilities.</p>	<p><i>neighborhoods.</i></p>
<p>Goal 11: To achieve a coordinated and efficient infrastructure system that is visually unobtrusive while designed to meet the current and future needs of the planning area.</p> <p>Policy 11.1: Encourage placement of transmission power lines and other mechanical equipment underground, where feasible, to maximize safety and minimize visual distraction.</p> <p>Policy 11.2: Require that new electrical, telephone, cable television, mechanical equipment and other</p>	<p><i>All infrastructure will be underground and will be constructed to the most current utility standards, as mandated by the City.</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>distribution lines be placed underground.</p> <p>Policy 11.3: Require that all new on-site connections and utilities are installed underground and prepare and implement an undergrounding program for existing development, where possible.</p> <p>Policy 11.4: Ensure that utilities and connections which are located aboveground do not interfere with or adversely impact access, visibility, appearance, or the character of the structures near which they are located.</p> <p>Policy 11.6: Incorporate landscaping, undergrounding, berms, and other techniques and design measure to integrate public facilities, such as water tanks and major water transmission lines, where visible, into the community design.</p> <p>Policy 11.10: Encourage a community design relative to housing, commercial, and industrial uses that provides convenience and fiscal stability.</p>	
Housing Element	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>Goal 1: To provide opportunities for production of a range of new housing in the planning area to meet the needs of all income groups.</p>	<p><i>The proposed Keystone project implements the land use plan by providing for a variety of housing on the site.</i></p>
<p>Policy 1.1: Implement the land use plan which provides opportunities for the development of a wide variety of new housing types within the City.</p>	
<p>Policy 1.2: Evaluate development proposals within the unincorporated portions of the planning area to ensure that development is consistent with both the City's and County's Land Use Plan.</p>	
<p>Policy 1.3: Continue to monitor residential development capacity as provided, for under the City and County Land Use Elements to ensure that these plans will enable the planning area to meet the housing needs of the future population of the Santa Clarity Valley.</p>	
<p>Policy 1.4: Promote the development of compatible mixed use projects in order to create a village concept, with various interacting uses to facilitate the efficient use of facilities and services to stimulate</p>	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>activity.</p> <p>Policy 1.5: Review and support, as appropriate, programs to increase the supply of housing throughout the region. Give full consideration to the impacts on environmental, market, infrastructure, public services, utilities, human resources, and other factors.</p> <p>Policy 1.6: Develop incentives or other mechanisms to encourage the private sector to provide opportunities for needed quality and creative housing in the City (e.g., loft apartments, commercial, residential mixed uses).</p> <p>Policy 1.7: Promote cooperation among jurisdictions to meet regional housing needs.</p>	
<p>Goal 2: To identify adequate housing sites appropriately zoned with development standards, and public services and utilities needed to facilitate residential development.</p> <p>Policy 2.2: Locate higher density residential development and housing for the elderly in proximity to public</p>	<p><i>The condominiums and apartments proposed by the project are located in proximity to bus stops provided on the project site. The project does not include specifically housing for the elderly.</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>transportation and commercial land uses, and in proximity to public services and recreational opportunities, and/or target the future provision of such services to accommodate existing or new housing for the elderly.</p>	
<p>Goal 3: To provide sites suitable for a variety of housing types for all income levels and assist in the development and provision of affordable and proportionally priced and sized homes to meet the needs of all community residents, including low and moderate income, large families, handicapped, families with female heads of households, farm workers, and the elderly.</p>	<p><i>The project would provide a variety of housing types of different price ranges including ownership of single-family homes, condominiums and rental of apartments. The connection of existing infrastructure with planned infrastructure is discussed in Section V.H. Hydrology and Water Quality, V.N. Utilities</i></p>
<p>Policy 3.1: Implement the City <u>General Plan</u> Land Use Element, which provides opportunities for a range of housing densities and types.</p>	
<p>Policy 3.2: Periodically review development standards contained in the City's Unified Development Code (UDC) to ensure consistency between the UDC and the <u>General Plan</u>, including provisions to facilitate affordable housing</p>	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
without diminishing quality.	
Policy 3.3: Encourage a mix of housing types and densities in new large scale residential developments.	
Policy 3.4: Establish provisions to allow mobile homes and manufactured housing on residential lots.	
Policy 3.5: Existing and future infrastructure needs should be addressed in connection with considerations for new development proposals.	
Policy 3.6: Seek development which facilitates the efficient use of infrastructure, contributes to solutions of existing deficiencies, and it anticipates and facilitates the orderly provision of future development and infrastructure consistent with this <u>General Plan</u> .	
Policy 3.7: Provide opportunities for the development of adequate housing to provide the City's fair share of low and moderate income households.	
Policy 3.8: Encourage and participate in low and moderate income and senior housing programs financed by other levels of government.	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>Policy 3.9: Promote the dispersal of low and moderate income housing throughout the Santa Clarita planning area.</p>	
<p>Policy 3.10: Encourage the development of residential units which are accessible to handicapped persons and adaptable for conversion to use by handicapped persons.</p>	
<p>Policy 3.11: Consider alternative development standards are practical in light of environmental, market, infrastructure and other factors to promote desired housing types and benefits, while also protecting the quality of life in the City.</p>	
<p>Policy 3.12: Encourage the exploration of non-traditional housing models to accommodate affordable housing and/or the need for temporary or transitional shelter for special needs such as for the abused, neglected, divorced, homeless, handicapped, large families, farm workers, etc.</p>	
<p>Policy 3.13: Encourage the development of self-help projects like Habitat for Humanity</p>	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES		ANALYSIS
<p>Goal 6: To promote housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, age, physical handicap, color or sexual orientation.</p> <p>Policy 6.1: Promote safe and secure housing and neighborhoods, and encourage housing design which serves to deter crime.</p>		<p><i>Section V.M Public Services includes mitigation that encourages safe and secure housing.</i></p>
<p>Goal 7: To provide new housing opportunities which are sensitive to social, aesthetic, and environmental needs.</p> <p>Policy 7.1: Restrict housing development in areas containing important natural resources consistent with other goals and policies pertaining to natural resource areas.</p> <p>Policy 7.4: Require residential projects situated in mountainous terrain to preserve major ridgelines and other significant environmental features.</p>		<p><i>The Proposed Project provides a variety of additional housing opportunities to Santa Clarita; however, implementation of the project would involve altering the site's two existing secondary ridgelines which would be subject to approval by City Council. The applicant has designed the layout of the project to respond to the natural terrain incorporating features of the area's topography and preserves the site's primary ridgeline. For example, the secondary ridgeline is recreated and manufactured slopes are shaped to resemble the natural hillsides with varying topography. A method of responding to the natural hillside characteristics included undulating slopes and permits representing ridgelines and summits and thus seeks to ensure a variety and visual appeal through site design</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>Goal 8: Provide new housing opportunities, which are environmentally sensitive and energy efficient.</p> <p>Policy 8.1: To the extent feasible, require the incorporation of energy conservation features in the design of all new housing developments and encourage the installation of conservation devices in existing development.</p> <p>Policy 8.2: Promote water conservation through education, public service announcements, and other similar techniques.</p>	<p><i>As part of the City of Santa Clarita's Building Code, new construction is required to meet Title 24 energy conservation standards. Mitigation measures promoting water conservation has been included in Section V.N. Utilities</i></p>
Public Services, Facilities and Utilities Element	
<p>Goal 1: Work with utilities and other service providers to ensure adequate and safe public infrastructure and public services for City residents, including upgrading and expansion of existing deficient systems.</p> <p>Policy 1.1: Determine service standards and cooperate with providers for each of the following services for City residents, including upgrading and expansion of existing deficient</p>	<p><i>The EIR addresses the service standards and the impacts of the project on roads, solid waste collection, communication services, law enforcement, and fire protection. .</i></p>

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p>systems.</p> <ul style="list-style-type: none"> • Roads; • Solid Waste Collection, Conversion, Reduction and Disposal; • Communication Services (limited to cable television franchises); • Law Enforcement; • Fire Protection; and • Day Care Program. <p>Policy 1.2: Work with service providers to determine standards for the following regulated utilities and services.</p> <ul style="list-style-type: none"> • Water Supply and Treatment; • Sewage Collection and Treatment; • Storm Drains/Flood Control; • Natural Gas; • Electricity; • Schools; • Libraries; • Ambulance; • Paramedics; • Communication Services (other than cable television franchises); and • Solid Waste Collection, Conversion, Reduction and 	

**Table V.I-3
City of Santa Clarita General Plan Element Goals and Policies Analysis**

GOALS AND POLICIES	ANALYSIS
<p align="center">Disposal.</p> <p>Policy 1.3: Establish and maintain a record of the capacity, utilization, and availability of the above-mentioned services, utilities, and facilities serving the planning area.</p> <p>Policy 1.5: Require that new developments be prohibited or delayed unless necessary public services and utilities will be available at the time of occupancy or will be provided within a reasonable period of time as part of an adopted improvement plan</p>	

Zoning Ordinance

As part of project implementation, the site would require a zone change from Residential Very Low (RVL) to Residential Suburban (RS) and Residential Medium High (RMH) zones corresponding to the proposed General Plan land use designations. Figure V.I-2 illustrates the proposed zoning for the project site. The Unified Development Code Zoning Map is consistent with the City's General Plan Land Use Map. The zoning districts correspond to the land use designations.

Residential Suburban (RS) District

Consistent with the proposed land use designation of RS, the land west of the LA DWP right-of-way and transmission lines is being proposed as Residential Suburban (RS) zone. The proposed uses within this designation include single-family residential units. The proposed single-family residential units would be permitted uses within this zoning district subject to approval by City Council.

Approximately 62 acres are proposed to be zoned RS which has a maximum allowable density of 5 dwelling units per acre, which would permit approximately 304 single-family units to be built.⁸ With application of the permitted density due to percentage of slopes, the site can accommodate approximately 98 dwelling units.⁹ The project proposes 96 single-family residential units, which would be within the allowable density permitted in this zone district subject to approval by City Council.

Residential Medium High (RMH) District

The Residential Medium High (RMH) zone is intended to correspond to group housing such as townhomes, triplexes, fourplexes and larger group housing with private recreation amenities. Allowable uses include single-family and multi-family dwelling units. Educational institutions, public or private, including vocational schools and colleges are permitted with a conditional use permit. In addition, non-profit clubs and lodges including YMCA¹⁰ and similar youth group uses are permitted with a conditional use permit. The RMH zoning district is consistent with the RMH land use designation of the General Plan. The land east of the LA DWP right-of-way and transmission lines is proposed to contain 883 multi-family dwelling units, the junior high school and YMCA recreation facility. The proposed multi-family residential dwelling uses would be permitted within the RMH zone and the proposed YMCA and junior high school would be permitted with a Conditional Use Permit¹¹ subject to approval by City Council.

Approximately 184 acres are proposed to be zoned RMH which has a maximum allowable density of 11 dwelling units per acre, which would permit approximately 1,144 dwelling units to be built.¹² The project proposes 883 multi-family residential units, which would be within the allowable density permitted in this zone, if the Zone Change (ZC) is approved by City Council.

⁸ The 61 acres data was provided by the Project Applicant's civil engineer, Sikand Engineering. The development standards are from the Unified Building Code, Title 17, Zoning, Chapter 17.15, property Development Standards.

⁹ Sikand Engineering, memorandum, January 20, 2005.

¹⁰ UDC amendment classifies YMCA as Community Assembly.

¹¹ Santa Clarita Uniform Building Code, Section 17.13.030.

¹² The 183 acres data was provided by the Project Applicant's civil engineer, Sikand Engineering. The development standards are from the Unified Building Code, Title 17, Zoning, Chapter 17.15, property Development Standards.

Ridgeline Preservation and Hillside Development Ordinance

Grading on the project site is subject to the standards outlined in the Ridgeline Preservation and Hillside Development Ordinance, Chapter 17.80 of the Unified Development Code. The provisions of this ordinance are applied to parcels of land having average slopes of ten (10) percent or more. Projects also with General Plan Amendments and Zone Changes affecting the hillside land are subject to review under this ordinance.

As identified previously, the highest ridgeline on the site is designated as a “Primary Ridgeline” while two other ridges have been classified as “Secondary Ridgelines”. These designations are intended to protect the hill forms from grading. The Ordinance states that:

“Any development plan which touches, crosses, includes or affects any primary ridgelines shall include plans for the preservation for all or part of such primary ridgeline in its natural state. No engineered slopes, housing, construction, streets, utilities or other man-made features shall be permitted within primary ridgeline areas...Secondary ridgelines shall also be considered for hillside development proposal. Grading in these areas shall be reviewed for conformance with the design criteria of this chapter as reviewed and approved by a hillside plan review permit.”

The ordinance allows for certain uses to be developed on primary or secondary ridgelines through an Innovative Application for Significant Ridgelines. These uses may be permitted on significant ridgelines with the approval of a Conditional Use Permit by City Council. Such uses include but are not limited to open space/conservation areas, parks and recreation areas, publicly and privately operated transmission facilities, public streets, public buildings, recreational camps, riding academies or stable trails, water tanks (screened) and innovative development. The UDC defines “innovative development” as a proposed use or development that:

“demonstrates creative and imaginative site design resulting in a project that will compliment the community character and provide a direct benefit to current and future community residents of not only the proposed use or development, but the residents of the City of Santa Clarita as a whole utilizing unique grading techniques, imaginative project site design and spacing of development that significantly exceeds the minimum standards identified in the City of Santa Clarita Ridgeline Preservation and Hillside Development Guidelines.”

The Innovative Application process includes specific development criteria for residential development that consists of maximum densities prescribed according to the average slope on

the project site. For each slope category identified in Chapter 17.80.040 of the Ordinance, there is a corresponding maximum allowable density.

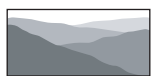
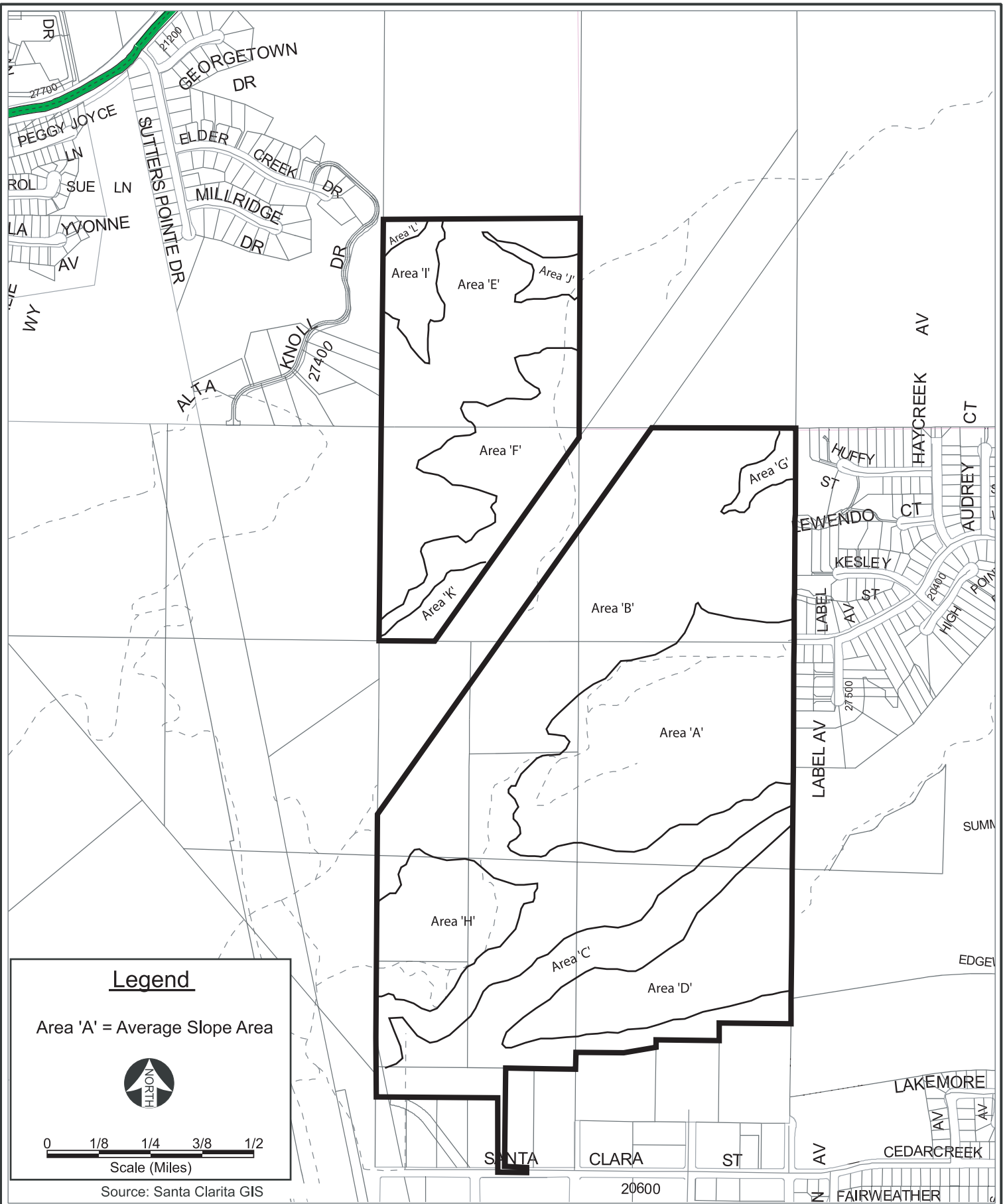
Implementation of the Proposed Project would result in alteration of the site's two secondary ridgelines, as well as four main drainages on the site. Section V.B. Aesthetics addresses the visual effects of the project in relation to the proposed innovative development which includes preservation of the primary ridgeline in the northern area of the project site, west of the LADWP right-of-way; re-creation of secondary prominent ridgeline which includes grading techniques replicating topographical characteristics of the surrounding area; creation of super slopes with varying steepness creating the look of a natural hillside. Section V.D. Biology, addresses the project's effect of the site's drainages.

Table V.I-4, provides the maximum density allowed for the average slopes within each proposed zone. Figure V.I-3 illustrates the location of the average on-site slopes.

Table V.I-4
Maximum Density with Percentage Slope

Residential Suburban (RS) District				
Area¹	Average Slope Calculation²	Average Slope	Density (acres)³	Dwelling Units
E	10 x 85,285 x 0.0023/34.41 Ac	57.0 %	0.10	1.3
F	10 x 11,671 x 0.0023/16.35 Ac	16.4%	4.25	69.5
I	10 x 5,042 x 0.0023/4.93 Ac	23.5%	3.38	16.7
J	10 x 1,987 x 0.0023/2.49 Ac	18.3%	4.00	10.0
K	10 x 6,974 x 0.0023/2.62 Ac	61.2%	0.10	0.3
L	10 x 3,075 x 0.0023/0.93 Ac	76.0%	0.10	0.1
			Subtotal	97.9
Residential Medium High (RMH) District				
A	10 x 32,727 x 0.0023/40.41 Ac	18.6%	15.50	626.3
B	10 x 216,442 x 0.0023/82.42 Ac	60.4%	0.40	33.0
C	10 x 33,852 x 0.0023/24.69 Ac	31.5%	9.00	222.2
D	10 x 56,675 x 0.0023/20.54 Ac	63.5%	0.40	8.4
G	10 x 1,804 x 0.0023/2.28 Ac	18.2%	16.0	36.5
H	10 x 10,930 x 0.0023/13.71 Ac	18.3%	16.0	219.4
			Subtotal	1,145.8
			TOTAL	1,243.7
<p>¹ Area locations are found on Figure V.I-3.</p> <p>² Average slope calculation per Unified Building Code, Chapter 17.80.040. Individual slope calculations provided by Sikand Engineering, January 20, 2005.</p> <p>³ Average density provided by the Unified Building Code, Chapter 17.80.040, Figure 3.</p>				

Grading on the project site is subject to the standards outlined in the Ridgeline Preservation and Hillside Development Ordinance (Ordinance), Chapter 17.80 of the Unified Development Code. The maximum allowable density for slopes greater than 10 percent correspond to the mid-range density of each General Plan residential land use designation. Since the project site has slopes greater than 10 percent, the Ridgeline Preservation and Hillside Development Ordinance maximum density provisions apply.



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Environmental Planning and Research

Figure V.I-3
Existing On-Site Average Slope
Location

Residential Suburban (RS) District

With application of innovative development, the Ridgeline Preservation and Hillside Development Ordinance provides allowable development density per slope steepness, expressed in percentages. Per the Ordinance, the project site area zoned RS can accommodate approximately 98 dwelling units.¹³ Of the approximately 62 acres, approximately 30 acres would be left in the natural open space condition (see Section V.B Aesthetics for visual discussion). The project proposes 96 single-family residential units, which would be within the allowable density permitted in the proposed RS zone under the innovative application development process subject to approval by City Council.

Residential Medium High (RMH) District

The project site area east of the LA DWP right-of-way consists of approximately 180 acres. The project proposes 883 multi-family residential units, a YMCA site and a junior high school site within this area, which is proposed as RMH. Application of the innovative development would permit approximately 1,146 dwelling units in the approximately 184-acre area using the maximum of 20 dwelling units per acre intensity.¹⁴ The project proposes 883 multi-family units, which would be within the allowable density for this zone district under the innovative development application process subject to approval by City Council.

Unified Development Code Consistency Analysis Conclusion

The proposed Keystone project may be consistent with the RS and RMH zones that correspond to the City's General Plan land use designations and the proposed uses are permitted under these districts with approval of the Zone Change by City Council. The project would be subject to the general requirements for development and grading under the UDC.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the

¹³ Sikand Engineering, memorandum, January 20, 2005.

¹⁴ Sikand Engineering, memorandum, January 20, 2005.

Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Cumulative land use impacts could occur if other related projects in the vicinity of the project site would result in land use impacts in conjunction with the Proposed Project. Twelve proposed or approved projects were identified that could potentially contribute to the cumulative effects of the Proposed Project (see table above). Development of the Proposed Project in conjunction with the related projects would result in an intensification of existing prevailing land uses in the project vicinity.

In particular, the Riverpark project (Related Project No.4) site is similar in that it consists of both single-family and multi-family units, and is located directly west of the project site. Though Riverpark is much larger in scope (432 single-family dwelling units and 657 multi-family dwelling units), it is the closest in proximity and the most similar of all the related projects and is subject to the same development standards and environmental review process as the Proposed Project. Other related projects include HH Seco II (Related Project No. 1) a 40,000 square foot commercial center project, Rice Development (Related Project No. 2) an 84,000 square foot self-storage facility, TT 062322 (Related Project No. 3), Aspen Investment Company (Related Project No. 5) 109,000 square foot industrial building complex, Soledad Circle Estates (Related Project No. 6) a 150 detached condominium development and Rogers Development (Related Project No. 10) a 34,000 square foot shopping center are all subject to the same development standards and environmental review as the Proposed Project as they are within the City of Santa Clarita. The five other related projects include TT46018 (Related Project No. 7) a 1,298 single-family and 1,202 condominium project with 150,000 square feet commercial; TR 52763 (Related Project No. 8) an 11 single-family dwelling unit project; Plum Canyon TR 31803 (Related Project No. 9) a 498 single-family dwelling unit project; TT98046 (Related Project No. 11) a 91 single-family dwelling unit project; and TT47760 (Related Project No. 12) a 480 single-family dwelling unit project are within the unincorporated Los Angeles County and are all subject to the County's development standards and environmental review process. All of the related projects do or would have to conform to the zoning and land use designations for each site.

As previously discussed, the Proposed Project would not physically divide an established community and subject to approval by City Council of the GPA and Zone Change would not conflict with any applicable land use plan, regulation, habitat conservation plan or natural community conservation plan. Therefore, the Proposed Project's incremental contribution is not considerable and the Proposed Project and Related Project impacts on land use are less than significant.

MITIGATION MEASURES

Project Mitigation Measures

No project mitigation measures are required.

Cumulative Mitigation Measures

No cumulative impacts were identified and thus no mitigation measures are recommended or required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

The Proposed Project land use impacts would be less than significant before mitigation and thus no mitigation measures are required.

Cumulative

Proposed Project and Related Project impacts on land use would be less than significant before mitigation and thus no mitigation measures are required.

V. ENVIRONMENTAL IMPACT ANALYSIS

J. MINERAL RESOURCES

INTRODUCTION

The purpose of this section is to disclose and discuss the potential for environmental issues relating to mining activity. This section was prepared with assistance from Leighton and Associates and information summarized from the following:

- California State Department of Conservation, Open File Report 94-14, Los Angeles County, 1994 (Update of Mineral Land Classification of Portland Cement Concrete Aggregate in Ventura, Los Angeles and Orange Counties, California, Part II – Los Angeles County).

ENVIRONMENTAL SETTING

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act (SMARA) was enacted in 1975 and established a state surface mining and reclamation policy. This policy ensures that 1) adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adoptable for alternative land uses; 2) the production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and 3) residual hazards to the public health and safety are eliminated.¹ The implementing regulations for this Act are found in California Code of Regulations, Title 14, Division 2, Chapter 8, Subchapter 1.

Specifically, this Act provides for the reclamation of mined lands and directs the State Geologist to classify (identify and map) the non-fuel mineral resources of the state to show where economically significant mineral deposits occur and where they are likely to occur based upon the best available scientific data. Non-fuel mineral resources include metals such as gold, silver, iron, and copper; industrial minerals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt and dimension stone; and construction aggregate which includes sand, gravel, and crushed stone.²

Under SMARA, the State Geologist has designated mineral lands, including construction aggregate resources, by geological factors that were based on limited field observations and on information

¹ California Public Resources Code, Division 2, Chapter 9, Section 2712.

² <http://www.consrv.ca.gov/CGS/minerals/index.htm>, February 22, 2005.

provided by mining companies at specific mine locations. These field observations generally did not include comprehensive field reconnaissance or specific laboratory testing. Four categories of mineral resource zones (MRZ) have been identified: MRZ-1, MRZ-2, MRZ-3, and MRZ-4 and are defined as follows:

- MRZ-1 represents areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2 represents areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- MRZ-3 represents areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4 represents areas where available information is inadequate for assignment to any other MRZ.

The State Geologist is responsible for calculating aggregate resources for areas classified as MRZ-2 for Portland Cement Concrete (PCC) aggregate. Recognizing that there are lands within the MRZ-2 classification that already have been urbanized and therefore have a limited opportunity for mineral resource conservation and extraction, the State Geologist has limited the calculation of aggregate resource tonnages to non-urbanized areas within the MRZ-2 classification.

Site Specific Information

The requirements of the California Surface Mining and Reclamation Act of 1975 are such that consideration has to be given to the potential loss of significant mineral deposits to land uses that preclude mining, for example residential developments.³ According to Division of Mines and Geology (DMG) Open File Report 94-14, from 1979 to 1987, the DMG published a series of studies on portland cement concrete (PCC) aggregate resources of Los Angeles County as Special Report 143, Mineral Land Classification of the Greater Los Angeles Area, Parts II, IV, V, and VI. The area selected for each report was based on a Production-Consumption (P-C) Region concept, wherein a market or consumption area surrounds each aggregate production district.

The P-C regions within Los Angeles County that were examined in Open File Report 94-14 include San Fernando P-C Region, San Gabriel Valley P-C Region, Saugus-Newhall P-C Region, Palmdale P-C Region and Claremont-Upland P-C Region. The project site lies within Saugus-Newhall P-C Region, which includes three resource sectors that are defined as follows⁴:

³ *State of California, Department of Conservation, Division of Mines and Geology, 1996.*

⁴ *State of California, Department of Conservation, Division of Mines and Geology, Open File Report 94-14, 1994.*

- Sector A – Non-urbanized areas of the Santa Clara River.
- Sector B – A conglomeratic unit in the Mint Canyon Formation east of Lang Station, and a sandy unit in the Mint Canyon Formation south of Lang Station.
- Sector C – About 6 square miles underlain by Precambrian anorthosite-gabbro in the western San Gabriel Mountains.

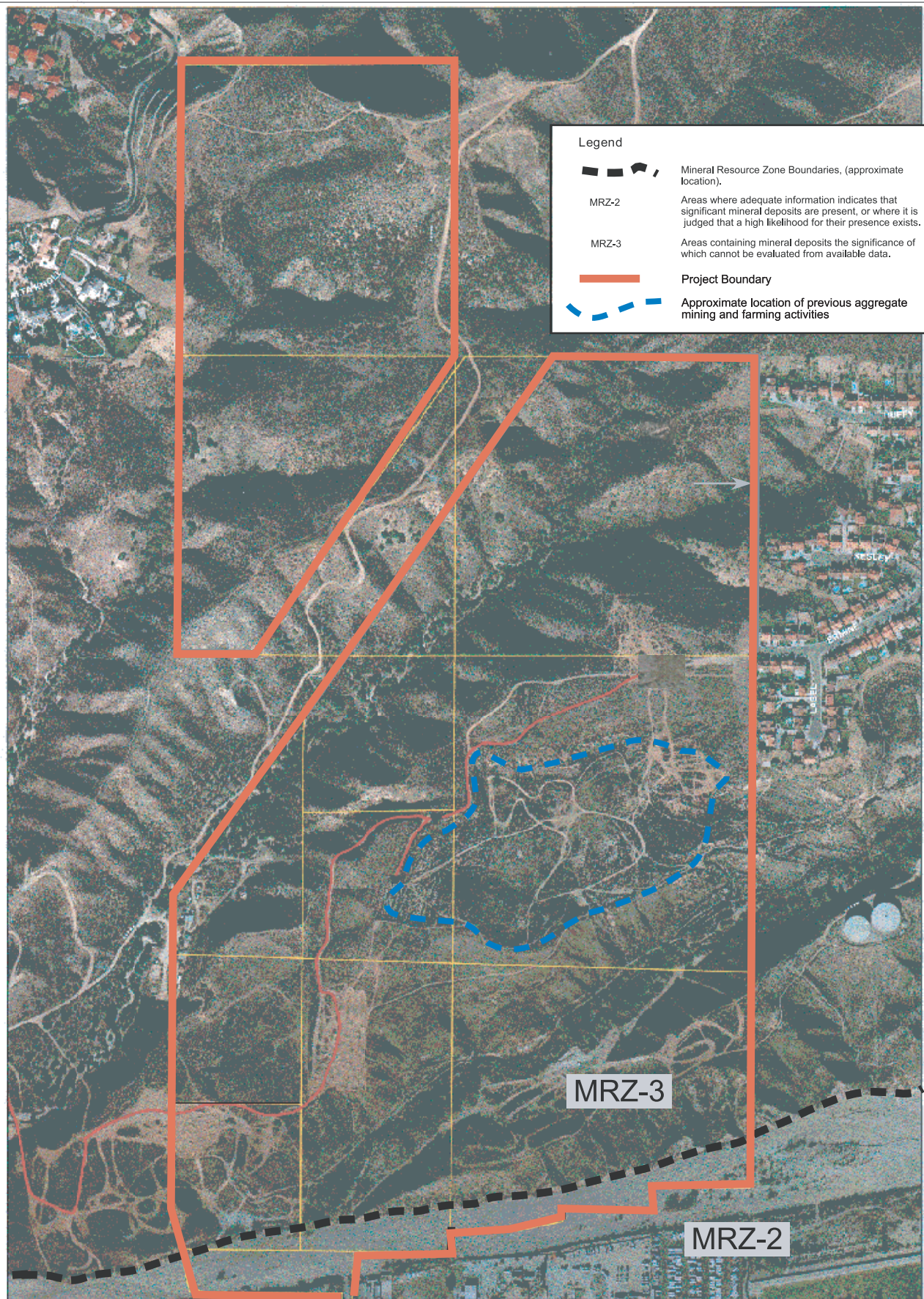
Figure V.J-1 illustrates MRZ designations for the project site. As shown the northern edge of the Santa Clara River is the boundary between MRZ-2 and MRZ-3 in the project site vicinity and most of the site lies within MRZ-3 with only the River area of the project site designated as MRZ-2.

Past Usage

Leighton performed a review of aerial photographs (1928, 1947, 1952, 1968, 1976, 1989, 1994 and 2002) of the site. This review indicated that farming occurred in the project site area east of the LA DWP easement (the 201-acre polygon project area) on two plateaus in the southern portion of the site prior to 1928 until sometime between 1952 and 1968. Figure V.J-1 illustrates the location of the past farming and mining activities on site. The northern plateau (within the area east of the LA DWP easement – 201 acre portion of the site) consisted of approximately 10 acres. The southern most farmed area or plateau totaled approximately 20 acres. Mining activities occurred on the southern plateau from sometime in the 1950's/1960's. Based upon the review of stereographic aerial photographs, mining activities did not appear to have been occurring in the 1970's or later.

Mining activities on the southern plateau appeared to have been cutting primarily of the plateau for aggregate. Approximate cuts appear to have been in excess of 30 feet, but less than 50 feet. The depths of cuts are based upon existing topographic contours and what appears to be remnant contours remaining from the previous mining activities. There are some fill soils remaining from the mining activities in the southern portion of the southern plateau as mapped by AES (2004). Based upon exploration performed by AES, artificial fill up to 14 feet was encountered.

Based on review of aerial photographs, the mining activities do not appear to have disturbed the Secondary Ridge north of the southern plateau. These mining activities appear to have been limited to the plateau area as shown in Figure V.J-1.



ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, a project would have a potentially significant impact if the project would:

- 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;
- 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;

Project Impacts

Loss of Availability of a Known Mineral Resource that would be of Value to the Region

As illustrated in Figure V.J-1, a small portion of the project site adjacent to the southern site margin is contained within a Mineral Resources Zone-2 (MRZ-2) classification, which is defined as an area "... where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists." The project site area, classified as MRZ-2, includes a project designated approximately 15-acre open space lot and a 0.55-acre industrial lot. Neither lot is proposed for development. The 15-acre lot is proposed for dedication to the City of Santa Clarita as permanent open space. Given that no development is proposed within the project site land classified as MRZ-2, implementation of the project would not preclude or impede mineral resource extraction from MRZ-2 classified land. Therefore, construction of The Keystone project would not 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. Thus, there would be no impact to the availability of known mineral resources.

The remainder of the project site land lies within Mineral Resource Zone-3 (MRZ-3) classification. Construction of The Keystone project would urbanize that land which is currently undeveloped. As previously discussed, MRZ-3 is defined as land "...containing mineral deposits the significance of which cannot be evaluated from available data." PCC-grade aggregate is mined from non-urbanized land classified as MRZ-2 as this is the classification where known aggregate resources exist.

According to the Division of Mines and Geology (DMG), the estimated resources of PCC-grade aggregate in MRZ-2 land that is technologically and economically available within Los Angeles County totals 11,929 million tons (as of January 1994). Of that total, 750 million tons of PCC-grade aggregate are reserves (currently owned or leased by aggregate producing companies and fully permitted to allow mining). Based on historical production-consumption data and projected population growth, the DMG estimates that an additional 355-million tons of PCC-grade aggregate resource would be needed and permitted for production by mining companies over a 50-year period. However, when considering the

11,929-million tons of PCC-grade aggregate resource and reserve are currently identified and designated as MRZ-2 by the DMG that exists within the classified areas of Los Angeles County, there is potential supply in the MRZ-2 classification to meet future demand before utilizing MRZ-3 classified land. If land that is classified as MRZ-3 in Los Angeles County are considered as potential aggregate resource, the project site land would have already been converted to urban use and most likely non-urbanized lands would be considered as optimal.

Though project implementation would convert the land from non-urbanized to urbanized uses, the project site land classified, as MRZ-3 would not be considered as part of the existing 11,929 million tons of PCC-aggregate resource and reserve as identified by the DMG. Therefore, conversion of the majority of the project site to urban uses would not result in a loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Thus, impacts would be less than significant with regard to the availability of known mineral resources with project implementation.

Loss of Availability of a Locally-Important Mineral Resource Recovery Site Delineated on a Local General Plan, Specific Plan, or Other Land Use Plan

The City of Santa Clarita's General Plan Land Use Element contains overlay designations, which identify additional potential for development and/or preservation. Overlays are designated based upon a determination of land use suitability defined in terms of environmental constraints/resources, and man-made resources/opportunities. The Land Use Element includes a Mineral/Oil Conservation Area Overlay, which is defined as follows:

“Mineral Oil/Conservation Area (MOCA) overlay category is used over a base land use to designate areas which have a significant mineral aggregate resource areas (SMARA) and/or oil fields. The purpose of this overlay is to permit the continuation of the mineral/oil usage while providing development of the area if specific requirements for landscaping, site restoration, protection of residents, noise attenuation, hazardous waste, ground stability and other factors relating to the particular operation are adequately reviewed and covered in a development plan for the site.”

The Land Use Policy Map of the City's General Plan does not provide a MOCA overlay on the project site's land use designations. Though a small portion of the site (approximately 15.5-acres) is within a mineral resource classification of MRZ-2, the City's General Plan does not envision the site suitable as conservation for resource recovery. Therefore, project implementation would not result in the loss of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan; thus, no impact would occur.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

As previously discussed, under SMARA, the State Geologist has designated land throughout the state as potential resources for mineral extraction and aggregate resources. This designation is divided into four classifications (e.g., MRZ-1, MRZ-2, MRZ-3 and MRZ-4) depending on soil composition. The

classifications pertinent to the Proposed Project and related projects are MRZ-1, MRZ-2 and MRZ-3. MRZ-1 are areas in which no significant mineral resources are available or would likely be found and MRZ-2 includes soil that contains significant mineral deposits or has a high likelihood for their presence. In the Santa Clarita Valley, land classified as MRZ-2 is generally found along or adjacent to the Santa Clara River. Outside of the Santa Clara River area, most of the City of Santa Clarita Valley is classified as MRZ-3, which is defined as soils containing mineral deposits but the significance or the quality of the deposits cannot be determined based upon available information.

Cumulative mineral resource impacts could occur if other related projects in the vicinity of the project site in conjunction with the Proposed Project would result in the loss of recoverable mineral resources. Twelve proposed or approved projects were identified that could potentially contribute to the cumulative effects of the Proposed Project (see Figure III-X in Section III (Related Projects)) within a two mile radius of the project site. Related Project Nos. 3, 4, 5 and 6 are within MRZ-3 mineral resource category and border MRZ-2. Related Project Nos. 1, 7, 8, 9 and 10 are within MRZ-3 while Related Projects Nos. 11 and 12 are also within MRZ-3 but border MRZ-1. Development of the Proposed Project in conjunction with the related projects would result in urbanization of existing undeveloped land in the project vicinity.

The Proposed Project and related projects have proposed development on land classified as MRZ-3. The closest related project that has land on the Santa Clara River (which is classified as MRZ-2) is Related Project No. 4, Riverpark. Like the Proposed Project, Riverpark does not propose development within the Santa Clara River which is an SEA. Though mineral and aggregate resource extraction could occur, it would not be likely as the Santa Clara River in the project site vicinity does not have a MOCA overlay which would permit such activity. Therefore, no development would occur in MRZ-2.

As discussed, DMG has identified a potential supply of aggregate resources in MRZ-2 land within Los Angeles County. Typically in Los Angeles County, land classified as MRZ-3 is in the process of urbanization and mineral or aggregate resource extraction on MRZ-3 land would occur when MRZ-2 land is not available. At the time when MRZ-2 land has been depleted of the mineral or aggregate resource, the project site and the related project sites would have been converted to urban use. Non-urbanized areas would be more optimal as there would not be a compatibility issue. Therefore, the Proposed Project and the related project impacts on mineral resources are not cumulatively considerable and, therefore, are less than significant.

MITIGATION MEASURES

Project Mitigation Measures

Because no significant impacts were identified, no mineral resource mitigation measures are required.

Cumulative Mitigation Measures

None required or recommended as no cumulative mineral resource impacts were identified.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Mineral resource impacts would be less than significant as no significant project impacts were identified.

Cumulative

No cumulative mineral resource impacts were identified.

V.K. NOISE

ENVIRONMENTAL SETTING

Fundamentals of Sound and Environmental Noise

Sound

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (“dBA”) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Environmental Noise

Noise, on the other hand, is typically defined as unwanted sound. A typical noise environment consists of a base of steady “background” noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway. Table V.K-1 lists representative noise levels for the environment.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- L_{eq} – The equivalent energy noise level is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- CNEL – The Community Noise Equivalent Level is a 24-hour average L_{eq} with a 10 dBA “penalty” added to noise during the hours of 10:00 P.M. to 7:00 A.M., and an additional 5 dBA penalty during the hours of 7:00 P.M. to 10:00 P.M. to account for noise sensitivity in the evening and nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.
- L_{min} – The minimum instantaneous noise level experienced during a given period of time.

**Table V.K-1
Representative Environmental Noise Levels**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Fly-over at 100 feet		
	100	
Gas Lawnmower at 3 feet		
	90	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	80	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Area during Daytime	50	Dishwasher in Next Room
Quiet Urban Area during Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	30	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: California Department of Transportation, 1998.

- L_{max} – The maximum instantaneous noise level experienced during a given period of time.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels below 60 dBA are generally considered low, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated natural settings that can provide noise levels as low as 20 dBA, and quiet suburban residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of low-moderate level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels

associated with more noisy urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA).

Under controlled conditions, in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dBA, when exposed to steady, single frequency “pure tone” signals in the mid-frequency range. Outside of such controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA. Changes from three to five dBA may be noticed by some individuals who are extremely sensitive to changes in noise. A 5 dBA increase is readily noticeable, while the human ear perceives a 10 dBA increase as a doubling of sound.

Noise levels from a particular source generally decline as distance to the receptor increases. Other factors such as the weather and reflecting or shielding also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically “hard” locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically “soft” locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels are also generally reduced by 1 dBA for each 1,000 feet of distance due to air absorption. Noise levels may also be reduced by intervening structures – generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 dBA with closed windows. The exterior-to-interior reduction of newer homes is generally 30 dBA or more with closed windows.

Groundborne Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and in the U.S. is referenced as vibration decibels (VdB).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximately dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is

rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, and 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

The general human response to different levels of groundborne vibration velocity levels is described in Table V.K-2.

Table V.K-2
Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: Federal Railroad Administration, 1998.

Regulatory Setting

Applicable State Noise Standards

Title 24 of the California Code of Regulations codifies Sound Transmission Control requirements, which establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. Specifically, Title 24 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA CNEL in any habitable room of new building. Dwellings are to be designed so that interior noise levels will meet this standard for at least 10 years from the time of building permit application. This standard applies to all new multi-family units developed at the Proposed Project site.

City of Santa Clarita General Plan

The California Government Code requires that a noise element be included in the general plan of each county and city in the state. Each local government's goals, objectives, and policies for noise control are established by the noise element of the general plan and the passage of specific noise ordinances.

The Noise Element of the City of Santa Clarita General Plan establishes policies for the compatibility of new land uses with various noise levels. These policies have been used to set and adopt exterior and interior noise compatibility criteria for various land uses within the City. The purpose of these criteria is to reduce the various potential effects of noise on people, including sleep disturbance, reduced physical and mental performance, annoyance, and interference with speech communication.

The Noise Element identifies 65 dBA and 55 dBA as the established exterior noise standards for residential uses during daytime and nighttime hours, respectively. When averaged over a 24-hour period, these noise levels average to approximately 65 dBA CNEL. The established exterior noise standard for schools, childcare centers, senior housing and other sensitive uses is also 65 dBA during the daytime hours when these uses would be occupied. The exterior noise standard for commercial and industrial uses is 80 dBA during the day and 70 dBA during nighttime hours. These levels average out to approximately 80 dBA CNEL over a 24-hour period.

City of Santa Clarita Municipal Code

The City of Santa Clarita has also adopted a Noise Ordinance (Chapter 11.44 of the Santa Clarita Municipal Code), which identifies noise standards for various sources, specific noise restrictions, exemptions, and variances for sources of noise within the city. The Noise Ordinance applies to all noise sources with the exception of any vehicle that is operated upon any public highway, street or right-of-way, or to the operation of any off-highway vehicle, to the extent that it is regulated in the State Vehicle Code, and all other sources of noise that are specifically exempted.

Section 11.44.040, Noise Limits, codifies the noise standards for various land uses that were established in the City of Santa Clarita General Plan (see the previous discussion of the City of Santa Clarita General Plan). The residential standards apply wherever a residential zone shares a common boundary with a commercial or industrial zone.

Section 11.44.080 of the Noise Ordinance limits construction activity within 300 feet of a residential zone to the hours of 7:00 A.M. through 7:00 P.M. Monday through Friday and 8:00 A.M. through 6:00 P.M. on Saturday. Construction activities are prohibited on the following public holidays: New Year's Day, Independence Day, Thanksgiving, Christmas, Memorial Day, and Labor Day. The noise levels associated with construction activities are exempt from the noise standards established in the Noise Ordinance.

Noise Analysis Methodology

The analysis of the existing and future noise environments presented in this analysis is based on noise level monitoring, noise prediction modeling, and empirical observations. Existing noise levels were monitored at a selected location within the Proposed Project site using a Larson-Davis Model 824 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. Noise modeling procedures involved the calculation of existing and future vehicular noise levels along individual roadway segments in the site vicinity. This task was accomplished using the Federal Highway Administration (FHWA) Highway Noise Prediction Model (FHWA-RD-77-108). The FHWA Model was used to evaluate future noise levels at the proposed land uses within the Proposed Project site and to evaluate existing and future

noise levels along roadway segments in the project vicinity that would be primarily affected by traffic generated by the Proposed Project. This model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA Model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. Traffic volumes utilized as data inputs in the noise prediction model were provided by the project traffic engineer. The evaluation of future noise levels at the project site also considers the proposed topography and associated barrier attenuation that would occur between the roadways and the proposed buildings.

Existing Noise Levels

Existing land-uses surrounding the project site include single-family residences, mobile homes, industrial uses, commercial uses, and undeveloped lands. An existing single-family residential community is located immediately to the east of the project site. Directly south of the project site, mixed commercial uses and mobile home parks line the north side of Soledad Canyon between Gladding Way and Whites Canyon Road. Although other noise sources occur in the vicinity, vehicular traffic is the primary source of noise at, and around, the Proposed Project site.

Existing daytime noise levels were measured at a location at the Proposed Project site approximately 100 feet southwest of the western end of Ermine Street on February 14, 2005. The average noise levels measured at this location are identified in Table V.K-3. These daytime noise levels are characteristic of a quiet suburban environment. Although the measurement location was approximately 50 feet from an existing residential neighborhood, the primary source of noise at the location was vehicular traffic and urban activity along Soledad Canyon Road. The measured daytime noise levels are considered to be characteristic of each of the nearby neighborhoods and well as the majority of the Proposed Project site. This is because the existing residences to the east and west of the Proposed Project site are all located on residential streets, they all are similar single-family residential neighborhoods with similar daytime activities, and because they are all located a great distance from the primary source of background noise (Soledad Canyon Road). The existing average 24-hour noise level is estimated to be approximately 45.0 dBA CNEL.

Existing roadway noise levels were also calculated for the roadway links in the vicinity of the Proposed Project site that would be affected by project-generated traffic. The average peak traffic hour and 24-hour noise levels along these roadway segments are presented in Table V.K-4.

**Table V.K-3
Daytime Noise Levels Measured at the Project Site**

Noise Measurement Location	Primary Noise Source	Noise Level Statistics		
		Leq	Lmin	Lmax
1. 100 feet southwest of the western end of Ermine Street	Vehicular traffic and urban activity along Soledad Canyon Road, jet aircraft overflights, human activity in the Ermine Street neighborhood.	44.5	36.3	59.7

Source: Christopher A. Joseph & Associates, February 2005.

Existing Groundborne Vibration Levels

Aside from seismic events, the greatest regular sources of groundborne vibration in the vicinity of the Proposed Project site are construction activities and roadway truck traffic. At the time that this EIR was prepared, no construction activities likely to generate high groundborne vibration velocity levels (e.g., demolition, pile driving, or blasting) were occurring in the vicinity of the Proposed Project site. Heavy trucks currently transport materials along Soledad Canyon Road and Sierra Highway. These trucks typically generate groundborne vibration velocity levels of around 63 vibration decibels (VdB), and these levels could reach 72 VdB where trucks pass over bumps in the road.¹

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, a project may be deemed to have a significant adverse noise impact if it would result in:

- 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.
- b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

¹ Federal Railroad Administration, 1998, *High Speed Ground Transportation Noise and Vibration Impact Assessment*.

Table V.K-4
Existing Roadway Noise Levels at Locations Off Site

Roadway	Roadway Segment	Land Use	24-Hour CNEL^a
Newhall Ranch Road	west of Bouquet Canyon	Multi-Family Residential	67.2
	east of McBean	Single-Family Residential	66.4
		Bridge Park	67.1
Soledad Canyon Road	east of Whites Canyon	School	70.1
		Mobile Home Park	74.5
	east of Rainbow Glen	Multi-Family Residential	75.1
		Mobile Home Park	76.8
	west of Reuther	Mobile Home Park	77.6
Valencia Boulevard	south of Magic Mountain	Library	74.0
Bouquet Canyon Road	east of Seco Canyon	Single-Family Residential	75.3
		Central Park	66.5
		Saugus High School	68.5
		Church	73.2
	north of Newhall Ranch	Single-Family Residential	64.8
		Multi-Family Residential	73.5
		Church	74.4
	south of Soledad Canyon	Multi-Family Residential	73.7
Whites Canyon Road	north of Soledad Canyon	Single-Family Residential	67.5
		Sierra Vista Jr. High School	68.7
		Bowman Cont. High School	68.7
		Canyon High School	68.7
Via Princessa	east of Whites Canyon	Single-Family Residential	65.6
Ermine Street	west of Langside	Single-Family Residential	55.2
Ashboro Drive	west of Whites Canyon	Single-Family Residential	57.8
Steinway Street	west of Whites Canyon	Single-Family Residential	57.9
Aldbury Street	east of Aumond	Single-Family Residential	54.3

^a Noise levels are calculated for the nearest edge of the nearest existing building to the roadway.

Source: Christopher A. Joseph & Associates, 2005. Calculation data and results are provided in Appendix 9.

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 expose people residing or working in the project area to excessive noise levels?

f) 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?

The noise standards adopted by the City are discussed previously in this EIR section. These standards would apply to the land uses that would be constructed within the Proposed Project site. Compliance

with the City's General Plan standards does not automatically ensure that there is no significant impact under CEQA. For example, the potential impact of a noise level projected to be below the maximum in the General Plan noise standards could be considered significant if the increase over the existing ambient noise level is substantial.

The *CEQA Guidelines* do not define the levels at which groundborne vibration is considered "excessive." This analysis uses the Federal Railway Administration's vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are 80 VdB at residences and buildings where people normally sleep (e.g., nearby residences) and 83 VdB at institutional buildings.

The *CEQA Guidelines* also do not define the levels at which temporary and permanent increases in ambient noise are considered "substantial." As discussed previously in this section, a noise level increase of 3 dBA is barely perceptible to most people, a 5 dBA increase is readily noticeable, and a difference of 10 dBA would be perceived as a doubling of loudness.

Based on this information, temporary increases in noise levels of 10 dBA or more due to construction activities would be substantial and, therefore, significant.

The following thresholds would apply to permanent increases in noise due to the operational characteristics of the Proposed Project:

- Less than 3 dBA: not significant.
- Between 3 dBA and 5 dBA: not significant if noise levels remain below the City of Santa Clarita General Plan noise level standards; significant if the noise increase would meet or exceed the City of Santa Clarita General Plan noise level standards.
- 5 dBA or greater: significant.

Project Impacts

Construction-Related Noise

Project development would require the use of heavy equipment for ground clearing, site grading, roadway construction, and building construction. Development activities would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of development, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of the activity.

The U.S. Environmental Protection Agency (EPA) has compiled data regarding the noise generating characteristics of specific types of construction equipment and typical construction activities. These data are presented in Table V.K-5 and Table V.K-6 for a reference distance of 50 feet from the source.

These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 84 dBA measured at 50 feet from the noise source to the receptor would reduce to 78 dBA at 100 feet from the source to the receptor, and reduce by another 6 dBA to 72 dBA at 200 feet from the source to the receptor.

**Table V.K-5
Noise Range of Typical Construction Equipment**

Construction Equipment	Noise Level in dBA L_{eq} at 50 Feet^a
Front Loader	73-86
Trucks	82-95
Cranes (moveable)	75-88
Cranes (derrick)	86-89
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-95
Pile Driving (peaks)	95-107
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88
^a Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.	
Source: U.S. EPA, 1971; as shown in City of Los Angeles, 1998.	

Construction activities would primarily affect the existing residences located immediately east and northwest of the Proposed Project site. Using the information presented in Table V.K-6, the peak construction noise levels have been estimated for the times when construction activities would be occurring in close proximity to the existing homes. These closest activity construction noise levels are identified in Table V.K-7. Noise levels at all other construction times would be substantially lower at these locations. The noise levels at the residences near the eastern end of Millridge Drive would be substantially lower than at the other residential locations since a prominent ridge would act as a large noise barrier between the construction activities and the homes at this location. The other residential locations would have direct lines of sight to the construction activities. Assuming that average daytime

noise levels average around 45 dBA L_{eq} at these homes (based on the noise levels monitored at the project site), the noise levels identified in Table V.K-7 would represent an increase of more than 10 dBA L_{eq} at each location.

**Table V.K-6
Typical Outdoor Construction Noise Levels**

Construction Phase	Noise Levels at 50 Feet in dBA L_{eq}	Noise Levels at 50 Feet with Mufflers in dBA L_{eq}
Ground Clearing	84	82
Excavation & Grading	89	86
Foundations	78	77
Structural	85	83
Finishing	89	86

Source: U.S. EPA, 1971; as shown in City of Los Angeles, 1998.

**Table V.K-7
Closest Construction Activity Noise Levels**

Residential Location	Construction Phase Noise Levels in dBA L_{eq}					
	Site Clearing	Grading	Roadways	Foundations	Structural	Finish
Eastern end of Millridge Drive	54.4	58.4	47.2	48.4	54.4	57.4
Eastern end of Alta Knoll Drive	79.4	83.4	73.0	69.2	75.2	78.2
Western end of Huffy Street	79.4	83.4	69.8	64.0	70.0	73.0
Western end of Kelsey Street	78.7	82.7	72.3	64.0	70.0	73.0
Western end of Ermine Street	82.0	86.6	77.0	64.4	70.4	73.4

Source: Christopher A. Joseph & Associates, 2005. Calculation data and results are provided in Appendix 9.

As discussed previously in this EIR section, construction activities that would occur within 300 feet of a residential zone would be limited to the hours of 7:00 A.M. through 7:00 P.M. Monday through Friday and 8:00 A.M. through 6:00 P.M. on Saturday. Construction activities are also prohibited on New Year's Day, Independence Day, Thanksgiving, Christmas, Memorial Day, and Labor Day. Therefore, they would not occur during recognized sleep hours for residences or days that residents are most sensitive to exterior noise. However, the daytime noise levels would exceed City standards for residential uses and would continue to constitute a substantial increase in ambient noise levels in the project vicinity above levels existing without the project. This is a significant noise impact.

Construction-Related Groundborne Vibration

Construction activities that would occur at the Proposed Project site have the potential to generate low levels of groundborne vibration. Table V.K-8 identifies various vibration velocity levels for the types of construction equipment that would operate at the project site during construction.

**Table V.K-8
Vibration Source Levels for Construction Equipment**

Equipment	Approximate VdB				
	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Large Bulldozer	87	81	79	77	75
Loaded Trucks	86	80	78	76	74
Jackhammer	79	73	71	69	67
Small Bulldozer	58	52	50	48	46

Source: Federal Railroad Administration, 1998 and Christopher A. Joseph & Associates 2005.

Site clearing and grading activities would occur within 50 feet of the existing residences located at the western end of Ermine Street. Based on the information in Table V.K-8, these homes could be exposed to vibration levels that exceed the 80 VdB threshold for residences and buildings where people normally sleep. As discussed previously, however, construction activities that would occur within 300 feet of a residential zone would be limited to the hours of 7:00 A.M. through 7:00 P.M. Monday through Friday and 8:00 A.M. through 6:00 P.M. on Saturday. Construction activities are also prohibited on New Year's Day, Independence Day, Thanksgiving, Christmas, Memorial Day, and Labor Day. Therefore, they would not occur during recognized sleep hours for residences. With these limitations, the magnitude of this impact would be reduced to a less than significant level.

Site clearing and grading activities would occur no closer than 90 feet from the other existing residential neighborhoods located near the project site. As such, groundborne vibrations levels would not approach the 80 VdB threshold at these residence. This would be a less-than-significant impact regarding the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Operational Noise Levels –Locations On Site

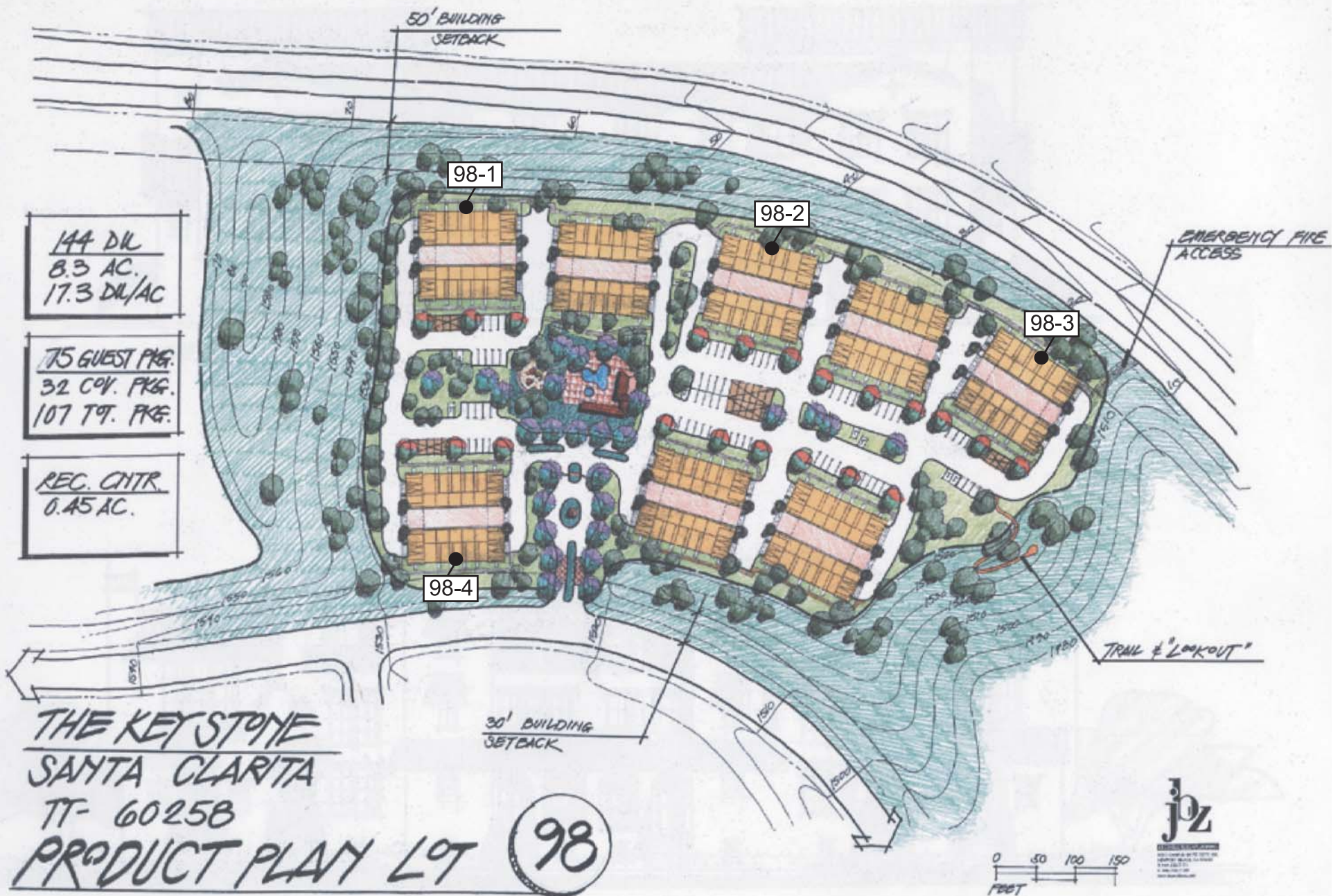
Future noise levels within the proposed site would be dominated by vehicular traffic on the new extension of Golden Valley Road and "I" Street. Other sources of noise would include new stationary sources (such as outdoor ventilation and air conditioning equipment) and increased activity throughout the site. Future noise levels have been calculated for various locations within the project site based on the preliminary site plan. These locations are identified in Figures V.K-1 through V.K-4 for Lots 97



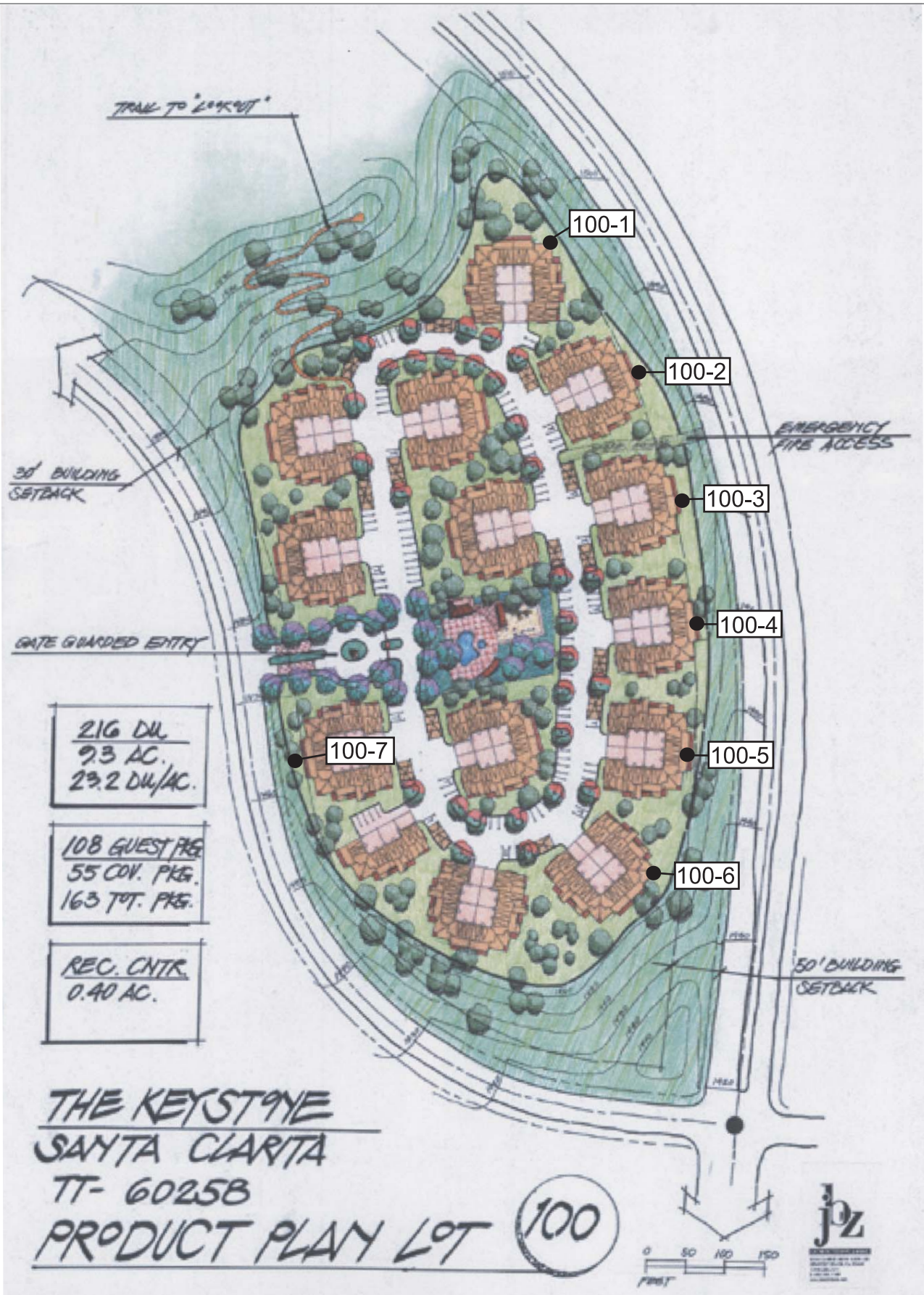
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 Environmental Planning and Research

Figure V.K-1
 Lot 97 Noise Modeling Locations









through 100, respectively. Future noise levels were also modeled for the single-family residence at Lot 96 and the proposed school/YMCA site. Table V.K-9 presents the future average daily exterior and interior noise levels at various locations within the project site with the planned extension of Golden Valley Road from Newhall Ranch Road to Plum Canyon Road. The building numbers used in Table V.K-9 reference the locations identified in Figures V.K-1 through V.K-4. The evaluation considers the preliminary elevations for the building sites and the nearby roadway lanes, any topographic barriers that would occur between the building sites and the roadways, and the condition where vehicles traveling uphill generate more noise than vehicles traveling downhill. As discussed previously, exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

Table V.K-9
Predicted Future Noise Levels at Locations On Site

Analysis Location ^b	Noise Levels in dBA CNEL ^a				
	Future Exterior Noise Levels	City Exterior Noise Standard	Assumed Exterior to Interior Noise Reduction	Future Interior Noise Level	City Interior Noise Standard
Lot 96- Ground Floor	51.3	65.0	30.0	< 40.0	45.0
Lot 96 - Second Floor	51.3	--	30.0	< 40.0	45.0
Building 97-1 - Ground Floor	54.4	65.0	30.0	< 40.0	45.0
Building 97-1 - Second Floor	57.1	65.0	30.0	< 40.0	45.0
Building 97-1 - Third Floor	59.7	65.0	30.0	< 40.0	45.0
Building 97-2 - Ground Floor	58.5	65.0	30.0	< 40.0	45.0
Building 97-2 - Second Floor	61.4	65.0	30.0	< 40.0	45.0
Building 97-2 - Third Floor	67.0	65.0	30.0	< 40.0	45.0
Building 97-3 - Ground Floor	61.2	65.0	30.0	< 40.0	45.0
Building 97-3 - Second Floor	61.7	65.0	30.0	< 40.0	45.0
Building 97-3 - Third Floor	67.0	65.0	30.0	< 40.0	45.0
Building 97-4 - Ground Floor	50.6	65.0	30.0	< 40.0	45.0
Building 97-4 - Second Floor	58.2	65.0	30.0	< 40.0	45.0
Building 97-4 - Third Floor	58.2	65.0	30.0	< 40.0	45.0
Building 98-1 - Ground Floor	62.2	65.0	30.0	< 40.0	45.0
Building 98-1 - Second Floor	62.3	65.0	30.0	< 40.0	45.0
Building 98-1 - Third Floor	62.7	65.0	30.0	< 40.0	45.0
Building 98-2 - Ground Floor	56.1	65.0	30.0	< 40.0	45.0
Building 98-2 - Second Floor	59.7	65.0	30.0	< 40.0	45.0
Building 98-2 - Third Floor	63.2	65.0	30.0	< 40.0	45.0
Building 98-3 - Ground Floor	61.8	65.0	30.0	< 40.0	45.0
Building 98-3 - Second Floor	67.0	65.0	30.0	< 40.0	45.0
Building 98-3 - Third Floor	67.0	65.0	30.0	< 40.0	45.0
Building 98-4 - Ground Floor	58.2	65.0	30.0	< 40.0	45.0

Table V.K-9
Predicted Future Noise Levels at Locations On Site

Analysis Location ^b	Noise Levels in dBA CNEL ^a				
	Future Exterior Noise Levels	City Exterior Noise Standard	Assumed Exterior to Interior Noise Reduction	Future Interior Noise Level	City Interior Noise Standard
Building 98-4 – Second Floor	58.2	65.0	30.0	< 40.0	45.0
Building 98-4 – Third Floor	58.2	65.0	30.0	< 40.0	45.0
Building 99-1 – Ground Floor	58.2	65.0	30.0	< 40.0	45.0
Building 99-1 – Second Floor	58.2	65.0	30.0	< 40.0	45.0
Building 99-1 – Third Floor	58.2	65.0	30.0	< 40.0	45.0
Building 100-1 – Ground Floor	57.2	65.0	30.0	< 40.0	45.0
Building 100-1 – Second Floor	59.1	65.0	30.0	< 40.0	45.0
Building 100-1 – Third Floor	62.4	65.0	30.0	< 40.0	45.0
Building 100-2 – Ground Floor	63.1	65.0	30.0	< 40.0	45.0
Building 100-2 – Second Floor	65.7	65.0	30.0	< 40.0	45.0
Building 100-2 – Third Floor	65.8	65.0	30.0	< 40.0	45.0
Building 100-3 – Ground Floor	63.2	65.0	30.0	< 40.0	45.0
Building 100-3 – Second Floor	65.9	65.0	30.0	< 40.0	45.0
Building 100-3 – Third Floor	66.2	65.0	30.0	< 40.0	45.0
Building 100-4 – Ground Floor	65.9	65.0	30.0	< 40.0	45.0
Building 100-4 – Second Floor	66.0	65.0	30.0	< 40.0	45.0
Building 100-4 – Third Floor	66.3	65.0	30.0	< 40.0	45.0
Building 100-5 – Ground Floor	67.2	65.0	30.0	< 40.0	45.0
Building 100-5 – Second Floor	67.2	65.0	30.0	< 40.0	45.0
Building 100-5 – Third Floor	67.2	65.0	30.0	< 40.0	45.0
Building 100-6 – Ground Floor	64.5	65.0	30.0	< 40.0	45.0
Building 100-6 – Second Floor	66.6	65.0	30.0	< 40.0	45.0
Building 100-6 – Third Floor	66.6	65.0	30.0	< 40.0	45.0
Building 100-7 – Ground Floor	58.2	65.0	30.0	< 40.0	45.0
Building 100-7 – Second Floor	58.2	65.0	30.0	< 40.0	45.0
Building 100-7 – Third Floor	58.2	65.0	30.0	< 40.0	45.0
School/YMCA Site	53.8	65.0	30.0	< 40.0	No Standard

^a Noise levels are calculated for the building located closest to the adjacent roadway. Noise levels account for shielding from intervening topography.

^b The building numbers reference the locations identified in Figures V.K-1 through V.K-4

Bold Numbers indicate that a City standard is exceeded.

Source: Christopher A. Joseph & Associates, 2005. Calculation data and results are provided in Appendix 9.

Based on the information presented in Table V.K-9, future exterior noise levels at most of the proposed land use locations, as well as interior noise levels throughout the project area would not exceed City standards. However, the future exterior noise levels at several of the buildings proposed along Golden Valley Road could exceed City standards. These locations would not have much topographic variation and, therefore, natural barrier attenuation from Golden Valley Road. The noise levels would primarily affect the porches and balconies of these buildings, but outdoor activity areas where the residents would actually spend time outdoors are not proposed at these locations. Interior noise levels would meet City standards at these buildings.

Heating, ventilation, and air conditioning (HVAC) systems would be installed for the new buildings within the Proposed Project site. Residential HVAC systems result in noise levels that average between 40 and 50 dBA L_{eq} at 50 feet from the equipment. These noise levels would not exceed the City's exterior noise standards.

Based on this information, future residents of the project site could be exposed to exterior noise levels that exceed City standards. This would be a potentially significant noise impact regarding exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinances, or applicable standards of other agencies.

Operational Noise Levels –Locations Off Site

Locations in the vicinity of the Proposed Project site could experience slight changes in noise levels as a result of an increase in the on-site population and resulting increase in motor vehicle trips. The changes in future noise levels along the study-area roadway segments in the project vicinity are identified in Table V.K-10. The Interim Year With Project noise levels take into consideration the extension of Golden Valley Road from Newhall Ranch Road to Plum Canyon Road that would occur with project development. As shown, the Proposed Project would increase local noise levels by a maximum of 0.2 dBA CNEL, which is inaudible/imperceptible to most people and would not exceed the identified thresholds of significance. This would be a less-than-significant noise impact regarding a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Future noise levels along segments of Bouquet Canyon Road, Whites Canyon Road would actually decrease by a minimal amount due to changes in local circulation patterns influenced by the extension of Golden Valley Road from Newhall Ranch Road to Plum Canyon Road. Some vehicles that would otherwise travel north and south along Bouquet Canyon Road and Whites Canyon Road would now use the new extension of Golden Valley Road to travel north and south. This is considered to be a beneficial impact of the Proposed Project.

Table V.K-10
Project Roadway Noise Level Impacts at Locations Off Site

Roadway	Roadway Segment	Land Use	24-Hour CNEL ^a		
			Interim Year Without Project Traffic Volumes	Interim Year With Project Traffic Volumes	Increase
Newhall Ranch Road	west of Bouquet Cyn.	Multi-Family Residential	70.1	70.2	0.1
	east of McBean	Single-Family Residential	68.8	69.0	0.2
		Bridge Park	69.5	69.6	0.1
Soledad Canyon Road	east of Whites Cyn.	School	71.3	71.3	0.0
		Mobile Home Park	75.7	75.6	-0.1
	east of Rainbow Glen	Multi-Family Residential	75.5	75.5	0.0
		Mobile Home Park	77.2	77.2	0.0
	west of Valley Center	Mobile Home Park	76.6	76.8	0.2
Valencia Blvd.	south of Magic Mtn.	Library	74.4	74.6	0.2
Bouquet Canyon Road	east of Seco Cyn.	Single-Family Residential	76.0	75.5	-0.5
		Central Park	67.2	66.7	-0.5
		Saugus High School	69.3	68.7	-0.6
		Church	73.9	73.4	-0.5
	north of Newhall Rch.	Single-Family Residential	65.6	65.2	-0.4
		Multi-Family Residential	74.2	73.8	-0.4
		Church	75.2	74.8	-0.4
	south of Soledad Cyn.	Multi-Family Residential	74.0	74.0	0.0
Whites Canyon Road	north of Soledad Cyn.	Single-Family Residential	68.6	68.4	-0.2
		Sierra Vista Jr. High	69.8	69.5	-0.3
		Bowman Cont. High Sch.	69.8	69.5	-0.3
		Canyon High School	69.8	69.5	-0.3
Via Princessa	east of Whites Cyn.	Single-Family Residential	67.9	67.8	-0.1
Ermine Street	west of Langside	Single-Family Residential	55.2	55.2	0.0
Ashboro Drive	west of Whites Canyon	Single-Family Residential	57.8	57.8	0.0

Table V.K-10
Project Roadway Noise Level Impacts at Locations Off Site

Roadway	Roadway Segment	Land Use	24-Hour CNEL ^a		
			Interim Year Without Project Traffic Volumes	Interim Year With Project Traffic Volumes	Increase
Steinway Street	west of Whites Canyon	Single-Family Residential	57.9	57.9	0.0
Aldbury Street	east of Aumond	Single-Family Residential	54.3	54.3	0.0

^a Noise levels are calculated for the nearest edge of the nearest existing building to the roadway.
Source: Christopher A. Joseph & Associates, 2005. Calculation data and results are provided in Appendix 9.

In addition to the locations evaluated in Table V.K-10, a detailed analysis of future noise levels was also conducted for the residential area located at the western end of Ermine Street. As discussed previously, the existing daytime noise levels in the vicinity of these homes was measured to be approximately 44.5 dBA L_{eq} (reference Table V.K-3). The existing average 24-hour noise level is estimated to be approximately 45.0 dBA CNEL. With the development of the Proposed Project, the FHWA model predicts that noise levels from Golden Valley Road north of Newhall Ranch Road would be approximately 45.4 dBA CNEL at the homes at the western end of Ermine Street. Therefore, development of the Proposed Project would not cause a substantial permanent increase in noise levels at this location. This analysis of project-related roadway noise impacts does not, however, consider the extension of Ermine Street to Golden Valley Road. According to Section V.O Transportation, this roadway extension would primarily be used by the existing residents from the area east of the Proposed Project site, although some project residents for school and YMCA trips. Therefore, the noise impacts associated with changes in roadway circulation patterns along Ermine Street and other residential streets east of the project site are evaluated later in the EIR section under the discussion of cumulative impacts.

Operational Groundborne Vibration

When the Proposed Project is completed and operational, background vibration levels would be expected to average around 50 VdB, as discussed previously in this EIR section. This is substantially less than the 80 VdB threshold for residential buildings. Therefore, this would be a less-than-significant impact regarding the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

The Proposed Project represents infill development in an established urban area. There are existing residential communities to the northwest and east of the project site and residential communities under construction to the north (SunCal development). The Santa Clara River borders the southern portion of the project site with industrial facilities along the southern bank. Related projects within the immediate vicinity include Related Project No. 4, Riverpark, which was recently approved by City Council and is located immediately west of the project site. Related Project No. 4, Riverpark, is the only related project that has the potential to affect the same existing residential uses as the Proposed Project as a result of noise-generating activities at the two project sites.

Development of the Proposed Project is currently planned to build out over a period of 2-3 years, with completion scheduled for 2009. Related Project No. 4 was recently approved by City Council and is anticipated to be built out over a five-year period. Noise from construction activities at the Related Project No. 4 site would primarily affect the mobile home park located to the southwest of that site and Emblem residential tract located to the north of the northwestern part of that site. On the other hand, construction activities associated with the Proposed Project would primarily affect the existing residences located immediately east and northwest of the Proposed Project site. Therefore, these two projects would not cause significant cumulative noise impacts at the same existing nearby land uses. The same condition would apply to the exposure of people to or the generation of excessive groundborne vibration in the vicinity of the project site during project construction.

With respect to the Proposed Project and the other 11 Related Projects, cumulative development would result in intermittent, short term noise and impacts throughout the two-mile radius area. Construction activities could result in potentially significant short-term noise impacts on sensitive land uses in the vicinity of the individual project sites. However, the other 11 Related Projects are not located in the immediate vicinity of the Proposed Project site and, as such, would have the potential to affect the same surrounding uses at the same time as does the Proposed Project. The same condition would apply to the exposure of people to or the generation of excessive groundborne vibration in the vicinity of the project site during project construction. Therefore, the contribution of the Proposed Project to any cumulative construction-related noise or groundborne vibration impacts would not be considerable.

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the Proposed Project and other projects within the study area. Therefore, cumulative traffic-generated noise impacts have been assessed for existing land uses in Santa Clarita based on the change in noise levels from existing conditions to the future with cumulative development. This change is evaluated based on regional growth throughout the Santa Clarita Valley as determined by the Santa Clarita Valley Consolidated Traffic Model for the Interim Year (2015) traffic analysis, including the traffic generated by the Proposed Project (see Section V.O, Transportation of this Draft EIR). The noise levels associated with existing traffic volumes and future traffic volumes with the Proposed Project are identified in Table V.K-11.

As shown, cumulative development along with the Proposed Project would increase local noise levels by a maximum of 3.0 dBA CNEL. This maximum increase would occur at the multi-residential uses along Newhall Ranch Road west of Bouquet Canyon Road. Because the resulting noise levels would exceed the City standard for residential uses, the resulting increase of 3.0 dBA CNEL would be considered substantial and, therefore, a significant cumulative impact. As shown previously in Table V.K-10, the Proposed Project would contribute 0.1 dBA CNEL to this increase. The 0.1 dBA contribution would be inaudible/imperceptible to most people. Therefore, the contribution of the Proposed Project to the significant cumulative impact along this roadway segment would not be considerable. The cumulative increase in noise levels along all of the other existing roadway segments would not exceed the identified thresholds and, therefore, would not be significant.

Table V.K-11
Cumulative Roadway Noise Level Impacts at Locations Off Site

Roadway	Roadway Segment	Land Use	24-Hour CNEL ^a		
			Existing Traffic Volumes	Interim Year With Project Traffic Volumes	Increase
Newhall Ranch Road	west of Bouquet Cyn.	Multi-Family Residential	67.2	70.2	3.0
	east of McBean	Single-Family Residential	66.4	69.0	2.6
		Bridge Park	67.1	69.6	2.5
Soledad Canyon Road	east of Whites Cyn.	School	70.1	71.3	1.2
		Mobile Home Park	74.5	75.6	1.1
	east of Rainbow Glen	Multi-Family Residential	75.1	75.5	0.4
		Mobile Home Park	76.8	77.2	0.4
west of Valley Center	Mobile Home Park	77.6	76.8	-0.8	
Valencia Blvd.	south of Magic Mtn.	Library	74.0	74.6	0.6
Bouquet Canyon Road	east of Seco Cyn.	Single-Family Residential	75.3	75.5	0.2
		Central Park	66.5	66.7	0.2
		Saugus High School	68.5	68.7	0.2
		Church	73.2	73.4	0.2
	north of Newhall Rch.	Single-Family Residential	64.8	65.2	0.4
		Multi-Family Residential	73.5	73.8	0.3
		Church	74.4	74.8	0.4
south of Soledad Cyn.	Multi-Family Residential	73.7	74.0	0.3	
Whites Canyon Road	north of Soledad Cyn.	Single-Family Residential	67.5	68.4	0.9
		Sierra Vista Jr. High	68.7	69.5	0.8
		Bowman Cont. High Sch.	68.7	69.5	0.8
		Canyon High School	68.7	69.5	0.8
Via Princessa	east of Whites Cyn.	Single-Family Residential	65.6	67.8	2.1

^a Noise levels are calculated for the nearest edge of the nearest existing building to the roadway.

Source: Christopher A. Joseph & Associates, 2005. Calculation data and results are provided in Appendix 9.

With the proposed extension of Ermine Street to Golden Valley Road, residents of the residential area east of the Proposed Project site are expected to use Ermine street as an alternate route for traveling to the western area of Santa Clarita. According to the Traffic Impact Analysis prepared for the Proposed Project, approximately 2,050 vehicles would use this roadway extension per day. The combined noise levels of Ermine Street and Golden Valley Road would result in average noise levels of approximately 54.1 dBA CNEL at the homes located at the western end of Ermine Street. Approximately 52.4 dBA CNEL is associated with the increased traffic along Ermine Street. Although the resulting noise levels at these homes would be well below the City's 65.0 dBA CNEL standard for residential uses, the existing noise levels in this area is estimated to be approximately 45.0 dBA CNEL. The increase of approximately 9.0 dBA CNEL above the existing noise level at this location would be considered substantial and, therefore, a significant cumulative impact. Although few of the residents of the Proposed Project are expected to use this roadway to travel east of the project site, the roadway extension would not occur without the Proposed Project. Therefore, the contribution of the Proposed Project to the cumulative impact would be considerable.

The noise levels associated with existing traffic volumes and future traffic volumes with the Proposed Project are identified in Table V.K-12 for other roadway segments in the residential area to the east of the project site. As shown, the extension of Ermine Street would increase local noise levels by a maximum of 1.4 dBA CNEL, which is inaudible/imperceptible to most people and would not exceed the identified thresholds of significance. This would be a less-than-significant cumulative noise impact. Future noise levels along other roadway segments in the residential area would actually decrease by a minimal amount from existing conditions due to changes in local circulation patterns influenced by the extension of Ermine Street. Some vehicles that would otherwise travel east to Whites Canyon Road before heading west along Soledad Canyon Road would now use the new extension of Ermine Street to travel west. This is considered to be a beneficial impact of the Ermine Street extension.

**Table V.K-12
Cumulative Roadway Noise Level Impacts East of the Project Site**

Roadway	Roadway Segment	Land Use	24-Hour CNEL ^a		
			Existing Traffic Volumes	Interim Year With Project Traffic Volumes	Increase
Ermine Street	west of Langside	Single-Family Residential	55.2	56.6	1.4
Ashboro Drive	west of Whites Canyon	Single-Family Residential	57.8	57.0	-0.8
Steinway Street	west of Whites Canyon	Single-Family Residential	57.9	57.1	-0.8
Aldbury Street	east of Aumond	Single-Family Residential	54.3	53.5	-0.8

^a Noise levels are calculated for the nearest edge of the nearest existing building to the roadway.

Source: Christopher A. Joseph & Associates, 2005. Calculation data and results are provided in Appendix 9.

MITIGATION MEASURES

The following measures are recommended to reduce to the maximum extent feasible the potential noise levels associated with construction activities.

K-1 The Applicant should implement measures to reduce the noise levels generated by construction equipment operating at the project site during project grading and construction phases. The Applicant should include in construction contracts the following requirements or measures shown to be equally effective:

- All construction equipment shall be equipped with improved noise muffling, and have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine isolators in good working condition.
- Stationary construction equipment that generates noise levels in excess of 65 dBA L_{eq} shall be located as far away from existing residential areas as possible. If required to minimize potential noise conflicts, the equipment shall be shielded from noise sensitive receptors by using temporary walls, sound curtains, or other similar devices.
- Heavy-duty vehicle storage and start-up areas shall be located a minimum of 150 feet from occupied residences where feasible.
- All equipment shall be turned off if not in use for more than five minutes.
- An information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive noise levels.

The following measures are recommended to ensure that future noise levels at the new residential buildings within the project site meet City standards.

K-2 Lot 97: Prior to the issuance of building permits for the multi family units of Lot 97 located along Golden Valley Road (only those units that front Golden Valley Road), the project developer shall submit environmental noise analyses that demonstrate that future exterior noise levels at ground floor porches and upper floor balconies will not exceed 65 dBA CNEL. Buildings that could be exposed to future exterior noise levels above 65 dBA CNEL shall either (1) have increased setbacks of the exterior porches or balconies from Golden Valley Road (estimated to be approximately 145 feet from the centerline of Golden Valley Road) or (2)

barriers shall be designed and constructed between the buildings and roadway (estimated to have a height of one foot above the roadway grade). The barriers could be in the form of earthen berms or solid masonry walls.

- K-3 Lot 98: Prior to the issuance of building permits for the multi family units of Lot 98 located along Golden Valley Road (only those units that front Golden Valley Road), the project developer shall submit environmental noise analyses that demonstrate that future exterior noise levels at ground floor porches and upper floor balconies will not exceed 65 dBA CNEL. Buildings that could be exposed to future exterior noise levels above 65 dBA CNEL shall either (1) have increased setbacks of the exterior porches or balconies from Golden Valley Road (estimated to be approximately 145 feet from the centerline of Golden Valley Road); (2) have barriers designed and constructed around the balconies; or (3) not provide balconies that face Golden Valley Road in the affected residential units. The barriers could be in the form of 3/8-inch glass or 5/8-inch plexiglass to a height of six feet above the floor elevation. It is not expected that earthen berms or solid masonry wall built to a standard height of six feet along the edge of the property could reduce noise levels at the second and third floor balconies.
- K-4 Lot 100: Prior to the issuance of building permits for the multi family units of Lot 100 located along Golden Valley Road (only those units that front Golden Valley Road), the project developer shall submit environmental noise analyses that demonstrate that future exterior noise levels at ground floor porches and upper floor balconies will not exceed 65 dBA CNEL. Buildings that could be exposed to future exterior noise levels above 65 dBA CNEL shall either (1) have increased setbacks of the exterior porches or balconies from Golden Valley Road (estimated to be approximately 150 feet from the centerline of Golden Valley Road); (2) have barriers designed and constructed around the balconies; or (3) not provide balconies that face Golden Valley Road in the affected residential units. The barriers could be in the form of 3/8-inch glass or 5/8-inch plexiglass to a height of six feet above the floor elevation. It is not expected that earthen berms or solid masonry wall built to a standard height of six feet along the edge of the property could reduce noise levels at the second and third floor balconies.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the successful implementation of the mitigation measures recommended in this EIR section, the noise levels associated with project-related construction activities would be reduced although they would continue to either exceed City standards and/or cause an increase of at least 10 dBA L_{eq} at the nearby residential areas. Therefore, this impact would continue to be significant and unavoidable regarding the exposure persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinances, or applicable standards of other agencies, and the creation of a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The recommended mitigation measures would reduce all potential operational noise impacts associated with the project to less than significant levels.

V. ENVIRONMENTAL IMPACT ANALYSIS

L. POPULATION AND HOUSING

INTRODUCTION

Information on population, housing and employment for the City of Santa Clarita and the Santa Clarita Valley was derived from the California Department of Finance, from the City of Santa Clarita and the City's website, and from the website of the Southern California Association of Governments (SCAG). Existing planning documents, such as the City of Santa Clarita General Plan (June 1991), the Los Angeles County Santa Clarita Valley Area Plan (December 1990), and the Los Angeles County Housing Element (2001) are also referenced. As two of the City and County planning documents are more than ten years old, demographic projections from these documents are not used in this impact analysis. Rather, up-to-date forecasts from SCAG and the City of Santa Clarita are used.

ENVIRONMENTAL SETTING

As part of its comprehensive planning process for the Southern California region, SCAG has divided the region into 14 subregions. The Proposed Project site is located within the North Los Angeles County Subregion, which includes the cities of Lancaster, Palmdale, Santa Clarita, and a portion of unincorporated Los Angeles County. The project site is located within the City of Santa Clarita.

SCAG - Regional Comprehensive Plan and Guide

The Regional Comprehensive Plan and Guide (RCPG) was adopted in 1994 by the member agencies of SCAG to set broad goals for the Southern California region and identify strategies for agencies at all levels of government to use in guiding their decision-making. It includes input from each of the 14 subregions that make up the Southern California region (comprised of Los Angeles, Orange, San Bernardino, Riverside, Imperial, and Ventura Counties). As mentioned previously, the Proposed Project site is located within the North Los Angeles County Subregion.

The Growth Management and Housing Chapters of the RCPG are non-mandated and do not establish any requirements for local governments. However, SCAG is responsible for assisting cities and counties in fulfilling their statutory obligations to prepare and regularly update their General Plans. The Growth Management and Housing Chapters of the RCPG are intended to provide a broad picture of population, housing and employment issues affecting the region to assist local governments in meeting this requirement. By providing a regional framework for local population, housing and employment strategies that are responsive to market area needs and state mandates, the Growth Management and Housing Chapters are major tools for coordinating local development strategies within Southern California. The chapters also include a set of principles and policies associated with

improving the regional standard of living and quality of life and for increasing the supply of housing in the region; particularly housing that is affordable to low- and moderate-income households.

Population

Most of the population within the Santa Clarita Valley resides in the City of Santa Clarita, which encompasses the communities of Canyon Country, Newhall, Saugus and Valencia. In the year 2000 the City of Santa Clarita had a population of approximately 151,088, with the Santa Clarita Valley population standing at approximately 213,178 persons. According to the California State Department of Finance in January 2004 the City had an estimated population of 164,900. Santa Clarita anticipates high growth rates to occur until 2020 when the City is expected to reach full 'build-out'. It is estimated that Santa Clarita will reach its highest growth rate (2.2% per annum) from 2000-2005 and thereafter growth will occur at a slower rate¹. Table V.L-1 provides population projections for the City and the Valley from 2000 to 2020.

Table V.L-1
Population Forecasts 2000-2020

Region / City	Population			Percent Change 2000-2020
	2000	2010	2020	
Santa Clarita Valley	213,178 ¹	243,104 ¹	313,290 ¹	47.0%
City of Santa Clarita	151,088 ¹	187,795 ²	211,367 ²	39.9%
City Percent of Valley	70.9%	77.2%	67.6%	

¹ = City of Santa Clarita Profile; <http://www.santa-clarita.com/cityhall/demog.htm#demog> (12/04)

² = SCAG RTP Growth Forecast; <http://www.scag.ca.gov/forecast/downloads/2004GF.xls> (12/04)

As shown, the population within the Valley is expected to grow by 47% by 2020, while the population within the City is projected to grow by 39.9%. The City's proportionate share of population within the Valley is also shown to decrease from 70.9% to 67.6% over the twenty year time frame represented in the table.

¹ Local Agency Formation Commission for Los Angeles County, Draft Santa Clara Municipal Service Review, October 29, 2004

The Proposed Project site is currently vacant; therefore it does not contribute to the City's population.

Housing

According to SCAG, in 2000 there were approximately 50,887 households in the City of Santa Clarita.² As of August 2003 there were 54,565 housing units within the City, 52,842 of which were occupied, resulting in a vacancy rate of 3.16%. There is an average of 3.056 persons per household. Based on forecasts by SCAG the number of households in the City is expected to grow to 61,101 in 2010 and then to 75,479 in 2020 while the number of households in the Santa Clarita Valley is expected to grow to 92,175 and 121,578 in those respective years. City housing would therefore represent 66.3% and 62.1% of the projected housing in the Santa Clarita Valley for those years.

California State Planning and Zoning law requires every City and County to prepare and adopt a comprehensive General Plan for the development in their respective jurisdictions. While there are seven mandatory elements for every General Plan in the state, the housing element is deemed to have 'preeminent importance'.³ In fact, this is the only element that is subject to approval by the State. This approval process occurs as part of the Regional Housing Needs Assessment (RHNA) which is conducted by the State Department of Housing and Community Development pursuant to Government Code Section 65584 in conjunction with the appropriate regional agency (in this case SCAG). The RHNA process examines existing and projected population, housing and economic characteristics to determine the need for housing in a given region, including both market rate and affordable housing. The RHNA process ensures that local governments share the responsibility for accommodating the housing needs of all economic levels.

SCAG adopted its Regional Housing Development Program on November 2, 2000, which included housing needs by income for the City of Santa Clarita by the year 2005.⁴ The forecast for the City is presented in Table V.L-2, Citywide housing needs – Year 2000-2005.

² SCAG 2004 Regional Transportation Plan, Growth Vision; June 2004 website:
<http://www.scag.ca.gov/forecast/downloads/2004GF.xls>, December 2004

³ *Committee for Responsible Planning v. City of Indian Wells* (1989) 209 Cal.App3d 1005, 1013.

⁴ SCAG 'Regional Housing Needs Assessment' website:
<http://api.ucla.edu/rhna/RegionalHousingNeedsAssessment/RHNABackground/pdf8arhdp.pdf> December 2004

**Table V.L-2
Citywide Housing Needs – Year 2000-2005¹**

Income Level²	Needed Housing Units	% of Needed Units
Very Low Income	1,256	18%
Low Income	941	13%
Moderate Income and Above	4,959	69%
Total	7,156	100%

¹ = SCAG 'Adopted RHNA Construction Need'
<http://api.ucla.edu/rhna/RegionalHousingNeedsAssessment/FinalNumbers/Default.cfm?Step=2&ID=88>

² = Very Low Income: a four-person family with an income less than 50% of the median income of the County
Low Income: a four-person family with an income between 50 and 80% of the median income of the County
Moderate Income: a four-person family with an income between 80 and 120% of the median income of the County
Above Moderate Income: a four-person family with an income 120% or more of the median income of the County

As shown, the City of Santa Clarita has a projected need for 1,256 very low income and 941 low income housing units by the year 2005.

Employment

According to SCAG, in 2000 there were approximately 49,612 employees in the City of Santa Clarita resulting in a jobs/housing ration of .975:1 ($49,612/50,887 = 97.5$).⁵ More than one third of these employees were in the service sector, followed by 18% in retail and wholesale trade and 13% in manufacturing. An estimated 19,000 people are employed within the Valencia Industrial Center, with the Valencia Commerce Center employing an additional 7,000 workers. The Commerce Center is located outside of the City limits. Year 2000 employment within the City represented 26.6% of the total employment in the North Los Angeles County Region (186,500 employees).

These same SCAG employment projections show that employment within the City will grow to 57,248 in the year 2010 and to 64,012 in 2020. Compared with year 2000, these projections represent employment increases of 15.4% and 29.0% respectively. Within Santa Clarita Valley, year 2010

⁵ SCAG 2004 Regional Transportation Plan, Growth Vision; June 2004 website:
<http://www.scag.ca.gov/forecast/downloads/2004GF.xls>. December 2004

employment is projected to be 76,345 and year 2020 employment is projected to be 95,473. City employment would therefore represent 75.0% and 66.4% of the projected employment in the Santa Clarita Valley for those years.

Within the City, SCAG data show that the jobs/housing ratio for years 2010 and 2020 would be 0.93:1 ($57,248/61,101 = .0937$) and 0.85:1 ($64,012/75,479 = .0848$), respectively. This demonstrates that the City is projected to become more housing rich over the next twenty years.

The Proposed Project site is currently vacant and therefore does not directly generate any employment within the City.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G of the state CEQA Guidelines, a project would have a significant impact on the environment if it will:

- 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);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere ; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Project Impacts

Direct Growth

Population and Housing

The Proposed Project includes construction of 96 single-family and 883 multi-family homes on currently undeveloped land. Using the California State Department of Finance average household size of 3.056 persons⁶, the 979 dwelling units within the Proposed Project would generate a resident population of 2,992 persons (979 units x 3.056 person/unit = 2,992 persons). As the project site is

⁶ California State Department of Finance, *Official State Estimates*; website:
<http://www.dof.ca.gov/html/demograp/e-1text.htm> December 2004

currently undeveloped, this increase in residential population represents a 100% population and housing increase on the project site. The direct physical impacts resulting from this increase in population growth are addressed through this Draft EIR (see Sections V.A through V.P.). In any event, this population growth and the addition of dwelling units to the City's housing inventory are not anticipated to be substantial compared to citywide growth projections.

The increase in population is considered minimal, as it would represent 1.6% of the City's projected 2010 (the year closest to project build-out) population of 187,795, and 8.1% of the City's in-migration for the period between 2000 and 2010 (36,707 new residents). The 1.6% population growth would not be considered to constitute substantial growth or concentration of population compared to the citywide growth projections for 2010. The Proposed Project would add 96 single-family and 883 multi-family residences to the City's housing inventory. This increase represents 1.6% of projected housing units within the City for 2010 (61,101 units) and 9.6% of the new housing units projected to be added for the period between 2000 and 2010 (10,214 new units). Further, the addition of 979 dwelling units to the City's housing inventory would not exceed the projected growth rates for the City. Therefore, the Proposed Project's population growth is not substantial and the additional dwelling units would be consistent with Citywide housing projections. As a result, development of the Proposed Project would not directly induce substantial population growth and impacts relating to population and housing would be less than significant.

Employment

Construction Impacts

Construction of the Proposed Project would result in increased employment opportunities during the project's construction period. However, these employment opportunities provided by construction of the project would not likely result in household relocation by construction workers to the vicinity of the project site for various reasons, including the following.

- Construction employment has no regular place of business. Rather, construction workers commute to job sites that may change several times a year.
- Many construction workers are highly specialized (e.g., crane operators, steel workers, masons) and move from job site to job site as dictated by the demand for their skills.
- The work requirements of most construction projects are also highly specialized, and workers are employed on a job site only as long as their skills are needed to complete a particular phase of the construction process.

Additionally, construction workers would likely be drawn from the construction employment labor force already resident in the surrounding communities. It is not likely that construction workers would relocate their place of residence as a consequence of working on the Proposed Project. Since

construction workers would not relocate to the area, such workers would not increase population or housing beyond forecasts. No permanent population growth or job creation would occur associated with construction of the Proposed Project.

Long-Term Operation Impacts

The Proposed Project includes land to be sold to the William S. Hart School District for the construction of a Junior High School and land deeded to the YMCA for a Recreation Facility. The Junior High School is expected to have an enrollment of approximately 1,200 students. Using an employment generation factor of .11 per student⁷, the new school would be expected to generate 132 net new jobs. The YMCA Community / Fitness Center will be housed in an approximately 30,476 square foot facility. Using an employment generation factor of 2.36 per thousand square feet⁸, the new YMCA Facility would be expected to generate 72 net new jobs. Thus the Proposed Project would generate a total of 204 new jobs. This increase represents 0.36% of projected jobs with in the City for 2010 (57,248 jobs) and 2.67% of the new jobs projected to be added for the period between 2000 and 2010 (7,636 new jobs).

The jobs/housing ratio for the City of Santa Clarita in 2000 was .975:1, while the projected jobs/housing ratio for the City in the year 2010 would be .93:1, indicating that the City will become more housing rich. The original purpose of achieving a jobs/housing balance within a given region as outlined in SCAG's Regional Comprehensive Plan and Guide (1994) was to encourage the balanced development of both housing and employment generating projects and by extension reduce vehicle miles traveled within a region and thereby achieve a reduction in roadway congestion, fuel consumption and air emissions. SCAG's jobs/housing goal for the North Los Angeles County Region is 1.30:1.

Approximately 45% of the City of Santa Clarita's population is included in the total local labor force.⁹ Assuming that 45% of the Proposed Project's population would be employed, 1,346 employed people would reside on site ($2,992 \times .045 = 1,346$). These new residents would be expected to be employed within the City area and possibly even at the Proposed Project's new school or community fitness center, within the North Los Angeles County Region, or elsewhere. Given the proximity of the Proposed Project site to existing freeways (I-5 and SR-14), the Metrolink regional rail system and existing bus service (Santa Clarita Transit), employed residents within the Keystone project would not be solely geographically limited to employment opportunities with the Santa Clarita Valley. It is likely

⁷ Daryl Zerfass, Austin-Foust & Associates, Inc. 'Re: SCTCTM Question No. 2' (11/19/02)

⁸ The Natelson Company, Inc., *Employment Density Study Summary Report*, prepared for SCAG (10/31/01)

⁹ *City of Santa Clarita Profile*; website: <http://www.santa-clarita.com/cityhall/demog.htm#demog> December 2004

that project residents would use automobiles and mass transit as a means to commute to work. The Proposed Project would facilitate the use of mass transit by providing transit facilities such as bus shelters and turnouts at appropriate locations thought the development.

Using available data from July 2004 the average weekday ridership on the Antelope Valley Line of the Metrolink, which serves the Santa Clarita Valley, was 6,545 people¹⁰. In September 2004, approximately 1,000 Santa Clarita passengers boarded at one of the City of Santa Clarita's three Metrolink train stations, making Santa Clarita one of the most popular lines in the system.¹¹ According to Metrolink figures, the overall regional system has removed 24,971 cars per weekday from regional roadways, which represents 2.9% of freeway traffic on freeways that run parallel to the Metrolink lines.¹² The use of mass transit facilities helps to reduce roadway congestion, fuel consumption and air emissions within a region, which is the original purpose behind achieving a jobs/housing balance. The Keystone project itself is housing rich, however it would provide 204 new jobs toward the SCAG jobs/housing goal of 1.30:1 for the North Los Angeles County Region.

Because the Proposed Project would represent only a 0.36% increase in employment opportunities within the City, this increase is not considered to be substantial in terms of employment growth. As a result, development of the Proposed Project would not directly induce substantial population growth directly with new employment and impacts relating to new business opportunities would be less than significant.

Indirect Growth

The Proposed Project would extend roadways and other infrastructure (e.g., water facilities, sewer facilities, electricity transmission lines, natural gas lines, etc.) to and within the project site (see Sections V.M. Public Services, V.N Utilities, V.O. Transportation, V.P. Energy Conservation). The Proposed Project's Golden Valley Road is on the City's Master Roadway's Plan, which envisions a connection from Newhall Ranch Road north to Plum Canyon Road. Golden Valley Road, as proposed, would only serve the project site, although a connection to Plum Canyon Road has now been approved and is under construction. However, the proposed roadways and other infrastructure would not induce

¹⁰ Metrolink 'Facts and Timeline: Our Story' website:
http://www.metrolinktrains.com/about/facts_and_timeline.php The Antelope Valley Line has 10 stations that run from Lancaster to Glendale. December 2004

¹¹ City of Santa Clarita press release 'Santa Clarita Commuters Continue to use Metrolink Stations', 10/27/04 website: <http://www.santa-clarita.com/cityhall/cmo/press/release.asp?ID=374> December 2004

¹² Metrolink 'Facts and Timeline: Our Story', website:
http://www.metrolinktrains.com/about/facts_and_timeline.php December 2004

growth because they would only serve project residents and would not extend into previously undeveloped areas that would then be made available for future development. As a result, development of the Proposed Project would not indirectly induce substantial population growth and impacts relating to population and housing would be less than significant.

Housing or Population Displacement

The Proposed Project site is currently undeveloped and does not contain any housing or people. Therefore, implementation of the Proposed Project would not displace substantial numbers of existing housing or substantial numbers of people necessitating the construction of replacement housing or replacement of affordable housing. No significant impacts to housing or population displacement would occur.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	<u>HH Seco II LLC</u> Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	<u>Rice Development</u> Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	<u>Aspen Investment Company</u> Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square

List of Related Projects

Map No.	Project Name	Project Location	Description
			feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	<u>Rodgers Development</u> Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Implementation of the Proposed Project in conjunction with the 12 related projects identified in above in the Related Projects list would contribute to population and employment growth in the project vicinity.

The dwelling units that would be developed with implementation of the Proposed Project in combination with the related projects would concurrently increase the resident population in the area. Based on a factor of 3.056 persons per dwelling unit, the 5,273 dwelling units that would be developed with the related projects in combination with the Proposed Project's 979 dwelling units would yield a total of approximately 19,106 new residents (see Table V.L-3). As shown in Table V.L-4, the total number of employees generated by the Proposed Project and related projects would be approximately 878. Furthermore, if it were conservatively assumed that each full-time employee that would be generated by the related projects in combination with the Proposed Project relocated to the City of Santa Clarita, the residential population would increase by approximately 2,683 people and 878 households.¹³ This would result in a cumulative population increase of 21,789 people (19,106 + 2,683 = 21,789).

The addition of 21,789 new people would be within the City of Santa Clarita's forecasted increase of 36,707 people between 2000 and 2010 (see Table V.L-1). It is likely, however, that some of the 2,683 additional people employed by the Proposed Project and related projects would already live in the Santa Clarita Valley, would move into the Proposed Project or one of the related project's residential components, or would not choose to relocate to the Santa Clarita Valley. Therefore, the estimated

¹³ This assumes that each full-time employee would generate one household.

21,789 people that would be directly and indirectly generated by the Proposed Project in combination with the related projects are considered to be a conservative estimate.

**Table V.L-3
Cumulative Population Increase - Residential**

Proposed Land Use		Unit of Measure	Generation Factor ¹ (persons/unit)	Total New Residents
Proposed Project				
Single-Family Residence		96 du	3.056 du	293
Multi-Family Residence		883 du	3.056 du	2,699
Proposed Project Subtotal				2,992
Related Projects				
3	TT 062322 –Town homes	420 du	3.056	1,284
4	Riverpark – Single-Family	432 du	3.056	1,320
	Multi-Family	657 du	3.056	1,992
6	Soledad Circle – Single-family	150 du	3.056	458
7	TT 46018 – Single-family	1,298 du	3.056	3,967
	Multi-family	1,202 du	3.056	3,673
8	TR 52763 – Single-Family	11 du	3.056	34
9	Plum Canyon – Single-Family	498 du	3.056	1,522
11	TT 98046 – Single-Family	91 du	3.056	278
12	TT 47760 – Single-Family	480 du	3.056	1,467
Related Projects Subtotal				15,995
Cumulative Residential Total				18,987
<i>1 -California State Department of Finance, Official State Estimates; website: http://www.dof.ca.gov/html/demograp/e-1text.htm December 2004 du = dwelling unit</i>				

**Table V.L-4
Cumulative Employment Increase**

Proposed Land Use		Unit of Measure	Generation Factor ¹ (jobs/unit)	Total Employment Generation
Proposed Project				
YMCA Facility		30,476 sq. ft.	3.056 du	72
Junior High School ²		1,200 students	0.11 per student	132
Proposed Project Subtotal				204
Related Projects				
1	HH Seco II LLC Master Case 01-	40,000 sq.ft.	2.36 per tsq.ft.	94

**Table V.L-4
Cumulative Employment Increase**

Proposed Land Use		Unit of Measure	Generation Factor ¹ (jobs/unit)	Total Employment Generation
	317			
2	Rice Development Master Case 02-231	84,000 sq.ft.	.56 tsq.ft.	47
4	Riverpark	16,000 sq.ft.	2.36 tsq.ft.	38
5	Aspen Investment Company Master Case 02-273	109,000 sq.ft.	.56 tsq.ft.	61
7	TT 46018 (S&S)	150,000 sq.ft.	2.36 tsq.ft.	354
10	Rodgers Development Master Case 02-232	34,000 sq.ft.	2.36 tsq.ft.	80
Related Projects Subtotal				674
Cumulative Employment Generation Total				878
<p><i>1 = The Natelson Company, Inc., Employment Density Study Summary Report, prepared for SCAG (10/31/01)</i> <i>sq.ft. = square feet; tsq.ft. = thousand square feet</i> <i>2 = William S. Hart USD estimated approximately 70 Faculty would be required. Estimate provided in this table is greater than the School Districts estimate.</i></p>				

The related projects include commercial, industrial and residential land uses. Some of the related projects may include the extension of roads or infrastructure. However, it is expected that the roadways or other infrastructure associated with the related projects would only serve the applicable related project. Therefore, the related projects would not extend roads or other infrastructure into previously undeveloped areas that would be available for future development.

Based on the foregoing, the proposed project in combination with the related projects would not result in a significant impact on population or housing because:

- The number of people and homes that would be generated by the Proposed Project in combination with the related projects is within current Santa Clarita Valley population and housing forecasts;
- Roadways and other infrastructure are not anticipated to be extended into previously undeveloped areas that would be available for future development; and
- The Proposed Project would not result in or contribute to the displacement of housing or people.

Therefore, project's incremental increase would not be considerable and impacts on population and housing would be less than significant.

MITIGATION MEASURES

Project Mitigation Measures

No significant project specific population, housing or employment impacts are identified; therefore no mitigation measures are required.

Cumulative Mitigation Measures

No significant cumulative population, housing or employment impacts are identified; therefore no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Project population, housing and employment impacts would be less than significant.

Cumulative

Cumulative population, housing and employment impacts would be less than significant.

V. ENVIRONMENTAL IMPACT ANALYSIS
M. PUBLIC SERVICES
1. POLICE PROTECTION

INTRODUCTION

This section describes the current police protection serving the project area and describes ways in which the Proposed Project could lead to an increased demand for police services. The following section is based on information provided by the Sheriff's Department. The Sheriff's Department maintains ultimate review and approval authority over aspects of the proposed development that relate to police protection, and may identify further recommendations and/or requirements.

ENVIRONMENTAL SETTING

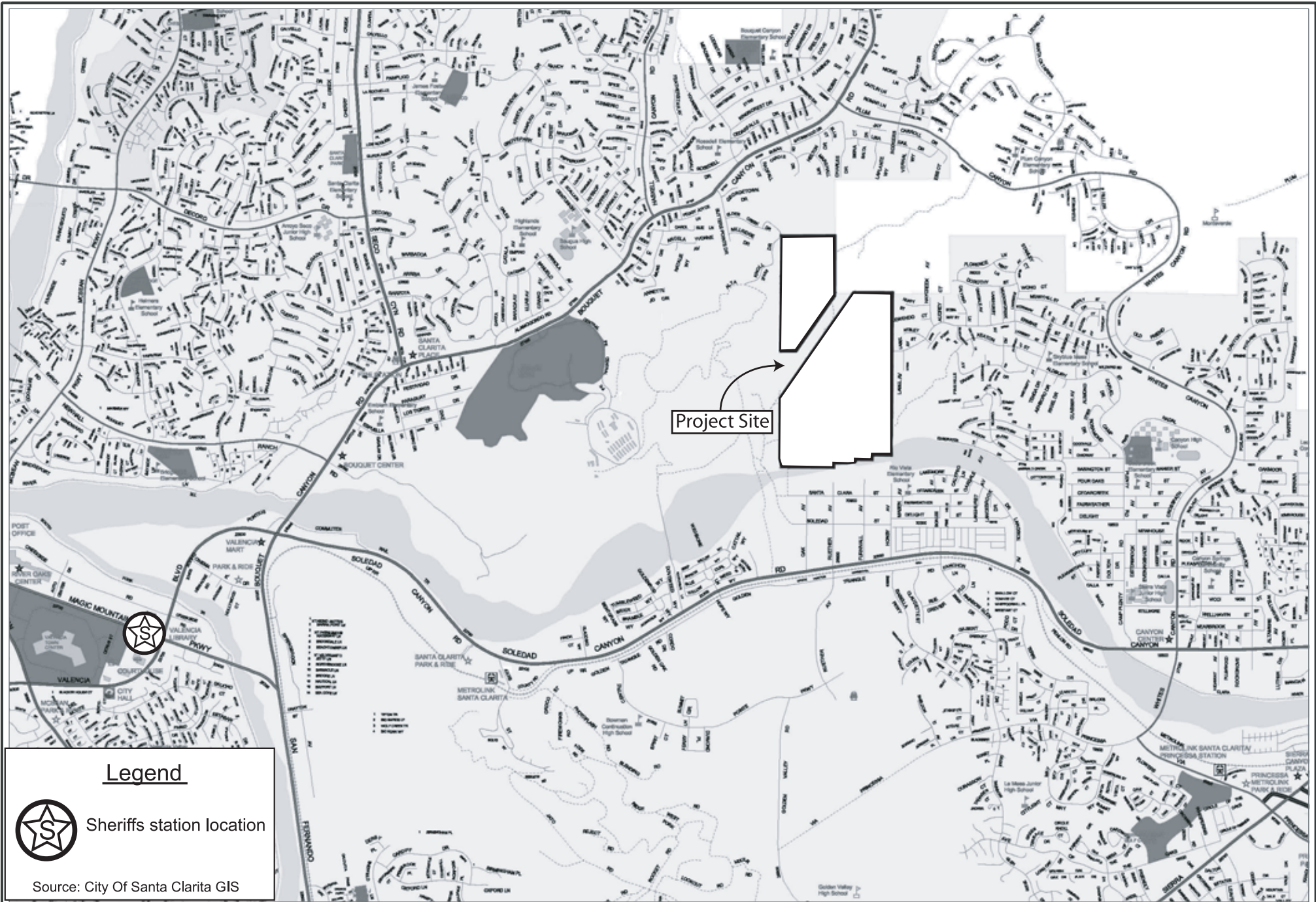
Los Angeles County Sheriff's Department

The Los Angeles County Sheriff (LASD) Santa Clarita Valley Station, located at 23740 Magic Mountain Parkway in Valencia is responsible for providing general and traffic law enforcement to the City of Santa Clarita and the project area under the provisions of a contract between the City and the Sheriff's Department. As shown in Figure V.M-1 Sheriff Station Location Map, the station is located near the intersection of Magic Mountain Parkway and Valencia Boulevard, which is approximately five to six miles from the project site.¹ The service area covers 656 square miles, which is made up of the City of Santa Clarita and unincorporated County area between the Los Angeles City limits to the south, Kern County line to the north and involving all area between the Ventura County line to the west and the township of Agua Dulce to the east. The population served by the Santa Clarita Valley Station is approximately 200,000 (including the City itself).²


The Santa Clarita Valley Station maintains a staff of 171 sworn officers, with an ideal officer population ratio of one deputy per 1,000 residents. Currently, the officer to population ratio is one deputy per 1,169 residents. Average response times vary, depending on the urgency of the request for assistance, deployment of area radio cars, and traffic conditions. However, current response

¹ *Written correspondence from Patti A. Minutello, Captain, Santa Clarita Valley Station, December 20, 2005.*


² *Ibid.*




Legend

 Sheriffs station location

Source: City Of Santa Clarita GIS

 CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

 NORTH


0  3/4 1 1/2
Scale (Miles)

Figure V.M-1
Sheriff Station Location Map

times to the project site consist of 20 to 25 minutes for a non-emergency request for service, seven to 11 minutes for a priority request for service, and four to seven minutes for an emergent circumstance.³ The performance standards for the police services program as outlined in the City's 2002-2003 budget include:

- Develop and implement a marketing plan to enhance the perception of the quality services provided by the City of Santa Clarita Valley's Sheriff's Department to the residents of the City;
- Work closely with community groups, individuals and other governmental organizations to define, develop and apply Community-based policy solutions to crime and quality-of-life problems in the Santa Clarita Valley; and
- Develop a civilian bicycle patrol team as part of our commitment to Community Based Policing.

Santa Clarita Search and Rescue

Headquartered at the Santa Clarita Valley Sheriff's Station, the Santa Clarita Search and Rescue team is composed of Reserve Deputies and High Risk Civilian Volunteers. The team, which is one of eight similar Search and Rescue teams in the Los Angeles County, are "on call" and ready to respond 24 hours a day, 365 days a year.⁴ Search and Rescue operations almost entirely located within mountainous terrain. The Santa Clarita Station Search and Rescue team uses the sheriff station's helicopter (AIR-29) and has access to the Antelope Valley station's helicopter. Mutual aid exists with other Search and Rescue teams located both within and outside of Los Angeles County, and are organized through the State's Office of Emergency Services. Search and Rescue operations are funded through the Reserve Forces Bureau and private sources. Urban search and rescue operations, (i.e., rescues from building collapse), are performed by the County Fire Department.

City Emergency Response/Evacuation Plans

The City of Santa Clarita is responsible for emergency operations within the City boundaries and the City Manager is the Director of Emergency Services. The goals for the City of Santa Clarita in an emergency are to save lives, protect property, and to protect the environment. These goals are accomplished by the following emergency management objectives:

³ *Ibid.*

⁴ *Santa Clarita Valley Search and Rescue Team, website: <http://www.lasd.org/stations>, December 28, 2004.*

- Manage and coordinate overall emergency response and recovery operations;
- Coordinate and liaison with appropriate federal, state and other local government agencies, as well as applicable segments of private sector entities and volunteer agencies;
- Establish priorities and resolve any conflicting demands for support;
- Prepare and disseminate emergency public information to inform, alert and warn the public;
- Disseminate damage information and other essential data; and
- Plan for the continuation of government.⁵

The Standardized Emergency Management System (SEMS) has been adopted by the City of Santa Clarita for managing response to multi-agency and multi-jurisdiction emergencies and to facilitate communications and coordination among all levels of the system and among all responding agencies. Furthermore, the City serves as the Emergency Operations Center (EOC) for the Santa Clarita Valley area. An EOC is a location from which centralized emergency management can be performed during a major emergency or disaster. This facilitates a coordinated response by the Director of Emergency Services, Emergency Management Staff, and representatives from agencies that are assigned emergency management responsibilities.⁶

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G of the state CEQA guidelines a project would adversely impact police protection services if it would result in:

- a) 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:

⁵ City of Santa Clarita, *Emergency Management*, website: <http://www.santa-clarita.com/community/safety/>, December 28, 2004.

⁶ *Ibid.*

- Fire protection?
- Police protection?
- Schools?
- Parks?
- Other public facilities?

Project Impacts

Short-Term Construction Impacts

Los Angeles County Sheriff's Department

During the construction phase, additional LASD's services would be required in the project area, as the project site would increase the day time population on-site from existing demand. This daytime population would increase due to the presence of construction workers on the site. This increase in daytime population would vary depending on the type of construction activity (i.e., site grading, construction of structures, infrastructure improvements, etc.). There is a potential for increased calls for service to the site as a result of the increased number of persons at the project site. As construction sites can be hazardous for the unwary and can be plagued by theft and vandalism, if these issues are not properly dealt with, construction sites can become attractive nuisances, and a problem for local law enforcement; thereby increasing Sheriff's calls for service demands for property protection. Consequently, most developers typically take precautions to prevent trespassing through construction sites. Therefore, during the construction phase, private security patrols would be utilized to protect the project site thereby reducing potential demands on the existing LASD's resources. In addition, temporary fencing would also be installed around the construction site to keep out the curious. With incorporation of these mitigation measures, no significant short-term construction impacts are anticipated.

Long-term Operational Related Impacts

The Proposed Project consists of the subdivision of the site into a mix of residential (single-family and multi-family), recreational, educational, health facility, and open space uses. The Proposed Project would include the development of 979 dwelling units including 96 single-family lots, 216 multi-family

apartment units, and 667 townhouse/condominium units. Assuming a residential density of 3.056 persons per dwelling unit, the Proposed Project would generate a population increase of 2,992 persons.⁷ Recreational uses would provide a trail system linking to the Santa Clara River Trail and a YMCA facility. A proposed junior high school site would provide additional educational facilities for the existing and proposed residential development.

Los Angeles County Sheriff's Department

There is not a directly proportional relationship between increases in land use activity and increases in demand for police protection services. However, an increase in the number of requests for assistance calls for the police services from new homes would be expected. Most of the calls would likely involve responses to domestic disputes, thefts, vehicle burglaries, damage to vehicles, traffic-related incidents, and crimes against persons. Such calls are typical of problems experienced in existing residential neighborhoods in the project area and do not represent unique law enforcement issues specific to the Proposed Project.

Further, the operation of the Proposed Project could increase the LASD's response times and result in a lower service ratio in the project area. The LASD's resources are already strained by a chronic shortage of uniformed officers, a situation that may not improve in the foreseeable future. LASD has indicated their concern for their ability to provide an adequate level of protection and service in all areas and due to the rapidly expanding population of the Santa Clarita Valley and the record-setting home building; it is difficult to project the Proposed Project's exact impact on law enforcement alone.⁸

In any event, the Proposed Project would include significant crime prevention design features. The Proposed Project would be a community with security gates (for the single-family homes and all four multi-family communities), provide lighting in open areas and parking lots, and ensure the visibility of building address numbers and doors/windows. In addition to those crime prevention design features, mitigation measures are recommended below in order to maintain acceptable service ratios, response times and other performance objectives of the LASD.

As the project is developed, tax revenues from property and sales taxes would be generated and deposited in the City of Santa Clarita General Fund. A portion of these revenues would then be allocated, in accordance with the City of Santa Clarita and County of Los Angeles contractual service

⁷ *Written correspondence from Patti A. Minutello, Captain, Santa Clarita Valley Station, December 20, 2005.*

⁸ *Ibid.*

agreement, to maintain staffing and equipment levels for the Santa Clarita Valley Sheriff's Substation in response to related demands. As the current City revenue base provides for adequate Sheriff's service in the City of Santa Clarita, it is anticipated that this same level of service would be provided for the project through existing funding sources as long as the City of Santa Clarita and the County of Los Angeles maintain service agreements. Although the project would increase demands for Sheriff's services, these service demands can be met through the allocation of revenues collected from the project using existing sources. Though the Proposed Project could increase staffing levels at the Sheriff's substation, the increase in staff and equipment would not result in the need to physically alter the physical plant (Santa Clarita Sheriff's Substation), construction of which could cause significant environmental impacts in order to maintain service ratios and response times. Consequently, impacts on the Santa Clarita Valley Sheriff's Substation would be less than significant.

City Emergency Response/Evacuation Plans

Implementation of Proposed Project would result in an increased number of residents and visitors within the project site and the surrounding area, thereby, increasing the amount of permanent population subject to potential emergencies (e.g., earthquake, fire, etc.). In addition, as the project site is currently undeveloped the existing City Emergency Evacuation Plans do not include guidelines for evacuation of the project site in the event of a natural disaster. However, as the City is in current compliance with the State's Standard Emergency Management System it can be anticipated that the project site would be included in the evacuation plans.

The primary vehicle access to the project site would be via a major arterial, Golden Valley Road, which would run north-south axis through the site. Golden Valley Road would connect to the proposed east-west roadway, Newhall Ranch Road, which would intersect with Golden Valley Road east of the project boundary. At that intersection, Newhall Ranch Road would run south over the Santa Clara River with a proposed connection to the southern branch of Golden Valley Road that is currently under construction south of Soledad Canyon. The roadway will be eventually constructed with a flyover Soledad Canyon Road to connect with Newhall Ranch Road. The project would also include approximately 19 acres of other public streets, including the access roadway to the multi-family lots and the access roadway to the single-family neighborhood including cul-de-sacs. These roadways would provide alternative evacuation routes for the site. Given these alternative evacuation routes, it is not anticipated that the design of the project would preclude implementation of an evacuation plan, which would provide for the safe movement of future residents. Consequently, no significant impacts are expected to occur with regard to emergency evacuation of the project site or its surroundings.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
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11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Development of the 12 related projects (see table above) in conjunction with the Proposed Project would increase the demand for Sheriff's protective services. Of the 12 related projects, six are residential, two are mixed use (including residential components) and four are commercial/industrial in nature. The Proposed Project and related projects would generate approximately 878 employees and approximately 21,789 residents (see Tables V.L-3 and V.L-4). Based on the desired officer-to-population ratio of one officer per 1,000 population, there would be a need for an additional 22 sworn officers. It is conceivable that the cumulative demands of the Proposed Project and related projects could necessitate the construction of new or physically altered Sheriff's stations or other facilities. Based upon the threshold criteria, construction of a new or expanded Sheriff's station could result in a significant cumulative impact. However, this is not expected to occur for several reasons. First the Sheriff's Department has not indicated any necessity for or plans to construct new or expanded facilities. Second the Sheriff's Department periodically reviews the adequacy of its services and facilities and proposes appropriate service enhancements through the annual budgetary process to ensure adequate on-going protection for the area. Third, each related project would be reviewed by the local-decision makers and would be required to mitigate its individual impacts on Sheriff's services.

As previously stated, the Sheriff's station that serves the City of Santa Clarita operates at an adequate level. This adequate level of service is expected to be maintained as cumulative development projects would contribute to the City of Santa Clarita's General fund through taxes and fees which in turn would provide funds to mitigate any cumulative impacts to Sheriff's services to a level of non-significance as long as the City of Santa Clarita and the County of Los Angeles maintain service and funding agreements. Therefore, the Proposed Project's incremental increase would not be considerable and impacts to Sheriff's services would be less than significant.

MITIGATION MEASURES

Project Mitigation Measures

The following mitigation measure is incorporated into the project:

- M.1-1** During construction, private security patrols shall be utilized to protect the project site and temporary fencing would also be installed around the construction site to keep out the curious.

Though potentially significant impacts are not anticipated, the following measures are recommended to further reduce project impacts on Sheriff services.

- M.1-2** As final building plans are submitted to the City for approval in the future, Sheriff's Department design requirements which reduce demands for service and ensure adequate public safety (such as those pertaining to site access, site security lighting), shall be incorporated into building designs.
- M.1-3** Project design shall provide lighting, to the satisfaction of the Sheriff's Department, around and throughout the development to enhance crime prevention and enforcement efforts.
- M.1-4** Project design shall provide clearly visible (during the day and night) address signs and/or building numbers for easy identification during emergencies.
- M.1-5** Project design shall provide visibility of doors and windows from the street and between buildings.
- M.1-6** Project site design shall include adequate parking spaces in the parking lots to accommodate residents, per the Unified Development Code.

Cumulative Mitigation Measures

No cumulative impacts are identified and thus no cumulative mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

The project includes private security patrols and fencing of the site for protection against vandalism and theft, which would reduce impacts on Sheriff services (Mitigation Measure M.1-1). Implementation of the Proposed Project would not result in physical alteration of the Santa Clarita Sheriff's substation, construction of which would cause a potentially significant environmental impact. As a result, no project impacts are anticipated on the Santa Clarita Sheriff substation in order to maintain current levels of service for police protection due to project implementation. However, Mitigation Measures M.1-2 through M.1-6 are recommended to further reduce the less than significant operational impacts.

Cumulative

No project and related project impacts were identified to fire protection services and thus no mitigation measures are required and cumulative impacts would be less than significant.

V. ENVIRONMENTAL IMPACT ANALYSIS

M. PUBLIC SERVICES

2. FIRE PROTECTION

INTRODUCTION

This section describes the current fire protection serving the project area and describes ways in which the Proposed Project could lead to an increased demand for fire protection services. The following section was based on information provided by the Los Angeles County Fire Department (LACFD).

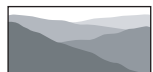
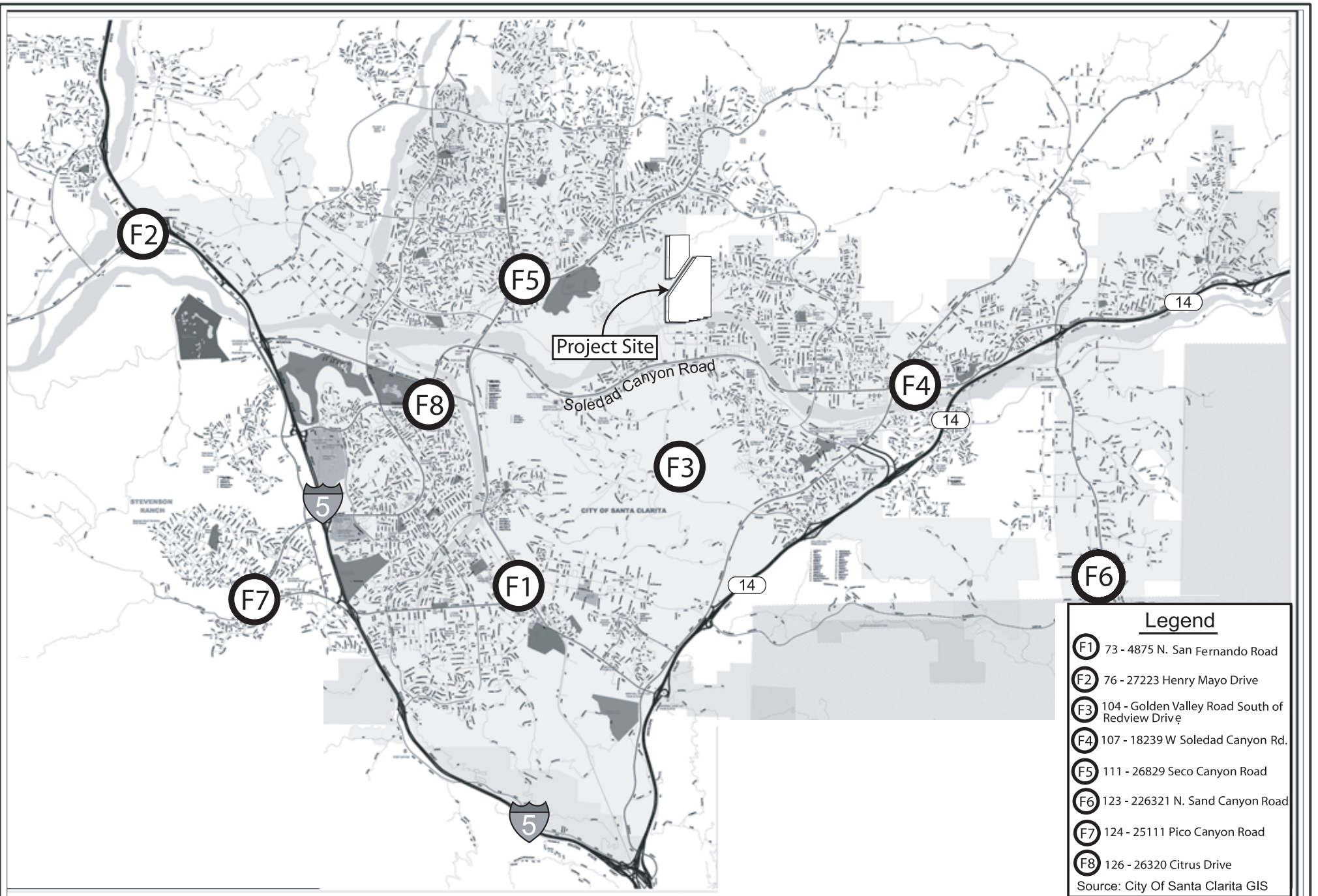
ENVIRONMENTAL SETTING

Fire Stations

The LACFD provides fire prevention, fire suppression, and life safety services in the City of Santa Clarita. The LACFD is divided into 20 Battalions. The City of Santa Clarita is located within Battalion 6, which serves the cities and communities of Newhall, Chatsworth, Valencia, Canyon Country, Stevenson Ranch, and Castaic. Battalion 6 is supported by 11 fire stations. As shown in Figure V.M-2, Fire Station Location Map, Fire Station No. 107, located at 18239 W. Soledad Canyon Road, Canyon Country 91351-3521, is the closest station to the project site and therefore the most likely to respond to an emergency. Fire Station No. 107 is equipped with a three-person engine company and a two-person paramedic squad. Additional fire protection services would be provided by the closest available fire response units, such as the new Fire Station No. 104, temporarily located at 26622 Golden Valley Road, Santa Clarita 91350. Fire Station No. 104 is equipped with a three-person quint (a combination engine/ladder truck apparatus). The Fire Department will continue to look for a site for the permanent fire station within the same vicinity as the temporary station. Should a significant incident occur, the Proposed Project would be served by all available resources of the LACFD, in addition to the fire stations closest to the project site.⁹

The LACFD also maintains three fire camps with three fire crews, which include County jail inmate teams of 12 to 15 fire laborers. These camps are located in San Francisquito Canyon and Soledad

⁹ Written correspondence from David R. Leininger, Chief, Forestry Division, County of Los Angeles Fire Department, December 17, 2004.



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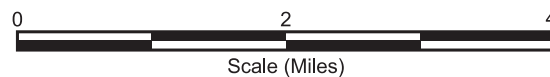


Figure V.M-2
Fire Station Location Map

Canyon, and at the Peter Pitchess Honor Rancho. An additional County non-inmate crew of eight to 10 members provides wildland fire fighting protection for the Santa Clarita Valley area. The Fire Department annually updates their Five-Year Capital Plan. This plan identifies anticipated facilities that would be constructed during the five-year planning horizon.¹⁰ Funding used for land acquisitions, facility improvements, and partial funding of new equipment is generated through the Fire Department's Developer Fee Program, and funding used for increases in staffing is generated from local property taxes. The applicant is required to pay fees under the County Fire Department Developer Fee Program for land and construction of fire stations, and the full cost of fire fighting equipment. This fee, or an in-lieu donation, constitutes mitigation in full of growth impacts.

Wildland Fire Hazard Potential

Section 51175-51189 of the California Government Code classifies lands based on potential fire hazards in order to outline minimum performance and site planning standards for property owners. This also helps public officials identify and implement measures to retard the rate of wildland fire spread, and reduce the intensity of uncontrolled fires that threaten to destroy resources, life, or property.

In accordance with State law, the LACFD has designated lands in the County based on their potential for wildland fire as either Moderate Fire Hazard Severity Zone (MFHSZ) or Very High Fire Hazard Severity Zone (VHFHSZ). These designations are determined based on such factors as accessibility, amount and type of vegetation cover, water availability, and topography. All lands designated in a VHFHSZ have more restrictive building requirements than the MFHSZ; however, upon development, a project may meet the criteria of the Moderate Fire Hazard Zone, and may be re-designated at the discretion of the County Forester. The project site is within a VHFHSZ, as described by the Forester and Fire Warden.¹¹

Vegetation types typically associated with the VHFHSZ include chaparral, coastal sage, riparian, and oak woodland communities. These plant communities have adapted to periodic wildland fire conditions, and maintain a healthy ecosystem in the project vicinity. In areas where these plant communities border urban development, fire prevention and fire suppression measures reduce the frequency of fire events. Fire prevention measures may include prescribed burns, vegetation

¹⁰ Telephone communication with Danny Kolker, Planning Analyst, Planning Division, Los Angeles County Fire Department, January 20, 2005.

¹¹ Written correspondence from David R. Leininger, Chief, Forestry Division, County of Los Angeles Fire Department, December 17, 2004.

thinning/removal, and the creation of fuel modification zones. Fire suppression measures involve controlling fires once they have started through fuel breaks, firefighting equipment, etc.

Historically, large fire incidents tend to occur in the MFHSZ and VHFHSZ approximately every 20 to 25 years. Conditions conducive to wildfires in the project area are typical in the spring months when vegetation usually begins to lose its moisture content. During the summer and fall, dry Santa Ana wind conditions increase the potential for wildland fires. Fire prevention methods for development in wildland fire hazard areas focus on restricting types of building materials, building design, setbacks, and fuel modification zones. Development within a VHFHSZ is required to meet the building construction requirements specified in the County's Fire Code and Building and Safety Code.

Fire Codes and Guidelines

In general, the required water flow is closely related to land use as the quantity of water necessary for fire protection varies with the type of development, life hazard, type and level of occupancy, and degree of fire hazard (based on such factors as building age or type of construction). The LACFD requirement for residential projects ranges from 1,250 gallons per minute (gpm) to 5,000 gpm depending on the density of the area; however, a minimum residual water pressure of 20 pounds per square inch (psi) is required. Specifically, high-density residential developments require fire flows up to 5,000 gpm at 20 psi for up to a five hour duration. Single-family dwelling units require fire flows up to 1,250 per minute at 20 psi for up to a two-hour duration. Institutional uses require a fire flow up to 8,000 gpm at 20 psi for up to a four hour duration. LACFD requirements for commercial projects are 5,000 gpm with a minimum residual water pressure of 20 psi for up to a five-hour duration. As such, fire flows and fire hydrants would be provided for the Proposed Project as required by the LACFD.

The Santa Clarita Water Company provides water for fire flows for the area surrounding the project site. The Santa Clarita Water Company has stated that with a formal Water System Design Report, which is required by the Las Virgenes Municipal Water District, the final water design specifications necessary to maintain adequate water service and adequate pressure for facility usage and fire protection shall be determine. Please refer to Section V.N.1. Utilities, Water, for a discussion of water service infrastructure.

Due to the relatively high fire hazard potential which exists in the Very High Fire Hazard Severity Zone, development within these areas is subject to all applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance, and fuel modification plans. The LACFD has prepared Fuel Modification Plan Guidelines, adopted January 1998, which set forth guidelines and landscape criteria for all new construction to implement ordinances relating to fuel

modification planning and help reduce the threat of fires in high hazard areas. Per Section 1117.2.1 of the 1996 County Fire Code:

“A fuel modification plan, a landscape plan and an irrigation plan...shall be submitted with any subdivision of land or prior to any new construction...where the structure or subdivision is located within areas designated as a Very High Fire Hazard Severity Zone in the Los Angeles County Building Code.”¹²

The LACFD Fuel Modification Plan identifies specific zones within a property which are subject to fuel modification. A fuel modification zone is a strip of land where combustible native or ornamental vegetation has been modified and/or partially or totally replaced with drought tolerant, fire resistant plants.

Proposed Project Site

The approximately 246-acre project site is bordered on the east and northwest by existing residential neighborhoods and by a new residential subdivision currently under construction to the north. To the west, the land is currently vacant, though a project application was recently approved by City Council to construct a residential and commercial development (Riverpark). A City of Los Angeles DWP right-of-way with electrical transmission lines runs through the site diagonally (northeast to southwest angle) from approximately the middle of the western project edge to the center of the northern project boundary dividing the site.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G of the state CEQA guidelines a project would adversely impact fire protection services if it would result in:

- a) 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:

¹² County of Los Angeles Fire Department, Forestry Division, Fuel Modification Plan, website: http://www.lacofd.org/Forestry_folder/fuel.htm, December 29, 2004.

- Fire protection?
- Police protection?
- Schools?
- Parks?
- Other public facilities?

Additionally, based upon the Los Angeles County Fire Code, the Proposed Project would create a significant threat to the safety of future residents and users of the project site if the project site:

- 1) Is located in a high fire hazard area (such as Very High Fire Hazard Severity Zone);
- 2) Is in a high fire hazard area, and is served by inadequate access due to length, width, surface material, turnarounds, or grade of access roads;
- 3) Is in a fire hazard area and has more than 75 dwelling units on a single means of access;
- 4) Is located in an area having inadequate water and pressure to meet fire flow standards;
- 5) Is located in close proximity to potential dangerous fire hazard conditions or uses such as refineries, storage of flammable materials, or explosives manufacturing.

Project Impacts

Short-Term Construction Impacts

The Proposed Project consists of the subdivision of the site into a mix of residential (single-family and multi-family), recreational, educational, health facility, and open space uses. The Proposed Project would include the development of 979 dwelling units including 96 single-family lots, 216 multi-family apartment units, and 667 condominium units. Recreational uses would provide a trail system linking to the Santa Clara River Trail and a YMCA facility. A proposed junior high school site would provide additional educational facilities for the existing and proposed residential development. Open space uses would serve to protect significant natural resources of the area.

Construction of the Proposed Project would, therefore, increase the potential for accidental wildfires from such sources as the operation of mechanical equipment in close proximity to fire-prone vegetation, use of flammable construction materials, and from carelessly discarded cigarettes. In most cases, the implementation of “good housekeeping” procedures by the construction contractors and the work crews

would minimize these hazards. Good housekeeping procedures that would be implemented during the construction of the Proposed Project include: the maintenance of mechanical equipment in good operating condition; careful storage of flammable materials in appropriate containers; and the immediate and complete cleanup of spills of flammable materials when they occur. In addition, such procedures as watering newly graded areas to keep dust down and the cessation of grading during high winds would also help to reduce fire hazards during dry summer months.

Construction activities also have the potential to affect fire protection services, such as emergency vehicle response times, by adding construction traffic to the street network and by partial lane closures during street improvements and utility installations. However, these traffic-related construction impacts, while potentially adverse, are considered to be less than significant for the following reasons:

- Construction impacts are temporary in nature and do not cause lasting effects; and
- Partial lane closures would not greatly affect emergency vehicles, the drivers of which normally have a variety of options for dealing with traffic, such as using their sirens to clear a path of travel or driving in the lanes of opposing traffic. In addition, if there are partial closures to streets surrounding the project site, flagmen would be used to facilitate the traffic flow until construction is complete.

Nonetheless, as the Proposed Project's construction-related activities would increase the potential for starting a wildfire, and since LACFD has determined that the development of the Proposed Project would require additional manpower, equipment and facilities, without proper mitigation measures a potentially significant impact would occur. Although plans for upgrading fire protection in the project area have been developed, the LACFD is not able to implement them without adequate funding.¹³ Therefore, as mitigation, the developer would be required to pay a developer fee, with the funds directed towards the construction or expansion of fire protection facilities, which would serve the project site. Currently, the developer fee is a set amount per square foot of building space and is adjusted annually. With the payment of the developer fee, the construction-related fire protection services impact would be less than significant.

Long-term Operational Related Impacts

The intensification of land uses combined with the increase in human activity on the project site would result in an increase in fire hazards and other associated needs for fire protection services. The

¹³ Written correspondence from David R. Leininger, Chief, Forestry Division, County of Los Angeles Fire Department, December 17, 2004.

following discussion addresses the major criteria for determining the Proposed Project's impact on fire protection services, including fire flows and wildfire hazards.

Fire Flows

The proposed water system for the Proposed Project would provide water service for domestic and non-domestic uses (see Section V.N.1). As discussed previously, the proposed commercial use (i.e. YMCA building) would require fire flows up to 5,000 gpm at 20 psi for up to a five-hour duration, the school use would require fire flows up to 8,000 gpm at 20 psi for up to a four-hour duration, the single-family dwelling units require fire flows up to 1,250 per minute at 20 psi for up to a two-hour duration, and high-density residential developments require fire flows up to 5,000 gpm at 20 psi for up to a five hour duration.

Determination of the final fire flow requirements for the Proposed Project would be based on the size of the buildings, their relationship to other structures, property lines, and the types of building materials used. The LACFD would determine the appropriate location and number of on-site fire hydrants during the final design process. Furthermore, the associated water infrastructure improvements would be required to meet commercial and residential fire flow requirements as determined by the Santa Clarita Water Company. Final approval from the LACFD would be required prior to issuance of a building permit for all phases of the Proposed Project's development to ensure adequate fire protection safety for the Proposed Project and surrounding areas.

Wildfire Hazards

As discussed above, due to the location of the project site, development of the Proposed Project would result in residential, educational and fitness facility uses in an area that has been designated as a VHFHSZ. With the development of the Proposed Project, on-site fire hazards associated with the natural vegetation would be slightly reduced due to the replacement of the vegetation cover with paved surfaces and landscaped vegetation, which would be irrigated. However, the potential for wildland fire hazards would still exist at the project site due to the vacant and/or limited development of land surrounding the project site, increased human activity in the area and the potential for fires due to accidental and arson-related causes.

As such, the Proposed Project would meet all applicable County and City fire codes, including those related to commercial, institutional, and residential uses per the LACFD with respect to street width, turning radius and access for emergency vehicles and location and number of fire hydrants. Specifically, the Proposed Project would implement a fuel modification plan. The Proposed Project would establish a 200-foot wide fuel modification area (i.e. a strip of land where combustible native or ornamental vegetation has been modified and/or partially or totally replaced with drought tolerant, fire

resistant plants). Therefore, the Proposed Project includes several features that would substantially lower the risks of wildland/brush fires, including the following:

- Pursuant to the Los Angeles County Fire Code, the YMCA, junior high school and multi-family structures of the Proposed Project may require installation of fire sprinklers to reduce potential fire and loss of life;
- Fire hydrants, water tanks and associated infrastructure (i.e., water lines) would be provided onsite in accordance with Fire Code requirements and with the approval of the LACFD;
- Brush around the future homes would be cleared and thinned in compliance with fuel modification requirements;
- Paved streets within the project would provide access to LACFD emergency vehicles;
- The project site would include multiple points of access for emergency vehicles; and
- All private gates shall comply with Regulation 5 of the Fire Code. Prior to the recordation of the Final Tract Map, the applicant shall receive approval of the gates from the Los Angeles County Fire Department.

For further information regarding fuel modification program, see Section V.D Biological Resources. The Fire Department has stated that no fire station is required for development mitigation for this specific project.¹⁴ Therefore the project would not result in significant impacts to the Fire Department requiring the expansion of the physical fire station facilities, construction of which could cause significant environmental impacts. Nonetheless, based on a preliminary review of the Proposed Project, the LACFD has determined that additional manpower, equipment, and facilities would be needed to serve the Proposed Project in order to maintain adequate staffing and response times.¹⁵ Therefore, without appropriate mitigation measures a potentially significant impact would occur. Although plans for upgrading fire protection in the project area have been developed, the LACFD is not able to implement them without adequate funding.¹⁶ Therefore, as mitigation, the developer would be

¹⁴ Telephone communication with Danny Kolker, Planning Analyst, Planning Division, Los Angeles County Fire Department, January 20, 2005.

¹⁵ Written correspondence from David R. Leininger, Chief, Forestry Division, County of Los Angeles Fire Department, December 17, 2004.

¹⁶ Written correspondence from David R. Leininger, Chief, Forestry Division, County of Los Angeles Fire Department, December 17, 2004.

required to pay a developer fee, with the funds directed towards the construction or expansion of fire protection facilities, which would serve the project site. Currently, the developer fee is a set amount per square foot of building space and is adjusted annually. With payment of the developer fee, the operational impact of the Proposed Project upon fire protection services would be less than significant.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center

List of Related Projects

Map No.	Project Name	Project Location	Description
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Development of the 12 related projects (see table above) could result in an increase in the average response time for fire protection services, particularly for non-emergency calls. Thus there would be a cumulative impact on fire protection services if new development projects failed to implement mitigation measures designed to reduce impacts. However, such mitigation measures are required and therefore the impacts resulting from new development would be reduced to less-than-significant by compliance with state, City, and County fire codes, standards and guidelines and the incorporation of project-specific mitigation measures. Moreover, developer fees as determined by the Los Angeles County Fire Department and increased taxes paid by new development would provide revenues to increase staff and purchase new equipment. Therefore, the project's incremental increase is not considerable and impacts on fire protection services would be less-than-significant.

MITIGATION MEASURES

Project Mitigation Measures

M.2-1 The project developer shall contribute funds to the Los Angeles County Fire Department Developer Fee Program. The exact contribution shall be determined by the Los Angeles County Fire Department before a building permit is issued.

With implementation of the above Mitigation Measure, the Proposed Project would have a less-than-significant impact on fire protection services. However, the following additional mitigation measures are recommended to reduce further the Proposed Project's potential fire protection impacts.

M.2-2 The project shall prepare a Fuel Modification Plan, landscape plan and irrigation plan as required for projects located with a Very High Fire Hazard Severity Zone. The Fuel Modification Plan shall be submitted and approved by the County Fire Department prior to final map recordation. The Fuel Modification Plan shall depict a fuel modification zone in conformance with the Fuel Modification Ordinance in effect at the time of subdivision. The fuel modification plan shall not conflict with any revegetation plans as discussed in Section V.D (Biological Resources).

M.2-3 The project shall provide water mains, fire hydrants and fire flows as required by the County of Los Angeles Fire Code.

- M.2-4** Fire Department access shall be extended to within 150 feet distance of any exterior portion of all structures.
- M.2-5** Access shall comply with Section 902 of the Fire Code, which requires all weather access. All weather access may require paving.
- M.2-6** Access roads shall be maintained with a minimum of ten feet of brush clearance on each side. Fire access roads shall have an unobstructed vertical clearance clear-to-sky.
- M.2-7** All fire lanes must not be less than 26 feet paved width (clear to sky and unobstructed) and posted and red curbed "NO PARKING - FIRE LANE". Any proposed reduction in fire lane shall be subject to written acceptance by the County Fire Department.
- M.2-8** All private gates shall comply with Regulation 5 of the Fire Code. Prior to the recordation of the Final Tract Map, the applicant shall receive approval of the gates from the Los Angeles County Fire Department.

Cumulative Mitigation Measures

No cumulative impacts identified, and thus, no cumulative mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Implementation of the Proposed Project would not result in the physical expansion of fire station facilities, construction of which could cause significant environmental impacts. However, Mitigation Measure M.2-1 is provided, as the developer would be required to pay a developer fee, with the funds directed towards providing additional manpower, equipment, and facilities to serve the Proposed Project. Additional mitigation measures, M.2-2 through M.2-8 are recommended to reduce further the Proposed Project's potential fire protection impacts. With implementation of the mitigation measures described above, potentially significant impacts to fire protection services would be reduced to a less-than-significant level.

Cumulative

No project and related project impacts were identified for fire protection services and thus no mitigation measures are required and cumulative impacts would be less than significant.

V. ENVIRONMENTAL IMPACT ANALYSIS

M. PUBLIC SERVICES

3. SCHOOLS

INTRODUCTION

This section describes the impacts the Proposed Project would have on local elementary, junior, and high schools. The project site is within the Saugus Union School District (SUSD) and the William S. Hart Union High School District (HUSD).

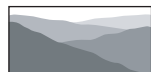
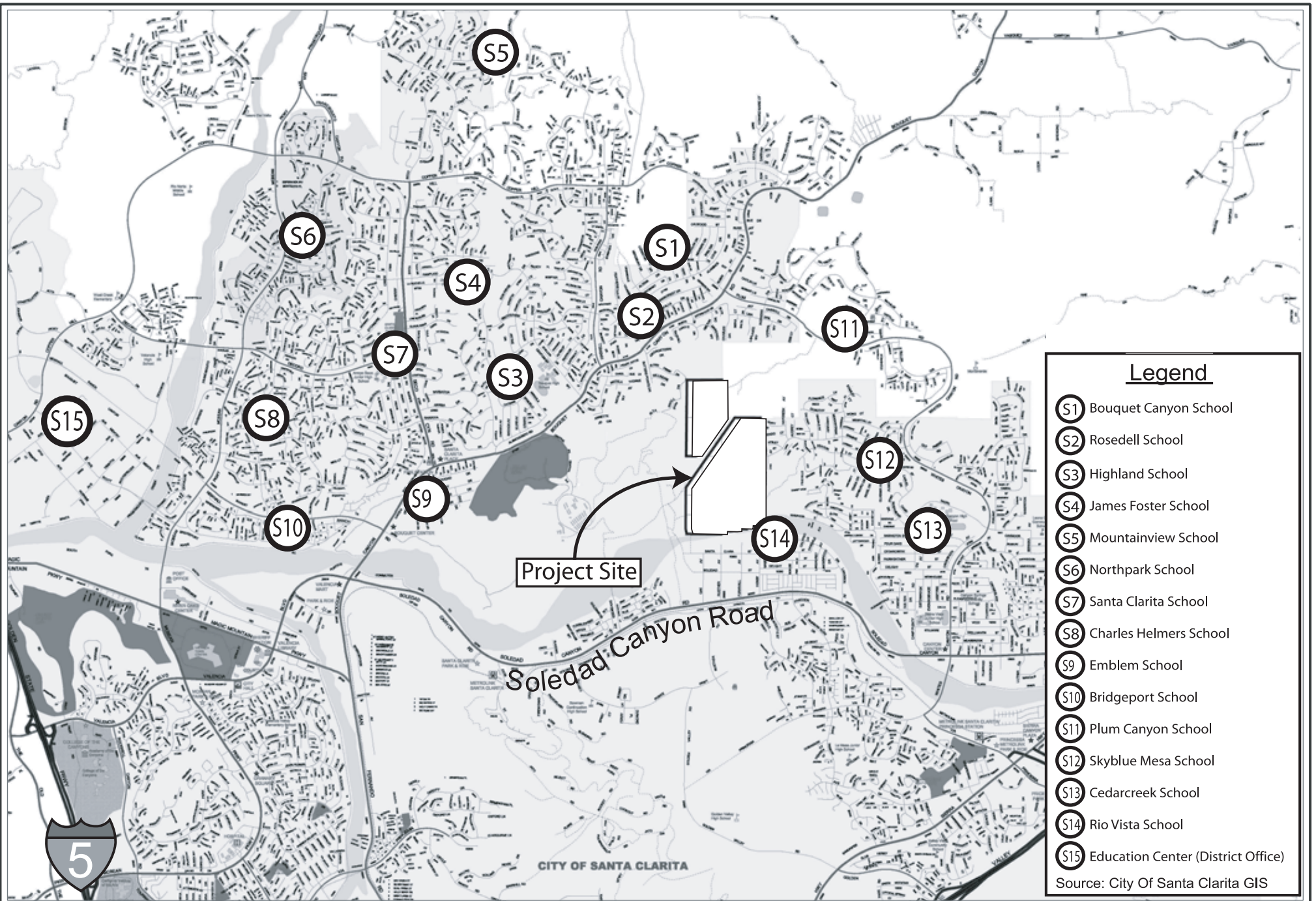
ENVIRONMENTAL SETTING

The SUSD provides elementary school service (grades K through 6), while the HUSD serves the project area for junior high education (grades 7 and 8) and high school education (grades 9 through 12).

Saugus Union School District

As shown in Figure V.M-3, SUSD School Location Map, there are a total of fourteen elementary schools within the SUSD. Total enrollment within the SUSD for the year 2004-05 is 10,692, while total capacity with the use of both permanent and temporary (i.e., portable) classrooms is 11,860.¹⁷ The SUSD has plans to construct four new elementary schools within its jurisdiction, and all four schools are partially funded (50 percent of total cost) under existing mitigation agreements and/or local bond funding. The remaining 50 percent (State New Construction Grants) of the construction costs is currently unfunded. The SUSD also proposes to replace Bouquet Elementary School with a permanent school of a larger capacity, and to add nine additional classrooms to Mountainview Elementary School. State School Construction Bonds (Bonds) were approved by the California electorate in November 1998 (Proposition 1A) which authorized \$9.2 billion in Bonds, and in November 2002 (Proposition 47) authorized an additional \$13.02 billion in Bonds for school facility construction funding which eliminated a backlog of approximately \$4 billion, and provides substantial additional funds for new construction. Additionally, in March 2004 the electorate approved Proposition 55 authorizing \$12.3 billion in Bonds.

¹⁷ Email correspondence from Harold J. Pierre, P.E., Director of Facilities, Saugus Union School District, February 4, 2005.



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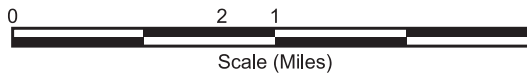


Figure V.M-3
Saugus Unified School District Map

Project Site

The SUSD provides elementary educational services within the project area. The project site is in the current attendance boundary of Skyblue Mesa Elementary School, located at 28040 Hardesty St., Canyon Country. However, the attendance boundary of this school could change depending on student enrollment and the available capacity. Emblem Elementary School, located at 22635 Espuella Dr., Saugus, is another school where students could possibly be assigned.¹⁸

As shown in Table V.M.3-1, the elementary schools that would serve the Proposed Project are currently under capacity. Skyblue Mesa Elementary School has a permanent capacity of 400 students and a temporary classroom capacity for 175 students.¹⁹ This school will have the addition of nine new permanent classrooms and a multi-purpose room. Emblem Elementary School has a permanent capacity of 500 students and a temporary classroom capacity for 400 students.²⁰ This school will undergo modernization in 2006 which would include some of the existing classrooms being converted to a new multi-purpose auditorium and a new building containing four additional classrooms. This would actually reduce the permanent school capacity by 100 students.

**Table V.M.3-1
Current School Enrollment and Capacity**

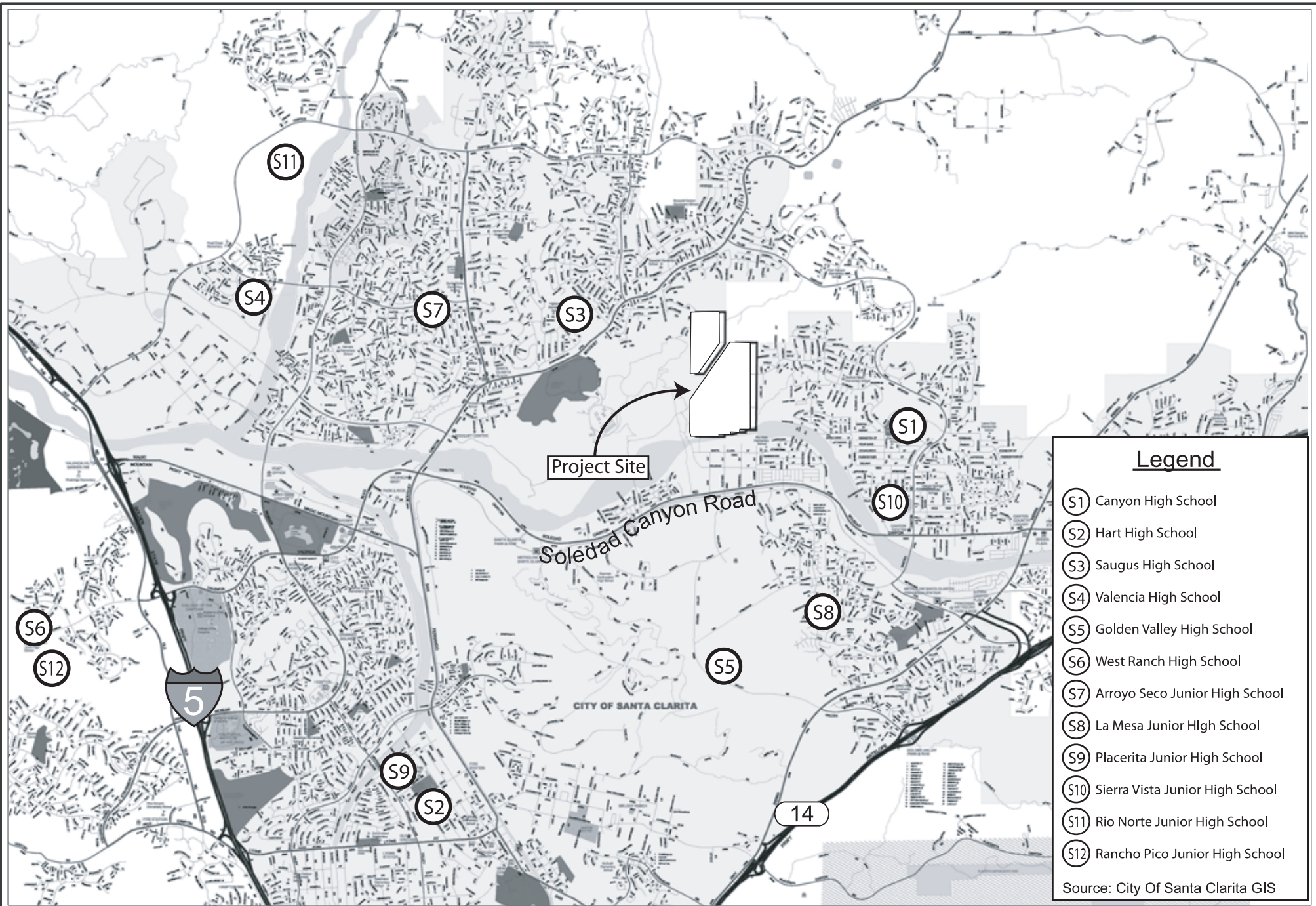
School	Enrollment	Capacity	Over/Under Capacity
Skyblue Mesa Elementary School	523	575	52 under
Emblem Elementary School	687	900	213 under

Source: Written correspondence from Harold J. Pierre, P.E., Director of Facilities, Saugus Union School District, November 18, 2004.

¹⁸ *Written correspondence from Harold J. Pierre, P.E., Director of Facilities, Saugus Union School District, November 18, 2004.*

¹⁹ *Email correspondence from Harold J. Pierre, P.E., Director of Facilities, Saugus Union School District, February 17, 2005.*

²⁰ *Ibid.*



Legend

- (S1) Canyon High School
- (S2) Hart High School
- (S3) Saugus High School
- (S4) Valencia High School
- (S5) Golden Valley High School
- (S6) West Ranch High School
- (S7) Arroyo Seco Junior High School
- (S8) La Mesa Junior High School
- (S9) Placerita Junior High School
- (S10) Sierra Vista Junior High School
- (S11) Rio Norte Junior High School
- (S12) Rancho Pico Junior High School

Source: City Of Santa Clarita GIS



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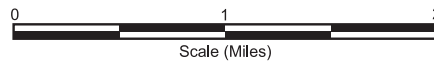


Figure V.M-4
Hart Union High School District Map

William S. Hart Union High School District

As shown in Figure V.M-4, HUSD School Location Map, there are a total of six comprehensive high schools and six junior high schools within the HUSD. Total student capacity within HUSD is 17,862 for 2004/2005. Total student enrollment in the District in October 2004 was 20,871, which is 3,009 more students than can be accommodated by the District.²¹

Project Site

The HUSD provides junior high and high school educational services within the project area. The project site is in the current attendance boundary of Sierra Vista Junior High School, located at 19425 West Stillmore Street, Canyon Country, and Canyon High School, located at 19300 West Nadal Street, Canyon Country.²²

The current school capacities and enrollment for these schools are shown in Table V.M.3-2. The junior high and high schools that would serve the Proposed Project are currently over capacity and there are no current plans to expand the permanent size of either school. Specifically, Sierra Vista Junior High School has a permanent capacity of 916 students, which are provided with 35 permanent classrooms. Temporary classroom capacity for 305 students is provided by 25 relocatable classrooms. Canyon High School has a permanent capacity of 1,604 students, which are provided with 63 permanent classrooms. Temporary classroom capacity for 934 students is provided by 32 relocatable classrooms.²³

School Funding

To assist in providing school facilities to serve students generated by new development projects, the state passed Assembly Bill 2926 (AB 2926) in 1986. This bill allowed school districts to collect impact fees from developers of new residential, commercial, and parking developments. Development impact fees were also referenced in the 1987 Leroy Greene Lease-Purchase Act, which required school districts to contribute a matching share of project costs for construction, modernization, or reconstruction.

²¹ Email correspondence from Lorna Baril, Senior Administrative Assistant, William S. Hart Union School District, February 16, 2005.

²² Written correspondence from Lorna Baril, Business Services, William S. Hart School District, January 18, 2005.

²³ Ibid.

**Table V.M.3-2
Current School Enrollment and Capacity**

School	Enrollment	Capacity	Over/Under Capacity
Sierra Vista Junior High School	1,426	1,221	205 over
Canyon High School	2,749	2,538	211 over
<i>Source: Written correspondence from Lorna Baril, Business Services, William S. Hart School District, January 18, 2005.</i>			

The Leroy F. Greene School Facilities Act of 1998 (SB 50) sets a maximum level of fees a developer may be required to pay to mitigate a project's impacts on school facilities. The maximum fees authorized under SB 50 apply to zone changes, general plan amendments, zoning permits, and subdivisions. SB 50 also prohibits a local agency from denying a development project, by either legislative or adjudicative action, on the basis that school facilities are inadequate to serve the project.

In enacting SB 50, the Legislature stated its intent to occupy the field of school facilities impact mitigation and to preempt local regulation in that area. SB 50 expressly overrides both CEQA and local laws in providing the exclusive method of considering and mitigating impacts on school facilities that may result from a legislative or adjudicative act. Furthermore, the provisions of SB 50 are deemed to provide full and complete mitigation of school facilities impacts, notwithstanding any contrary provisions in CEQA or other State or local laws (Government Code Section 65996). In other words, payment of developer fees constitutes full and complete mitigation of school impacts.

SB 50 establishes three levels of Developer Fees that may be imposed upon new development by the governing board of a school district depending upon certain conditions within a District. These three levels include:

Level 1: Level 1 fees are the base statutory fees. As of January 23, 2004, Level 1 fees are \$2.24 per square foot for new residential development and \$0.36 per square foot of chargeable, covered and enclosed floor space for new commercial/industrial development. These amounts currently represent the maximum that can currently be legally imposed upon new development projects by a school district unless the district qualifies for a higher level of funding. Payment of this fee is deemed to constitute full, complete, and adequate mitigation of project impacts on school facilities.

Level 2: Level 2 fees allow the school district to impose developer fees above the statutory levels, up to 50 percent of certain costs under designated circumstances. The state would match

the 50 percent funding if funds are available. SUSD has a developer Level 2 fee of \$2.31 per square foot.²⁴ HUSD has a developer Level 2 fee of \$2.38 per square foot.²⁵

Level 3: Level 3 fees apply if the state runs out of bond funds after 2006, allowing the school district to impose 100 percent of the cost of the school facility or mitigation minus any local dedicated school moneys. SUSD has a developer Level 3 fee of \$4.63 per square foot.²⁶ HUSD has a developer Level 3 fee of \$4.75 per square foot.²⁷

Under Level 2, the governing board of a school district may require a developer to finance up to 50 percent of new school construction costs. However, in order to qualify for Level 2 funding the district must satisfy at least at least two of the four requirements:

1. Impose a Multi Track Year Round Education (MTYRE) with:
 - at least 30 percent of K-6 enrollment in the high school attendance area on MTYRE for unified and elementary school districts; or
 - at least 30 percent of high school district enrollment on MTYRE; or
 - at least 40 percent of K-12 enrollment on MTYRE within boundaries of the high school attendance area for which the district is applying for funding.
2. Place a local bond measure on the ballot in the last four years which received at least 50 percent plus 1 of the votes.
3. District has issued debt or incurred obligations for capital outlay equal to a specified (under Government Code 65995.5(b)(3)(C)) percentage of its local bonding capacity.
4. At least 20 percent of teaching stations within the district are relocatable classrooms.

²⁴ Written correspondence from Harold J. Pierre, P.E., Director of Facilities, Saugus Union School District, November 18, 2004.

²⁵ Written correspondence from Lorna Baril, Business Services, William S. Hart School District, January 18, 2005.

²⁶ Written correspondence from Harold J. Pierre, P.E., Director of Facilities, Saugus Union School District, November 18, 2004.

²⁷ Written correspondence from Lorna Baril, Business Services, William S. Hart School District, January 18, 2005.

Alternatively, major developers in the Santa Clarita area have acknowledged the importance of providing the appropriate funding for the school facilities needs arising as a result of their developments. These developers have voluntarily agreed to participate in School Facilities Funding Mitigation Agreements to fund their “fair share” of the costs to construct new school facilities, and each has had the opportunity to elect and receive partial reimbursement from State Funding received by the Districts or to accept a reduction in the amount paid.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G of the state CEQA guidelines a project would adversely impact schools and educational services if it would result in:

- a) 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:
 - Fire protection?
 - Police protection?
 - Schools?
 - Parks?
 - Other public facilities?

Project Impacts

The Proposed Project consists of the subdivision of the site into a mix of residential (single-family and multi-family), recreational, educational, health facility, and open space uses. The Proposed Project would include the development of 979 dwelling units including 96 single-family lots, 216 multi-family apartment units, and 667 townhouse/condominium units. Recreational uses would provide a trail system linking to the Santa Clara River Trail and a YMCA facility. A proposed junior high school site would provide additional educational facilities for the surrounding existing and proposed residential development in the project area.

The development of the Proposed Project would bring new students into the SUSD and the HUSD, as 979 new dwelling units would be built. As such, 167 elementary, 61 middle, and 91 high school students would be generated by the development of the Proposed Project (see Table V.M.3-3). It is possible that some of the future residents of the Proposed Project already reside within the service boundaries of the SUSD and the HUSD, with their school-aged children currently enrolled in the SUSD and the HUSD schools near the project site. However, to present for a worst-case scenario, this analysis assumes that the 319 additional students associated with the Proposed Project are not currently enrolled in the SUSD and the HUSD schools near the project site, and would be enrolled upon relocation to the project area.

**Table V.M.3-3
Proposed Project Student Generation**

Land Use	Size	Elementary School Students	Middle School Students	High School Students	Total
Single-Family Residences ^a	96 units	46	16	24	86
Multi-Family Apartments ^b	216units	24	7	16	47
Townhouse Units ^c	667units	97	38	51	186
Totals		167	61	91	319
<i>Note: Numbers rounded to nearest whole number.</i>					
^a Student generation rates are as follows for single-family residential uses: 0.4790 elementary, 0.1713 middle and 0.2466 high school students per dwelling unit.					
^b Student generation rates are as follows for multi-family apartments: 0.1120 elementary, 0.0345 middle and 0.0745 high school students per dwelling unit.					
^c Student generation rates are as follows for townhouse units: 0.1455 elementary, 0.0571 middle and 0.0770 high school students per dwelling unit.					
Source: Saugus Union School District School Facilities Needs Analysis, February 10, 2005 and William S. Hart Union High School District School Facilities Needs Analysis, February 10, 2005					

Project Impacts to Saugus District

The elementary students, which could possibly be introduced to the SUSD by the Proposed Project, would likely attend either Skyblue Mesa Elementary School or Emblem Elementary School. Both of these elementary schools are currently under capacity. Emblem Elementary School has a capacity of 900 students. Student enrollment for the 2004-05 school year is 687; so, this school is currently operating under capacity with remaining room for 213 students. Skyblue Mesa Elementary School has a capacity of 575 students. Student enrollment for the 2004-05 school year is 523; so, this school is

currently operating under capacity with remaining room for 52 students. The combined available capacity for both schools is more than needed by the project; therefore, the project would not require additional facilities, such as additional classrooms, to accommodate its students. Therefore, implementation of the project would not result in adverse physical impacts associated with the provision of new or physically altered school facilities, the construction of which could cause significant environmental impacts. However, a School Funding Agreement is being negotiated between the applicant and Saugus School District which would provide funding to ensure that adequate school capacity would remain available to serve the students generated by the project. As a result, no project impacts to the Saugus School District would occur.

Project Impacts to William S. Hart District

The junior and high school students, which could possibly be introduced to the HUSD by the Proposed Project, would likely attend Sierra Vista Junior High School and Canyon High School. Both of these schools are currently over capacity. Sierra Vista Junior High School has a capacity of 1,221 students. Student enrollment for the 2004-05 school year is 1,426; so, this school is currently operating over capacity. Canyon High School has a capacity of 2,538 students. Student enrollment for the 2004-05 school year is 2,749; so, this school is currently operating over capacity. Therefore, the project would require additional facilities, such as additional classrooms, to accommodate its students. The Project Applicant has entered into a School Funding Agreement as of June 7, 2005 with HUSD which would provide for the project's payment of a 'Fair Share' mitigation fee to the HUSD that would ensure adequate school capacity to serve this project. In addition, the Proposed Project proposes to sell a portion of the project site to HUSD for the construction of a junior high school (see below for further details). As a result, no project impacts to the William S. Hart School District would occur. The potential environmental impacts of construction of a junior high school on the Proposed Project's school site are analyzed in this environmental impact report.

Proposed Junior High School

To alleviate some of the school impacts associated with the Proposed Project the applicant proposes to sell a portion of the project site to HUSD for the construction of a junior high school. The school site would be comprised of approximately 21 acres, with a four-acre adjacent site (for a joint use partner, which would include the YMCA), and would be located on Golden Valley Road, north of the proposed intersection with "I" Street. The junior high school would be constructed for a capacity of 1,600 junior high school students, which would be comprised of 1,200 permanent students housed in approximately

100,000 square feet of building area and 400 potential additional students housed in portable classrooms consisting of approximately 15,000 square feet of buildable area.²⁸

Although no site plans and architectural plans have specifically been developed, it can be anticipated that the proposed junior high school would include classrooms, administrative offices, gymnasium, multi-purpose buildings, and accessory structures. The school site would also include outdoor recreational facilities that would include approximately 10 basketball courts, 12 tennis courts, and athletic fields with room for two soccer fields and three baseball fields. In addition, the site would include a four-foot wide dirt “cross-country” loop trail, located north of the athletic fields to be used by the junior high school.

The school would be built by the HUSD under the supervision of the California State Architect. Parking for the school would be shared with the proposed YMCA facility under a reciprocal use. The City’s UDC requires 2 spaces per classroom and the applicant would provide 96 spaces for the junior high school.²⁹ Further, the City’s UDC requirements for a health and fitness facility of 30,496 square feet to provide 204 parking spaces.³⁰ Therefore, the applicant proposes to provide the required 300 spaces for the junior high school and YMCA as a reciprocal use agreement. . The school site would also include a school bus drop-off area and a separate student drop-off area.³¹

The school site would be accessed from a loop driveway at Golden Valley Road and “I” Street intersection with additional access to the south. The driveway provides a loop configuration starting at the Golden Valley Road and “I” Street intersection on the north and continues south providing access to parking and the proposed YMCA facility (see V.M.5 Parks and Recreation for detail description). The driveway includes an additional access point approximately 500 feet south of the Golden Valley Road and “I” Street intersection.

²⁸ *Written correspondence from Dawn M. Messer, Bowie, Arneson, Wiles & Giannone, August 27, 2004.*

²⁹ Synergy-Brookfield, Parking Requirements for The Keystone project based on UDC requirements, 2 spaces per classroom based on the assumption of 48 “teaching stations” x 2 = 96 spaces, memorandum, May 27, 2005 (verified by City staff, May 27, 2005).

³⁰ Synergy-Brookfield, Parking Requirements for The Keystone project based on UDC requirements, 1 space per 60 sq. ft. Aerobic/Martial Art Area (3,696 sq. ft./60) = 61.6 spaces; 1 space per 150 sq. ft. Weight & Pool Area (13,282 sq. ft./150) = 88.5 spaces; 1 space per 250 sq. ft. Other Floor Area (13,498 sq. ft./250) = 52.9 spaces for a total of 204 spaces, memorandum, May 27, 2005 (verified by City staff, May 27,2005).

³¹ *Ibid.*

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Development of the Proposed Project in conjunction with the 12 related projects (see table above) would cause an increase in the demand for public school services within the SUSD and the HUSD.

**Table V.M.3-4
Cumulative Student Generation**

School District	Residential Units			Students Generated			Total Students
	SFD	SFA	MF	SFD	SFA	MF	
Saugus Union (Elementary)							
Related Projects	2,947	420	1,906	1,412	61	213	1,686
Proposed Project	<u>96</u>	<u>667</u>	<u>216</u>	<u>46</u>	<u>97</u>	<u>24</u>	<u>167</u>
Total	3,043	1,087	2,122	1,458	158	238	1,853
Hart Junior High							
Related Projects	2,947	420	1,906	505	24	66	595
Proposed Project	<u>96</u>	<u>667</u>	<u>216</u>	<u>16</u>	<u>38</u>	<u>7</u>	<u>61</u>
Total	3,043	1,087	2,122	521	62	73	656
Hart Senior High							
Related Projects	2,947	420	1,906	727	32	142	901
Proposed Project	<u>96</u>	<u>667</u>	<u>216</u>	<u>24</u>	<u>51</u>	<u>16</u>	<u>91</u>
Total	3,043	1,087	2,122	750	84	158	992

SFD = Single-Family Detached SFA = Single-Family Attached MF = Multi-Family

Student Generation Rates (per dwelling unit):

Elementary: SFD = .4790 SFA = .1455 MF = .1120 (Saugus Union School District School Facilities Needs Analysis, February 10, 2005)

Junior High: SFD = .1713 SFA = .0571 MF = .0345 (William S. Hart Union High School District School Facilities Needs Analysis, February 10, 2005)

Senior High: SFD = .2466 SFA = .0770 MF = .0745 (William S. Hart Union High School District School Facilities Needs Analysis, February 10, 2005)

As shown in Table V.M.3-4 cumulative development would generate 1,853 elementary school students, 656 junior high school students and 992 senior high school students that would need to be accommodated by the SUSD and the HUSD, respectively. Capacity for these students has yet to be fully planned in the subject school districts and unless these additional students can be accommodated, build-out under this scenario could result in a significant impact to schools and educational services. However, compliance as appropriate, with existing School Facilities Funding Agreements and/or other funding mechanisms (e.g., SB 50, the Valley-Wide Joint Fee Resolution, and/or new school facilities funding agreements) would reduce cumulative development impacts on the school districts and therefore, the project's incremental increase is not considerable and impacts would not be would be less than significant.

MITIGATION MEASURES

Project Mitigation Measures

M.3-1 Compliance with the provisions of SB 50 is deemed to be complete and adequate mitigation of Proposed Project impacts to school facilities. In addition, project participation in School Facilities Funding Agreements with the SUSD and HUSD would further mitigate project specific impacts on these districts. These agreements would provide for a 'Fair Share' fee to be paid to the SUSD and the HUSD in order to house the additional students generated by the project. No further mitigation is required.

Cumulative Mitigation Measures

No cumulative mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Due to the addition of students with the build-out of the Proposed Project, schools and educational facilities would be impacted. However, with project compliance with the School Facilities Funding Agreements with the SUSD and HUSD (Mitigation Measure M.3-1), project specific impacts to schools and educational services would be less than significant and all local students would be housed.

Cumulative

Due to the addition of students with the build-out of the Proposed Project and related projects, schools and educational facilities would be impacted. However, with compliance, as appropriate, with the School Facilities Funding Agreements and/or other funding mechanisms (e.g., SB 50, the Valley-Wide

Joint Fee Resolution, and/or new school facilities funding agreements), cumulative impacts to schools and educational services would be less than significant and all local students would be housed.

V. ENVIRONMENTAL IMPACT ANALYSIS
M. PUBLIC SERVICES
4. LIBRARIES

INTRODUCTION

Information in this section was derived from the Los Angeles County Development Monitoring System (DMS) and from communication with representatives of the County of Los Angeles Public Library system.

ENVIRONMENTAL SETTING

County of Los Angeles Public Library

The County of Los Angeles Public Library operates facilities and services countywide in both the unincorporated and incorporated areas of the County. The City of Santa Clarita contracts with the County of Los Angeles for their library services.

Santa Clarita Valley Public Libraries

As illustrated in Figure V.M-5, Library Locations, the County of Los Angeles Public Library services the entire Santa Clarita Valley with three libraries and mobile library services. The three libraries include the Valencia Library, the Canyon Country Jo Anne Darcy Library, and the Newhall Library. A description of the three libraries and the mobile book services as of December 2004 follows.³²

Valencia Library

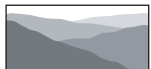
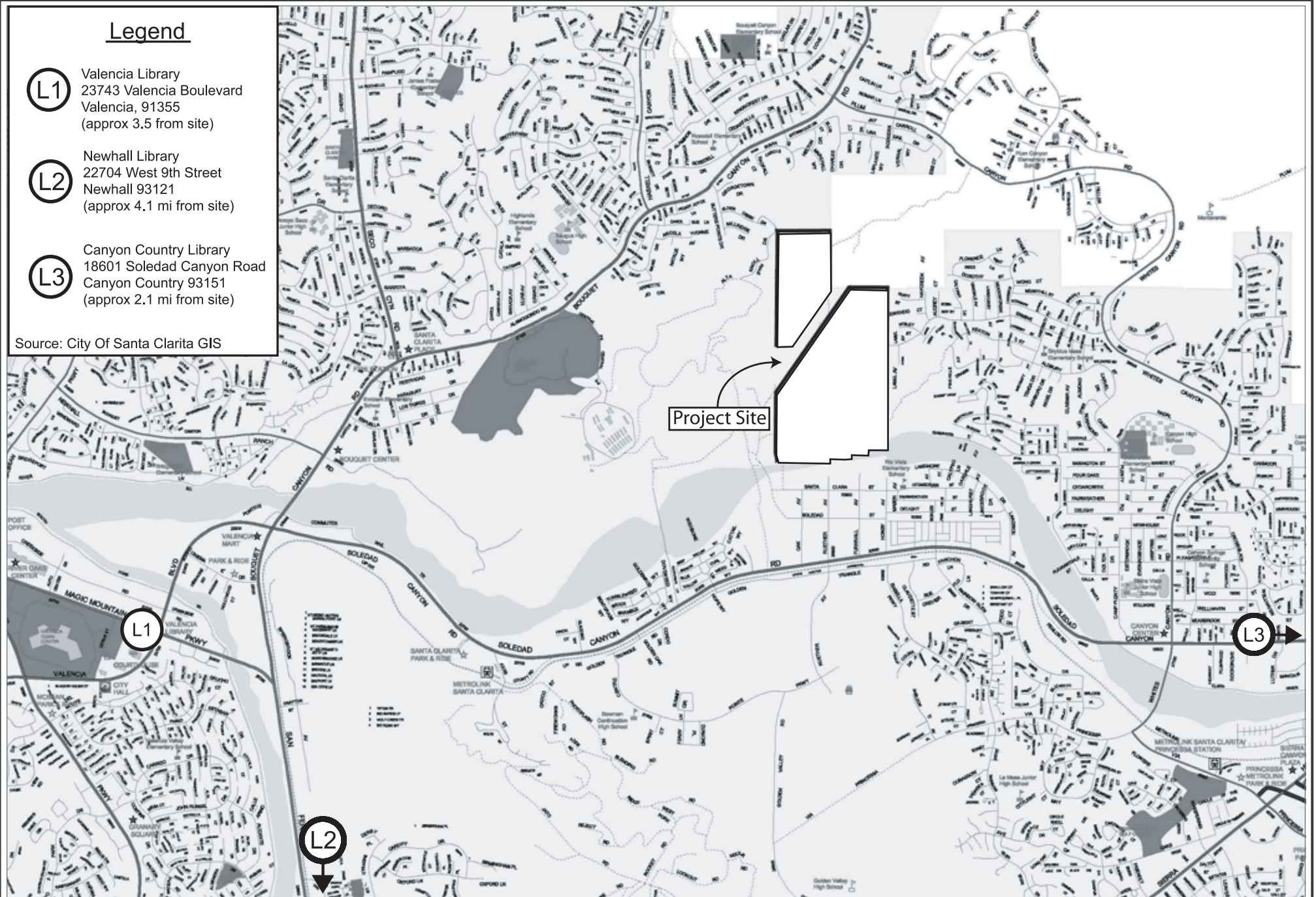
The Valencia Library, located at 23743 West Valencia Boulevard in Valencia, serves as the main library within the Santa Clarita Valley and is located approximately 1.6 miles southwest of the project site. This library is a government publications repository. The library, with an area of 23,966 square feet, features the following major areas: an adult section, a separate children's area, a section devoted to audiovisual materials, a government publications area, a meeting room with a capacity of 165, and

³² *Written correspondence from Malou Rubio, County of Los Angeles Public Library, Staff Service Section, December 17, 2004.*

Legend

- L1** Valencia Library
23743 Valencia Boulevard
Valencia, 91355
(approx 3.5 from site)
- L2** Newhall Library
22704 West 9th Street
Newhall 93121
(approx 4.1 mi from site)
- L3** Canyon Country Library
18601 Soledad Canyon Road
Canyon Country 93151
(approx 2.1 mi from site)

Source: City Of Santa Clarita GIS



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Environmental Planning and Research



Figure V.M-5
Library Location Map

individual typing rooms.³³ The library contains 284,928 items including 17,255 audio recordings, 14,698 video recordings, 25,000 government publications, 332 magazine and newspaper subscriptions, other special materials such as telephone directories, microforms, topographic maps, local history information, and a parenting collection dedicated to Ruth E. Hiebert.³⁴ The library currently maintains a staff of 16 full-time and 38 part-time employees.³⁵

Newhall Library

The Newhall Library, located at 22704 West 9th Street in Newhall, approximately 3.4 miles south of the project site, serves as a branch library to the Valencia Library. The library is approximately 4,842 square feet in size and has an adult area and a children's area. The library also houses the offices for the Santa Clarita Bookmobile (see below).³⁶ The library contains 81,243 items, which is comprised of 71,730 books, 5,227 audio recordings including audio books, 4,247 video recordings and DVDs, and 83 magazine and newspaper subscriptions. The library also has a local history collection.³⁷ The library currently maintains a staff of four full-time and eight part-time employees.³⁸

Canyon Country Jo Anne Darcy Library

The Canyon Country Jo Anne Darcy Library, located at 18601 Soledad Canyon Road in Canyon Country, approximately 3.9 miles east of the project site, also serves as a branch library to the Valencia Library. The library utilizes 12,864 square feet of a 17,000 square foot facility. Of the 17,000 square feet 4,136 square feet have been leased to College of the Canyons by the City of Santa Clarita. The library features a separate childrens' area with Homework Center, a periodical reading lounge area, and a special young adult area. It also has a two-person reference desk, a circulation desk with four check-out stations, a copy center, Friends of the Library Bookstore, and a meeting room with a capacity of 157.³⁹ The library contains 101,439 items including 87,706 adult and children's books, 102 newspaper and magazine subscriptions, and an audiovisual collection with 7,273 audio recordings including books-on-tape, and 6,358 video recordings including DVDs. The library also has telephone books from most

³³ County of Los Angeles Public Library, website: <http://www.colapublib.org/libs/valencia/index.html>, January 19, 2005.

³⁴ *Ibid.*

³⁵ *Ibid.*

³⁶ *Ibid.*

³⁷ Written correspondence from Malou Rubio, County of Los Angeles Public Library, Staff Service Section, December 17, 2004.

³⁸ *Ibid.*

³⁹ County of Los Angeles Public Library, website: <http://www.colapublib.org/libs/canyoncountry/index.html>, January 20, 2005.

geographic areas in California, pamphlets, and a local history collection.⁴⁰ The library currently maintains a staff of five full-time and 19 part-time employees.⁴¹

Mobile Library Services

A mobile library service, the Santa Clarita Valley “Bookmobile”, is provided to outlying areas of the Valley, such as Val Verde, Agua Dulce, Acton, Castaic, and the Friendly Valley Senior Community. The Bookmobile currently has a library collection consisting of 10,940 books, 1,442 audio recordings, 1,964 video recordings, and 9 magazines. The actual “Bookmobile” can accommodate 2,500 titles or more.⁴² Because the Proposed Project site is not in an outlying area it would have no impact on County mobile library services.

Funding and General Level of Service

The County of Los Angeles Public Library system has adopted a planning standard of 0.50 gross square feet and 2.75 items (books, periodicals, audiocassettes, videos, and other materials) per capita.⁴³ Valley-wide library square footage currently totals 41,672 square feet and library holdings total approximately 447,414 items.⁴⁴ Table V.M.4-1, County of Los Angeles Public Library Facility and Collection Analysis, is a summary of current library facility and collection size requirements based on the 2000 Census. Using the County of Los Angeles Public Library Service Level Guidelines and the 2000 Census population for the Santa Clarita Valley of 178,994⁴⁵, there is currently a demonstrated shortfall of both library square footage and collection size in the Santa Clarita Valley Planning Area.

⁴⁰ Written correspondence from Malou Rubio, County of Los Angeles Public Library, Staff Service Section, December 17, 2004.

⁴¹ Ibid.

⁴² County of Los Angeles Public Library, website: <http://www.colapublib.org/libs/santaclarita/bookmobile.html>, January 20, 2005.

⁴³ Written correspondence from Malou Rubio, County of Los Angeles Public Library, Staff Service Section, December 17, 2004.

⁴⁴ This includes all items from the Valencia, Newhall, and Canyon Country Jo Anne Darcy Libraries. For the purpose of this analysis the mobile library collection of approximately 10,940 items has been excluded.

⁴⁵ Population/Patron numbers derived from written correspondence from Malou Rubio, county of Los Angeles Public Library, Staff Service Section, December 17, 2004. These numbers differ from the City of Santa Clarita’s official census numbers found on their website.

Table V.M.4-1
County of Los Angeles Public Library Facility and Collection Analysis

Library	Required Facility Size	Facility Surplus / (Shortfall)	Required Collection Size	Collection Surplus / (Shortfall)
Valencia	38,548	(14,582)	212,011	72,917
Newhall	16,739	(11,897)	92,062	(10,819)
Canyon Country	34,210	(21,346)	188,152	(86,713)
Total	89,497	(47,825)	492,225	(24,615)
<i>Source: Written correspondence from Malou Rubio, County of Los Angeles Public Library, Staff Service Section, December 17, 2004.</i>				

Funding sources for the Public Library system consist of, in descending proportions, property taxes, County General Fund Allocations, a special tax, and revenue from fines, fees and other miscellaneous sources. The Los Angeles County Board of Supervisors (Board) has for several years made an allocation for the Public Library from the County General Fund, however there is no guarantee from year to year of on-going funding from the General Fund as a specific budget allocation, as funding decisions are made based on total available funding for all County services. In addition, the funding provided from the General Fund by the Board covers operating expenses only and does not provide for replacement or expansion of library facilities and materials.

To offset the impact on library services created by new residential development in the County, the Board has established a developer fee program which requires a mitigation fee for each new residential unit built in unincorporated areas of the County, tied to the Consumer Price Index, this fee is currently set at \$677.00 per new dwelling unit for the Santa Clarita Valley area.⁴⁶ These fees generate the only funding source available for construction of new or expanded library facilities. The Proposed Project is located within the City of Santa Clarita, which adopted the library mitigation fee program on March 9, 1999.

While the demand for library services are not currently being met by the County Library system, other library resources are currently available to area residents, including those located at area colleges (i.e. College of the Canyons, Masters College, and California Institute of the Arts), high schools and junior high schools. However these public and private education facilities have rules and regulations

⁴⁶ Per telephone conversation with Malaisha Hughes, Los Angeles County Public Library, Staff Services Section December 21, 2004.

governing facility use by the general public. In addition, these library facilities may charge fees to use their materials, further restricting public use.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Significance threshold criteria for library services are not specified in either CEQA Guidelines. However, CEQA Guidelines Appendix G, provides the following criteria for public services such as “fire protection, police protection, schools, parks and other public facilities”. For purposes of this EIR analysis, the determination of whether the Proposed Project results in a significant impact on public libraries would be applied using the “other public facilities” category. Therefore, the determination of the significance of library impacts shall be made considering the following:

The project would result in a significant impact to library services if it would result in:

- a) 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:
 - Fire protection?
 - Police protection?
 - Schools?
 - Parks?
 - Other public facilities?

In addition, the County of Los Angeles Public Library has provided County staff with data for use in the County’s DMS. Based upon this data, the County’s DMS uses the following guidelines for library service:

- 0.50 gross square feet of library facilities per capita, and
- 2.75 library material items per capita.

These guidelines are used in this EIR to determine the need for additional library services due to implementation of the Proposed Project.

Project Impacts

As proposed the project would increase the demand on existing County of Los Angeles Public Library services through the development of 979 new dwelling units with an estimated new residential population of 2,992 persons (please refer to Section V.L, Population and Housing).

Short-Term Construction Impacts

During construction the project would not generate a new residential population, therefore no library impacts would occur (please refer to Section V.L, Population and Housing).

Long-term Operational Related ImpactsPhysical Effects

Implementation of the Proposed Project would increase demand for library services, specifically at the closest facility in Canyon Country, the Jo Anne Darcy Library. The Proposed Project would increase the local permanent residential population by 2,992. Using the County Library's planning guidelines of 0.50 square feet of library facilities and 2.75 collection items per capita, the Proposed Project would generate a need for an additional 1,496 square feet of library facilities and 8,228 additional collection items. As discussed above, the Santa Clarita Valley is currently under-served with regard to Library services and development of the Proposed Project would thereby increase the existing need for additional library facilities. If the project generated demand for 1,496 square feet of additional space were translated into new construction of permanent space, this would be the approximate equivalent of three rooms measuring 20' x 20'. The construction of new, permanent space could be considered an adverse impact under the CEQA Guideline threshold. However, CEQA Guidelines, Section 15301, states that construction on an existing use that totals either 2,500 square feet or 50 percent of the floor area of the structure before the addition would have a negligible impact on the environment. Therefore, the additional construction of approximately 1,496 square feet on the Jo Anne Darcy Library would have a physically insignificant effect on the environment. For these reasons, the project's impacts on County Library facilities would be less than significant.

Code Requirements for New or Expanded Facilities and Collection Materials

Development of the Proposed Project would generate new County tax revenues. As stated previously, County Library system funding sources consist of property taxes, County General Fund Allocations, a special tax, and revenue from fines, fees, and other miscellaneous sources. These new tax revenues would only fund library operations, and therefore would not offset construction costs for new or additional facilities due to increased population from Proposed Projects. However, the County Board of Supervisors has established a developer mitigation fee designed to offset the impacts to Library services of new residential development within the County. The requirement for new residential

developments to pay this library mitigation fee has also been adopted by the City of Santa Clarita. Based on the current library mitigation fee of \$677.00 per dwelling unit, the Proposed Project would be required to pay a fee of \$662,783.00 (\$677.00 x 979 dwelling units = \$662,783.00) toward the construction of expanded or new library facilities and the acquisition of additional collection materials. Payment of the library mitigation fee is a requirement of the project by Los Angeles County and the City of Santa Clarita to offset the demand recreated by the project for additional square footage and library collection materials. Therefore, funding would be provided to offset these demands and provide the County Library the ability to provide library services and facilities. For these reasons, the Proposed Project's impacts on the County Library would be less than significant.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north	11 single-family DU

List of Related Projects

Map No.	Project Name	Project Location	Description
		of Whites Cyn Rd	
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Development of the Proposed Project in conjunction with the 12 related projects would cause an increase in the demand for library services by increasing the number of residents in the project vicinity. The Proposed Project in conjunction with the related projects would generate approximately 19,106 new residents. These new residents would generate a need for 9,553 square feet of additional library space and 52,542 collection items (see Table V.M.4-2).

As stated previously, County Library system funding sources consist of property taxes, County General Fund Allocations, a special tax, and revenue from fines, fees, and other miscellaneous sources. These new tax revenues would only fund library operations, and therefore would not offset construction costs for new or additional facilities due to increased population from Proposed Projects. However, the County Board of Supervisors has established a developer mitigation fee designed to offset the impacts to Library services of new residential development within the County. The requirement for new residential developments to pay this library mitigation fee has also been adopted by the City of Santa Clarita. Based on the current library mitigation fee of \$677.00 per dwelling unit, the 12 related projects would be required to pay a fee of \$3,569,821.00 ($\$677.00 \times 5,273$ dwelling units = \$3,569,821.00) toward the construction of expanded or new library facilities and the acquisition of additional collection materials. Payment of the library mitigation fee is a requirement of the project by Los Angeles County and the City of Santa Clarita to offset the demand recreated by the project for additional square footage and library collection materials. Therefore, funding would be provided to offset these demands and provide the County Library system the ability to provide library services and facilities. For these reasons, the project's incremental increase is not considerable impacts to the County Library system and impacts would be less than significant.

Table V.M.4-2
Cumulative Library Services Impacts

	Land Use	Number of Units	Persons / Household¹	Library Space needed² (in square feet)	Library Items³ needed⁴
	Proposed Project				
	Single-Family Residence	96 du	293	147	806
	Multi-Family Residence	883 du	2,699	1,350	7,422
	Subtotals	979 du	2,992	1,496	8,228
	Related Projects				
No. 3	TT 062322 –Town homes	420 du	1,284	642	3,531
No. 4	Riverpark – Single - Family	419 du	1,280	640	3,520
	Multi-Family	704 du	2,151	1,076	5,915
No.6	Soledad Circle – Single - Family	150 du	458	229	1,260
No. 7	TT 46018 – Single-Family	1,298 du	3,967	1,984	10,909
	Multi Family	1,202 du	3,673	1,837	10,101
No. 8	TR 52763 – Single-Family	11 du	34	17	94
No. 9	Plum Canyon – Single-Family	498 du	1,522	761	4,186
No.11	TT 98046 – Single-Family	91 du	278	139	765
No. 12	TT 47760 – Single-Family	480 du	1,467	734	4,034
	Subtotals	5,273 du	16,114	8,057	44,314
	Total	6,252	19,106	9,553	52,542
<p>1 – assumed at 3.056 persons per household, per DoF guidelines 2 – per County Library’s planning guidelines of 0.50 square feet of library facilities items per capita 3 – Items = books, periodicals, audiocassettes, videos, and other resource materials 4 – per County Library’s planning guidelines of 2.75 items per capita.</p>					
Source: Christopher A. Joseph & Associates					

MITIGATION MEASURES

Project Mitigation Measures

Impacts on libraries would be less than significant. Therefore no mitigation measures are necessary or recommended.

Cumulative Mitigation Measures

No cumulative impacts identified and thus no cumulative mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

There would be no project impacts on library services and thus no mitigation is required. Consequently, no unavoidable project significant impacts would occur.

Cumulative

There would be no Project and Related Project impacts on library services and thus no cumulative impacts and no mitigation is recommended or required.

V. ENVIRONMENTAL IMPACT ANALYSIS

M. PUBLIC SERVICES

5. PARKS

INTRODUCTION

This section describes current recreational uses serving the project area, in the City of Santa Clarita and in the surrounding area, including the Angeles and Los Padres National Forests and describes ways in which the Proposed Project could lead to an increased demand for recreational facilities, physical deterioration of existing recreational facilities or the need for the creation or expansion of recreation facilities, the construction of which could have an adverse effect on the environment.

ENVIRONMENTAL SETTING

Existing Site Conditions

No developed or undeveloped parkland exist on the project site. The 247-acre vacant project site is bordered on the east at the westerly extension of Ermine Street and northwest by existing residential neighborhoods, and by vacant land to the west and north with proposed residential development projects. A City of Los Angeles Department of Water and Power (DWP) easement with electrical transmission lines runs through the site diagonally (northeast to southwest angle) from approximately the middle of the western project edge to the center of the northern project boundary dividing the site.

City Park Standards

The City of Santa Clarita, Parks, Recreation, and Community Services Department provides local park and recreational services to the City of Santa Clarita. The City of Santa Clarita owns (including property for future development) and operates a total of 361.05 acres of parkland, which are categorized as either neighborhood parks or community parks.⁴⁷ Neighborhood parks are approximately five to ten acres in size and are usually located within residential neighborhoods adjacent to elementary schools. These parks include at least two of the following amenities:⁴⁸

⁴⁷ *City of Santa Clarita City Parks, Recreation Facilities, Trails, and Open Space, S/Pr/Parks/Plandev/Park Stats/Revised December 8, 2004.*

⁴⁸ *City of Santa Clarita General Plan.*

- children’s play area(s), including tot lots (at a rate of one per 5,000 persons served);
- tennis courts (at a rate of one for each 2,000 persons served);
- baseball/softball and football area(s) (at a rate of one baseball diamond per 12,000 persons served, one softball diamond per 6,000 persons served, one football/soccer field per 1,500 persons served);
- baseball/volleyball area(s) (at a rate of one person per 500 persons served); and
- racquetball court(s) (at a rate of one per 2,000 persons served).

Community parks are approximately 10 to 40 acres in size and include amenities such as a community building, swimming pool, multi-purpose fields, hard court areas, picnic areas, and parking.

Quimby Act

Section 66477 of the State Government Code allows cities and counties to require, as a condition of approval of a subdivision, the dedication of land or the payment of a fee in lieu of dedication, or a combination of both, for park or recreational purposes at a standard of three acres per 1,000 residents. This legislation is commonly called the “Quimby Act”.

Consistent with Quimby Act, the City of Santa Clarita Unified Development Code (UDC) incorporates provisions for parkland dedication at a rate of three acres per 1,000 residents using the latest State Department of Finance population figures.⁴⁹ The City UDC identifies the following park and recreation facilities that may be eligible for Quimby credit:

- publicly owned playgrounds;
- tennis, basketball, or other similar game court areas;
- swimming pools;
- athletic fields;
- picnic areas;
- and other types of natural or scenic areas that comply with established criteria and as recommended by the Department of Parks, Recreation and Community Services for passive or active recreation.⁵⁰

⁴⁹ *City of Santa Clarita Unified Development Code, Chapter 16.15.*

⁵⁰ *City of Santa Clarita Unified Development Code, Chapter 16.15.*

In addition, a partial credit, not to exceed 30%, may be given for private parkland (not including open space and/or trails) which is maintained by a Homeowners Association and is available for active recreational purposes. Subject to the approval of the Department of Parks, Recreation and Community Services, the amount of Quimby credit may be based on the commitment of a new development to incorporate proposed private open space areas with any of the local park basic elements listed below, or a combination of such and other recreation improvements that would meet the specific recreation needs of future residents of the area:⁵¹

- three acres of open turf with less than three percent slope for soccer, football, golf, basketball, etc.;
- recreation building and facilities;
- court areas, and/or;
- recreation swimming areas (minimum 800 square feet surface area).

Quimby credit is given for active parkland and not open space.

The City of Santa Clarita also requires Class I bike trails adjacent to all new major and secondary highways.

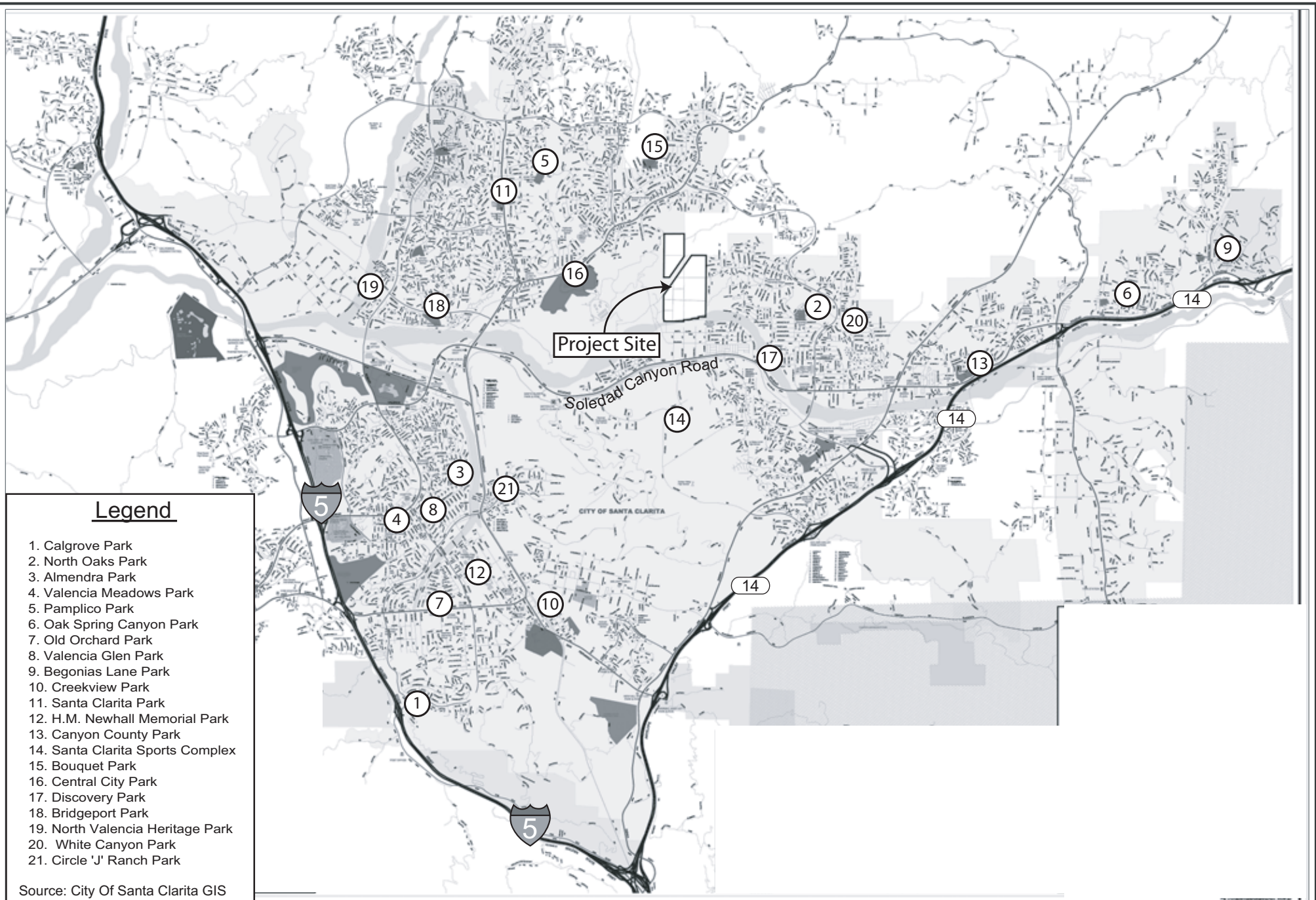
Local Parks and Recreational Facilities

City of Santa Clarita Parks

Currently there are 22 existing or approved development parks and community centers under the jurisdiction of the City of Santa Clarita (refer to Figure V.M-6, Existing and Proposed City of Santa Clarita Parks). As shown in Table V.M.5-1, eight of the 23 parks are undeveloped or partially developed. However, notwithstanding the 361 acres of parkland the City of Santa Clarita needs additional active park facilities to meet the existing demand.⁵²

⁵¹ *City of Santa Clarita Unified Development Code, Chapter 16.15.*

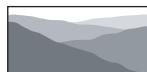
⁵² *Written correspondence from Jessica Humphries, Project Development Coordinator, City of Santa Clarita, Parks, Recreation, and Community Services Department, November 24, 2004.*



Legend

1. Calgrove Park
2. North Oaks Park
3. Almendra Park
4. Valencia Meadows Park
5. Pamplico Meadow
6. Oak Spring Canyon Park
7. Old Orchard Park
8. Valencia Glen Park
9. Begonias Lane Park
10. Creekview Park
11. Santa Clarita Park
12. H.M. Newhall Memorial Park
13. Canyon County Park
14. Santa Clarita Sports Complex
15. Bouquet Park
16. Central City Park
17. Discovery Park
18. Bridgeport Park
19. North Valencia Heritage Park
20. White Canyon Park
21. Circle 'J' Ranch Park

Source: City Of Santa Clarita GIS



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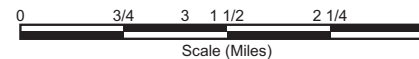


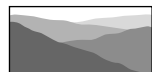
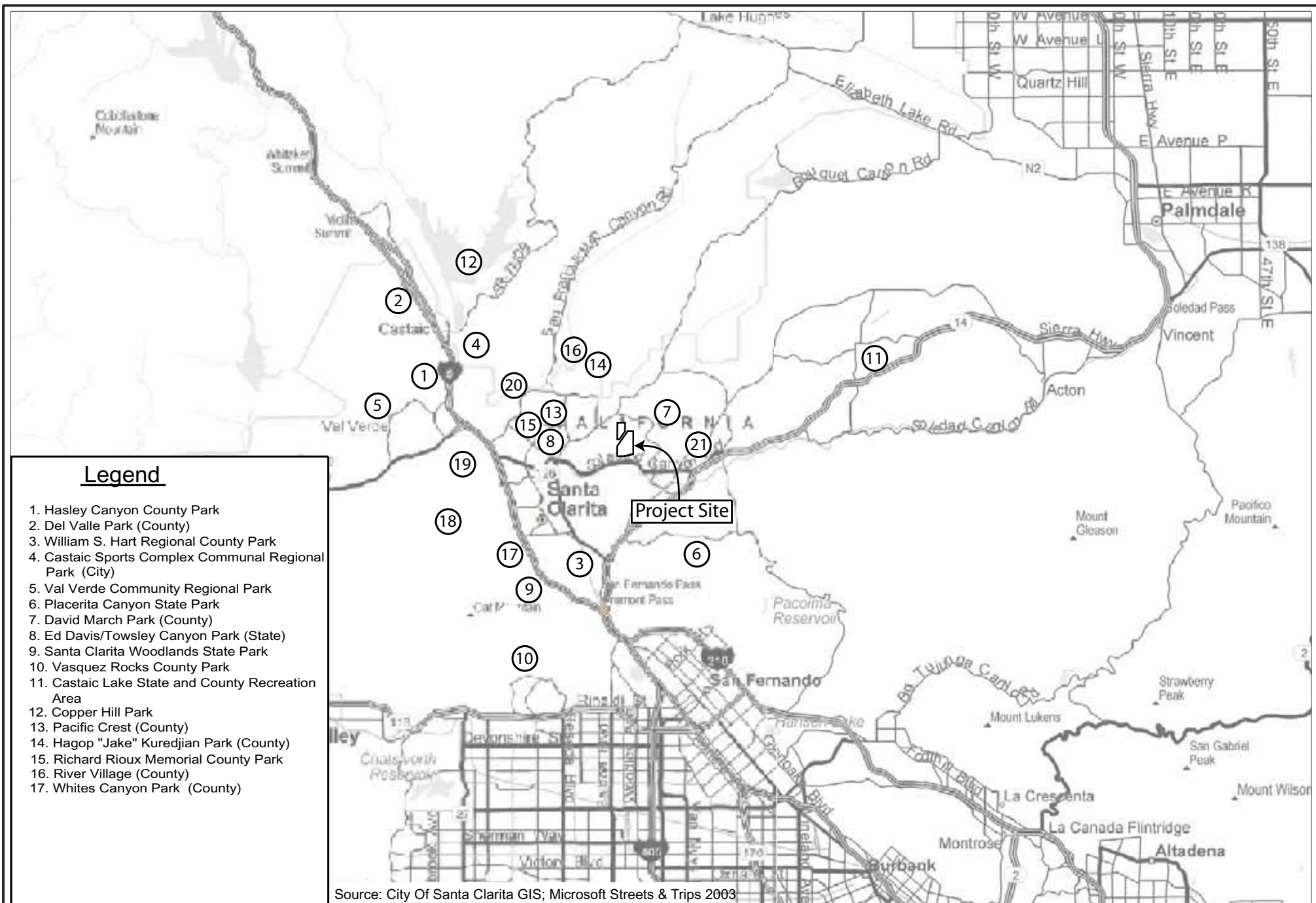
Figure V.M-6
Existing and Proposed City of
Santa Clarita Parks

**Table V.M.5-1
Existing and Proposed City of Santa Clarita Parks**

	Parks	Acreage	Location	Condition
1	Calgrove Park	0.25	24062 Little Oak Lane, Newhall	Undeveloped
2	North Oaks Park	2.30	27824 N. Camp Plenty Rd., Canyon Country	Developed
3	Almendra Park	4.30	23420 Alta Madera Dr., Valencia	Developed
4	Valencia Meadows Park	6.10	25671 Fedala Road, Valencia	Developed
5	Pamplico Drive Park	7.60	22444 Pamplico Drive, Saugus	Developed
6	Oak Spring Canyon Park	5.70	28920 Oak Spring Cyn. Rd., Canyon Country	Developed
7	Old Orchard Park	5.40	25023 Avenida Rotella, Valencia	Developed
8	Valencia Glen Park	7.30	23750 Via Gavola, Valencia	Developed
9	Begonias Lane Park	4.20	14911 Begonias Lane, Canyon Country	Developed
10	Creekview Park	5.00	22200 Park Street, East Newhall	Developed
11	Santa Clarita Park	7.30	27285 Seco Canyon Rd., Saugus	Developed
12	H.M. Newhall Memorial Park	14.30	24923 Newhall Ave., Newhall	Developed
13	Canyon Country Park	19.30	17615 Soledad Canyon Rd., Canyon Country	Developed
14	Santa Clarita Sports Complex	58.00	26407 Golden Valley Rd., Canyon Country	20 acres Developed
15	Bouquet Canyon Park	10.50	28127 Wellston Dr., Saugus	Developed
16	Central Park	108.00	27150 Bouquet Canyon Rd., Saugus	80 acres developed 28 acres for future development
17	Discovery Park	20.00	27150 Canyon View Dr., Canyon Country	Undeveloped
18	Bridgeport Park	16.00	23520 Bridgeport Lane	Developed
19	North Valencia Heritage Park	17.60	24155 Newhall Ranch Road	Undeveloped
20	Whites Canyon	31.60	Whites Canyon Rd.	Undeveloped
21	Circle J. Ranch	5.30	22615 Via Princessa	Developed
22	Santa Clarita Community Center	4.50	Anawalt Site	Undeveloped
	Total Park Acreage	360.55		
Source: City of Santa Clarita City Parks, Recreation Facilities, Trails, and Open Space, S/Pr/Parks/Plandev/Park Stats/Revised December 8, 2004.				

County Parks within City's Planning Area

Currently there are 21 existing or approved development parks under the jurisdiction of the County of Los Angeles (refer to Figure V.M-7, County and State Park Facilities) within the City's Planning Area. As shown in Table V.M.5-2, six of the 21 parks are undeveloped or partially developed.



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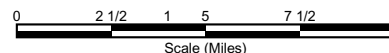


Figure V.M-7
Regional Park Facilities

**Table V.M.5-2
Existing and Proposed County of Los Angeles Parks**

	Parks	Acreage	Location	Condition
1	Hasley Canyon County Park	5.38	28700 West Quincy St., Castaic	Developed
2	Del Valle Park (County)	5.00	28201 W. Sloan Cyn Rd., Castaic	Developed
3	William S. Hart Regional County Park	110.00	24151 San Fernando Rd., Newhall	Developed
4	Castaic Sports Complex Community Regional Park (City)	50.00	30300 W. Arlington St., Saugus	Developed
5	Val Verde Community Regional Park (County)	57.58	19152 Placerita Cyn Rd., Newhall	Developed
6	Placerita Canyon Park (State)	341.12	1/4 mile east of Bouquet Canyon Rd., Saugus	Developed
7	David March Park (County)	8.00	27400 N. Grandview Dr., Valencia	Under Construction
8	Northridge Park (County)	8.63	24255 The Old Rd.	Developed
9	Ed Davis/Towsley Canyon Park (State)	145.00		Developed
10	Santa Clarita Woodlands State Park	3,000.00		Developed
11	Vasquez Rocks County Park	745.00	Agua Dulce	Developed
12	Castaic Lake State and County Recreation Area ¹	8,800.00	32132 Ridge Route Rd., Castaic	Developed
13	Chesebrough Park (County)	5.48	Sunset Hills Dr./McBean Parkway	Developed
14	Copper Hill Park	4.40	Northridge Planning Area	Proposed
15	North Park	4.87	Saugus	Developed
16	Pacific Crest (County)	4.00	Castaic/Val Verde	Developed
17	Pico Canyon Park (County)	10.80	Pico Canyon	Under Construction
18	Richard Rioux Memorial County Park	15.46	Stevenson Ranch	Developed
19	River Village (County)	9.74	Newhall/Valencia	Proposed
20	West Creek Park (County)	15.63	Saugus	Proposed
21	Whites Canyon Park (County)	8.50	Canyon Country	Proposed
	Total Park Acreage	13,254.59		
¹ State-owned park maintained and operated by the County. Source: Email correspondence from James Barber, Park Project Coordinator, County of Los Angeles, Department of Parks and Recreation, November 18, 2004.				

The 745-acre County Vasquez Rocks Natural Park area in Agua Dulce is not shown in Table V.M.5-1 as it is outside of the City's planning area. The majority of the County's parks are at least ten acres in size and area community oriented and regional in nature. The 8,800 acre Castaic Lake State and County Recreation Area, the largest of these parks, includes 2,600 surface acres of water contained in an upper and lower reservoir system. Castaic Lake reservoir and the surrounding land are owned by

the state. However, the County has a lease on the land and operates the upper lake, Castaic Lake Reservoir, and the lower lake, Castaic Lagoon. Activities at the upper lake include sailing, power boating, water and jet skiing, fishing, and boat rentals. The lake is stocked with various fish such as bass, trout and catfish. The lower lake is for non-power boating and canoeing. Swimming season on the lower lake runs from mid-May to mid-September. Some of the recreational activities include: hiking, biking trails, picnic areas, playgrounds, and recreational vehicle and tent camping.⁵³

State Parks in the City's Planning Area

As shown in Figure V.M-7, there are two state parks located within the City's planning area: Santa Clarita Woodlands State Park and the Placerita Canyon State Park.

Santa Clarita Woodlands State Park

The Santa Clarita Woodlands State Park is an approximately 3,000-acre state park located south of the I-5 in the unincorporated portion of Los Angeles on the north-facing flank of the Santa Susana Mountains. The park is accessible via either Lyons Avenue or the Calgrove/Old Road interchanges. The Santa Clarita Woodlands State Park was created through a land transaction that involved the City of Santa Clarita, Chevron, and the Santa Monica Mountains Conservancy.⁵⁴ The land transaction consisted of the donation of 851 acres of land originally owned by Chevron and the purchase of the additional acreage by the Conservancy.

Within the Santa Clarita Woodlands State Park there are several parks, which include numerous trails. The 145-acre Towsley Canyon Park is located in Newhall at 24255 The Old Road and has trails for hiking, mountain biking, and equestrian uses; picnic areas; the Sonia Thompsan Nature Center; and restroom facilities. This park includes the following trails: 1.5-mile Wiley Canyon Trail, Canyon View Loop Trail, 2.5-mile Towsley Canyon Trail, and the 3-mile Towsley View Loop Trail. Within the Towsley Canyon Park are the Ed Davis Park and the Towsley Lodge, which is available for daily or overnight use. The East and Rice Canyon area, located in Newhall at 24254 The Old Road, includes the 1.2-mile Rice Canyon Trail and the 3.8-mile East Canyon Trail. There is also the 400-acre Michael

⁵³ *California State Parks, Castaic Lake SRA, website: http://www.parks.ca.gov/?page_id=628, December 21, 2004.*

⁵⁴ *The Santa Monica Mountains Conservancy is a state agency which was created in 1980 under the Resources Agency. The Conservancy is primarily responsible for funding the acquisition of land with statewide and regional significance.*

D. Antonovich Open Space area, located in Newhall at 23801 The Old Road and Pico Canyon, which includes a 3-mile trail.⁵⁵

Placerita State Park

The 350-acre Placerita State Park is located east of the Antelope Valley Freeway in Newhall at 19152 Placerita Canyon Road.⁵⁶ It is a state park operated by the County of Los Angeles Department of Parks and Recreation and contains over ten miles of hiking trails, a nature center, picnic areas, overnight and day camping areas, a children's play area, and an equestrian campground. The hiking trails include: 1.8-mile Walker Ranch Trail, 2.3-mile Waterfall Trail, 4.2-mile Los Pinetos Trail, 0.35-mile Ecology Loop Trail, 0.3-mile Hillside Trail Loop, 0.25-mile Heritage Trail Loop, 0.2-mile Walker Ranch Trail Loop, 0.12-mile Botany Trail Loop, and the 1.2-mile Manzanita Mountain Trail.⁵⁷

Federal Parks in the City's Planning Area

The City's planning area includes portions of the Angeles National Forest and is adjacent to the Los Padres National Forest.

Angeles National Forest

Portions of the 650,000-acre Angeles National Forest are located within the City's planning area. The Angeles National Forest includes camping facilities, picnicking areas, hundreds of miles of trails, and water reservoirs. 176 miles of the Pacific Crest National Trail extends through the Angeles National Forest, providing views of the Antelope Valley and the San Gabriel Mountains.⁵⁸ In addition, three water reservoirs, Pyramid Lake, Castaic Lake, and Elizabeth Lake, charge entrance fees and boat launching, boat rental, and overnight camping fees.

Los Padres National Forest

⁵⁵ *Los Angeles Mountains, Your Parks*, website: <http://www.lamountains.com/parks.asp?parkid=8>, December 21, 2004.

⁵⁶ *County of Los Angeles Department of Parks and Recreation, Placerita Canyon Nature Center*, website: http://parks.co.la.ca.us/placerita_narea.html, December 21, 2004.

⁵⁷ *Placerita Canyon Natural Area and Nature Center*, website: <http://www.placerita.org/>, December 21, 2004.

⁵⁸ *USDA Forest Service, Angeles National Forest*, website: <http://www.fs.fed.us/r5/angeles/>, December 22, 2004.

A portion of the 1.75 million-acre Los Padres National Forest crosses the Los Angeles/Ventura County line and is adjacent to the City's planning area. The Los Padres National Forest includes 1,257 miles of trails, equestrian trails, 459-miles of off-road vehicle trails, and camping areas with fees, which are accessible by road and/or trails. Specifically, there are 57 dispersed trails camps, 19 family campgrounds, and one group campground.⁵⁹

Local Trail System

The project area is served by numerous existing and proposed trails, including both City and County/regional trails.

City of Santa Clarita Trails

The City of Santa Clarita has created trails to provide equestrian, pedestrian, and bicycle connections to residential communities within the City and to the regional trail system. As shown in Table V.M.5-3, there are approximately 55 miles of existing and planned trails within the City planning area.

**Table V.M.5-3
Existing and Planned City Trails**

Trail Name	Length (miles)	Condition
Bouquet Canyon Trail	7.00	0.4 miles Developed
Chuck Pontius Commuter Rail Trail	2.70	Developed
Newhall Ranch Road Trail	4.50	1.5 miles Developed
Placerita Canyon Trail	8.00	5.0 miles Developed
Golden Valley Road Trail	4.50	2.0 miles Developed
Cliffie Stone Trail (formerly the San Francisquito Trail)	7.00	Developed
Santa Clara River Trail	14.50	6.8 miles Developed
South Fork Trail	3.40	Developed
Sand Canyon Road Multi-Use Trail	3.00	0.5 mile Developed
Total	54.60	
<i>Source: Written correspondence from Jessica Humphries, Project Development Coordinator, City of Santa Clarita, Parks, Recreation, and Community Services Department, November 24, 2004.</i>		

⁵⁹ USDA Forest Service, Los Padres National Forest, website: <http://www.fs.fed.us/r5/lospadres/>, December 22, 2004.

Bouquet Canyon Trail

The 7.0-mile Bouquet Canyon Trail is located between Bouquet Canyon Road and McBean Parkway along the northern side of Newhall Ranch Road. Once completed this trail will connect to the existing paseo along McBean Parkway and the bicycle trail located along Newhall Ranch Road directly west of McBean Parkway.

Chuck Pontius Commuter Rail Trail

The 2.7-mile Chuck Pontius Commuter Rail Trail is located on the southern side of Soledad Canyon Road and runs east-west from Camp Plenty Road to Golden Oak Road, then along the northern side of Soledad Canyon Road to Commuter Way, and into the Santa Clarita Metrolink Station.

Newhall Ranch Trail

The 4.5-mile Newhall Ranch Trail is a bike trail located on Newhall Ranch Road. Once completed this trail will run east-west from the I-5 Freeway and connect to the paseo along San Francisquito Creek and eventually to the bike trail located on Bouquet Canyon Road.

Placerita Canyon Trail

The 5.0-mile Placerita Canyon Trail is located within Placerita State Park and starts with a trailhead near the nature center.

Golden Valley Road Trail

The 4.5-mile Golden Valley Road Trail is located on Golden Valley Road. Once completed this trail will run north-south from the paseo along the Santa Clara River and eventually lead to Placerita Canyon State Park.

Cliffie Stone Trail (formerly the San Francisquito Creek Trail)

The 7.0-mile Cliffie Stone Trail a public equestrian trail located in San Francisquito Canyon. The trail is located within the Tessero del Valle project site north of Valencia and off of Copper Hill Drive.

Santa Clara River Trail

The 14.5-mile Santa Clara River Trail is a bicycle facility which also accommodates pedestrians and equestrians. The trail is located along the Santa Clara River and once completed will run east-west from the I-5 Freeway through to the Sand Canyon Road Multi-Use Trail. This trail runs directly south of the project site and provides several links to existing and planned trails in the community.

South Fork Trail

The 3.4-mile South Fork Trail is bicycle trail, which runs north-south along the South Fork of the Santa Clara River. The northern end of the trail starts in Newhall from Orchard Village Road and runs south to the Santa Clara River Trail.

Sand Canyon Road Multi-Use Trail

The 3.0-mile Sand Canyon Road Multi-Use Trail accommodates equestrians and pedestrians with split rail fencing. Once completed this trail will run in a north-south direction from the Santa Clara River Trail and south to the Placerita State Park.

County Trails in the City's Planning Area

The County of Los Angeles Department of Parks and Recreation has numerous hiking and riding trails throughout the Los Angeles County, many of which are located within the Santa Clarita planning area. As shown in Table V.M.5-4 there are approximately 41 miles of existing and planned County trails within the City's planning area.

**Table V.M.5-4
Existing and Planned County Trails**

Trail Name	Length (miles)	Condition
Los Pinetos Trail	7.00	Developed
Wilson Canyon Channel Trail	2.00	Developed
William S. Hart Park Trail	2.50	Developed
Pico Canyon Trail	9.00	Proposed
Hasley Canyon Trail	3.40	Partially Built
Castaic Creek Trail	5.00	Proposed
Mint Canyon Trail	3.70	Proposed
Gavin Canyon Trail	8.00	Proposed
Total	40.60	

Source: Email correspondence from James Barber, Park Project Coordinator, County of Los Angeles, Department of Parks and Recreation, November 18, 2004.

Los Pinetos Trail

The 7.0-mile Los Pinetos Trail is an equestrian trail, which is also used for biking. The trail was built to link the City of Santa Clarita trail system with the partially-built Rim of the Valley state trail, by way of the City's Placerita Canyon Trail.

Wilson Canyon Channel Trail

The 2.0-mile Wilson Canyon Channel Trail is located within the Angeles National Forest and is linked to the partially built Rim of the Valley state trail by way of the Los Pinetos trail.

William S. Hart Park Trail

The 2.5-mile William S. Hart Park Trail is a nature hike through William S. Hart Park, which provided views of the Santa Clarita Valley. Separate access is provided for equestrian use.

Pico Canyon Trail

Once completed the proposed 9.0-mile Pico Canyon Trail would start from the intersection of Potrero Canyon and the Santa Clara River and move east along Potrero Canyon eventually connecting to Pico Canyon just west of the I-5 Freeway. The trail would connect at this point to the proposed Gavan Country Trail (discussed below).

Hasley Canyon Trail

The partially completed 3.4-mile Hasley Canyon Trail is an east-west trail from Hasley Canyon to the proposed Castaic Creek Trail. The completed portion of the trail runs through and is adjacent to the Valencia Commerce Center.

Castaic Creek Trail

The 5.0-mile proposed Castaic Creek Trail would meet up with the City's existing Santa Clara River Trail at the intersection of Castaic Creek and the Santa Clara River and lead to the Castaic Lake State and County Recreation Area.

Mint Canyon Trail

The 3.7-mile proposed Mint Canyon Trail, which would run through Vasquez Canyon, would link the Mint Canyon Equestrian Trail to the Bouquet Canyon Equestrian Trail.

Gavin Canyon Trail

The proposed 8.0-mile Gavin Canyon Trail would link the Pico Canyon Trail with the Rim of the Valley Trail.

Regional Trails in the City's Planning Area

Rim of the Valley Corridor/Trail

The proposed Rim of the Valley Corridor, which consists of parts of the Santa Monica Mountains, Santa Susanna Mountains, San Gabriel Mountains, Verdugo Mountains, San Rafael Hills, and adjacent connector areas to the Los Padres and San Bernardino National Forests is located within the Santa Monica Mountains Conservancy Zone. The Corridor was created to form an interlinking system of parks, trails, open space, wildlife habitat, and recreational opportunities within and between the Santa Monica, Santa Susana, and San Gabriel Mountains.⁶⁰ The Corridor consists of both public and private land and would connect to several of the regional trails (previously discussed), which in turn would connect to trails located within the City's planning area.

Pacific Crest National Trail

The Pacific Crest Trail (PCT) is a 2,650-mile national scenic trail that runs from Mexico to Canada through California, Oregon and Washington.⁶¹ The equestrian and hiking trail runs through a portion of the Angeles National Forest, with views of the Antelope Valley area. The proposed Castaic Creek Trail would connect to this existing trail.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G of the State CEQA guidelines a project would adversely impact recreation if it would result in:

XIII. Public Services

- a) 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:

⁶⁰ Los Angeles Mountains, Saddletree Ranch Trailhead, website:
<http://www.lamountains.com/parks.asp?parkid=52>, December 27, 2004.

⁶¹ USDA Forest Service, Angeles National Forest, website: <http://www.fs.fed.us>, December 27, 2004.

- Fire protection?
- Police protection?
- Schools?
- Parks?
- Other public facilities?

XIV. Recreation

- a) An increase in 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;
- b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Additionally, The State of California [California Government Code, Section 66477 (Quimby Act)], and the City of Santa Clarita Unified Development Code Chapter 16.15 have established a standard of three acres per 1,000 population as the proportionate amount of land necessary to satisfy the park requirement for new subdivisions. Fees in-lieu of the dedicated parkland, construction of amenities on dedicated parkland that total less than the standard, but are of equal dollar value to the park fee, or a combination of the three are all considered to satisfy the requirements.

Proposed Project Improvements

Implementation of the Proposed Project would result in the development of 979 new dwelling units with an estimated new residential population of 2,992 persons. There are no existing parks or trails on the project site. The proposed Keystone project would include trails, open space, private fitness facility (YMCA) and a public school (Junior High). The Project Applicant would construct a multi-use trail in the southern portion of the project site (following the Santa Clara River) to the western boundary of the project site. The Project Applicant would provide extension of this trail from the western project boundary to the eastern project boundary of Riverpark project, west of Newhall Ranch Road. Refer to Section IV. Project Description, Figure IV-25, for a conceptual trail plan for The Keystone project.

Open Space

The Santa Clara River runs along the southern boundary of the project site. The project development would occur outside of the River. The open space is divided into natural open space and graded lots.

Natural open space areas total approximately 70 acres and the graded lots total approximately 87 acres. Both the natural open space area and open space graded lots are passive and no recreational uses are proposed. The natural open space river lot (Lot 123), approximately 17 acres, would be dedicated to the City. The graded lots and other natural open space lots would be owned and maintained by the single-family development homeowner association (Lots 1-96) and multi-family homeowner associations (Lots 97-99) and property owner (Lot 100) .

Santa Clara River Area

The dominant land feature in the area is the Santa Clara River. The General Plan designates an SEA Overlay for the entire Santa Clara River watershed, portions of which occur within the project area. The SEA Overlay is used to designate areas of prime biological importance to the City and the Santa Clarita Valley for protection and preservation and to ensure the continued viability of the biological resources contained in the SEA. The SEA Overlay coincides with the 100-year FEMA floodplain. It is the intent of The Keystone project to meet the goals of the SEA overlay; all proposed development including graded open space lots and trails occur north of the floodplain limits of the River. Further discussion concerning the SEA Overlay may be found in Section V.D, Biological Resources.

Trails

The project trail system features the bicycle, equestrian and pedestrian trail system (refer to Section IV. Project Description, Figure IV-25). The trail system has been proposed in accordance to the City of Santa Clarita's Master Trail System. The trail system is intended to provide on-site access to open space areas and connect the living areas, schools and recreational uses and to connect with other nearby shopping, work, entertainment, civic and recreational opportunities of the area.

Multi-Use Trails

The proposed trail plan includes a 25- to 35-foot wide multi-use trail along the southern portion of the project site adjacent to the River (refer to Section IV. Project Description, Figure IV-25). This trail would be a part of the City's Santa Clara River Trail. The Keystone portion of the trail would connect to the easterly end of River Park's trail, west of Newhall Ranch Road and continue east along the Santa Clara River to the project boundary and stop where connections to the trail would be provided in the future.

Bicycle Trails

The multi-use trails outlined above, incorporate Class I, (off-street trails with fully separate travel-way designated exclusively for bicycle and pedestrian use). Bikeways are also located along Golden Valley Road with a connector to the Santa Clara River Trail and from the Proposed Project site to Newhall

Ranch Road. A Class I trail is also proposed from the YMCA site connecting to Newhall Ranch Road. The proposed bikeways and connector route would be maintained by the City of Santa Clarita (refer to Section IV. Project Description, Figure IV-25).

Pedestrian Trails

The proposed Keystone project includes trails designated for pedestrian use only (refer to Section IV. Project Description, Figure IV-25). The intention of these trails is to provide pedestrian access to open space areas within the project site for hiking and recreational use. These trails would be located within a 12-foot wide easement and the pathways would be approximately four feet wide. The Homeowners Association would maintain the proposed pedestrian only trails.

In addition, a trail is proposed on the Junior High School site, which would be used by the school district and the local residents for jogging, walking, etc. The trail would be approximately four feet wide and would be maintained by the William S. Hart School District.

YMCA Facility

A private recreational facility is proposed within the project site. The facility is a YMCA that would consist of an approximately 30,476 square foot community/fitness center to be located south of the proposed junior high school site (please refer to Section IV. Project Description). The facility would include a wellness center/weight room, a community multipurpose room, aerobics multipurpose rooms, locker rooms, main natatorium (in-door swimming pool), instructional therapy natatorium, administrative/reception, and miscellaneous. The facility would include general group fitness/exercise classes. The wellness center is a fitness center that would include selectroized strength equipment, free weights equipment and cardiovascular equipment like treadmills and stairclimbers. The swimming pool and therapy pool are in-door facilities offering swim instruction, water exercise, lap swimming and would be available for youth competition events.

School Site

The approximately 21 acre proposed junior high school site would include courts and fields which would be utilized for active recreational use by the school district and the public. Specifically, the school site would include approximately 10 basketball courts, 12 tennis courts and athletic fields with room for two soccer fields and three baseball fields. As mentioned above under trails, the site would include a four-foot wide dirt pedestrian trail to be used for cross-country jogging, etc. The fields and trail would be maintained by the William S. Hart School district and would be available for public use outside of school activities.

Project Impacts

Short-Term Construction Impacts

During construction the project would not generate a new residential population, therefore no park and recreational impacts would occur (please refer to Section V.L, Population and Housing).

Long-term Operational Related Impacts

The Proposed Project would incorporate recreational uses such as a trail system, which would link to the existing Santa Clara River Trail, a YMCA facility, Junior High School with recreational facilities and approximately 162-acres of open space, which would be owned and maintained by the Homeowners Association.

Impacts to Local Parks and Recreational Facilities

The Proposed Project would increase the local residential population by approximately 2,992 persons (refer to Section V.L. Population and Housing). Based on the estimated new residential population, the Quimby parkland dedication requirements for the Proposed Project are estimated at 8.97 acres.⁶² Although additional parks and recreational opportunities are provided by non-City parks (i.e., County and State Parks, Golf Courses, etc.), without on-site active recreational opportunities, there would be a local deficiency of active recreational opportunities. The recreational facilities needs of the additional residents would not be fully met by existing local facilities and thus, new recreational facilities and opportunities would be needed.

As discussed previously, the City UDC identifies several park and recreation facilities that may be eligible for Quimby credit, including: publicly or privately owned playgrounds, game court areas, swimming pools, picnic areas, and other types of natural or scenic areas that comply with established criteria for active parkland (not including open space). With the approval of the City of Santa Clarita Department of Parks, Recreations and Community Service, Quimby in-lieu credit may be granted, not to exceed 30% of the originally determined fee. The proposed Keystone project includes active recreational facilities for public use, including ball fields and ball courts located at the proposed junior high school site (to be constructed by the Hart District). In addition, each of the four multi-family communities would contain an active recreation area that would include a swimming pool, Jacuzzi, spa, bathroom and shower facilities, a children's play area, family picnic area with bar-b-ques, sunning decks and a trellised area. The four on-site recreation areas would total approximately 1.86 acres

⁶² Acre per capita (equivalent of three acres per 1,000 persons) per Quimby Act.

However the project is required to pay Quimby fees to offset impacts to parks and recreational facilities.

An area of open space and a system of trails is proposed as part of the project. Additionally, the school site would include courts and fields which would be utilized for active recreational use by the school district and potentially, the public. The Proposed Project would also include dedication of bicycle pathways along Golden Valley Road and extension of the Santa Clara River Trail (multi-use trail) to the City of Santa Clarita.

The Proposed Project would bring in a new permanent residential population that would use off-site facilities such as local and regional parks and trails. Therefore, the project developer would be required to pay Quimby fees to the City to satisfy the obligations under the City Ordinance and Quimby Act. To offset some of the required Quimby fees, the City of Santa Clarita Department of Parks, Recreations and Community Service, at their sole discretion, could determine to allow in-lieu credit not to exceed 30% of the originally determined fees, based on recreational facilities provided by the Proposed Project. The subsequent payment of the remaining required Quimby fees would then satisfy the need for any new or physically altered parks or recreational facilities in order to maintain current service ratios. Therefore, project impacts on parks and recreational facilities would be less than significant.

Impacts to Regional Parks and Recreational Facilities

The Proposed Project's new permanent population would use Los Angeles County Regional Facilities, such as Castaic Lake. However, no significant regional parkland impacts are expected as new project populations local recreational needs would be provided by the Proposed Project. Therefore, through providing private recreation areas (YMCA and four multi-family community recreation centers), public ball fields, tennis courts, basketball courts and multi-use trails, the Proposed Project would help alleviate the existing Countywide shortage of parkland because facilities throughout the County serve all communities. Therefore, no significant regional impacts would occur.

Impacts to State and Federal Parks and Recreational Facilities

New residents would use the local, state, and federal recreation areas and forests. Therefore, the increased usage would be considered an impact.⁶³ However, the State and Federal Forest facilities charge fees for several of the recreational activities located within these areas, such as, water sports and

⁶³ Email correspondence from James Barber, Park Project Coordinator, County of Los Angeles, Department of Parks and Recreation, November 18, 2004.

overnight camping at the reservoirs and camping areas. Additionally, state and federal taxes, which would be paid by residents and businesses located within the Proposed Project site, would be available for maintenance of these facilities. Therefore, no significant state or federal parkland impacts would occur.

Code Requirement

As discussed previously, section 66477 of the State Government Code (referred to as the Quimby Act) allows cities and counties to require, as a condition of approval of a subdivision, the dedication of land or the payment of a fee in lieu of dedication, or a combination of both, for park or recreational purposes at a standard of three acres per 1,000 residents. The Proposed Project would meet the City parkland requirements by payment of in-lieu fees as approved by the Director of Parks, Recreation and Community Services, prior to the issuance of building permits.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet

List of Related Projects

Map No.	Project Name	Project Location	Description
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

New development within the City of Santa Clarita and Los Angeles County will continue to increase the demand placed on City, County state and federal agencies for parks and recreation facilities. Development of the Proposed Project along with the 12 related projects would increase the local residential population by approximately 21,789 persons (refer to Section V.L. Population and Housing). Based on this estimated new residential population, the Quimby parkland dedication requirements for cumulative development would be approximately 65 acres.⁶⁴

However, in accordance with CEQA Guidelines Section 13130(a)(3), the Proposed Project's contribution to the cumulative impacts on parks and recreational facilities would not be cumulatively considerable because the project developer would (1) provide onsite recreational facilities and preserved open space and (2) to the extent that such facilities and open space are insufficient to satisfy fully the project developer's Quimby Act obligations, pay Quimby fees. The satisfaction of the Quimby Act requirements would constitute the project's fair share of mitigation designed to alleviate the cumulative impact on parks and recreational facilities.⁶⁵ Therefore, cumulative impacts of the Proposed Project in

⁶⁴ Acre per capita (equivalent of three acres per 1,000 persons) per Quimby Act.

⁶⁵ CEQA Guidelines Section 13130(a)(3) states: "An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact...."

combination with the related projects would not be cumulatively considerable and impacts would be less than significant.

MITIGATION MEASURES

Project Mitigation Measures

M.5-1 Developer shall construct all trails (within the Proposed Project site and off-site to the west) and shall be in accordance with the City of Santa Clarita Department of Parks, Recreation and Community Services trail system standards.

Cumulative Mitigation Measures

No cumulative impacts identified, and thus no cumulative mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

The project would be subject to the requirements of the Quimby Act and pay all required fees. In addition, the Project Applicant would be providing trails and Mitigation Measure M.5-1 would require the developer to construct all trails in accordance to City of Santa Clarita standards. With the implementation of the Mitigation Measure M.5-1, project impacts to parks and recreation would be less-than-significant.

Cumulative

All development projects would be subject to review by the City of Santa Clarita and pay Quimby fees accordingly. No cumulative impacts were identified and thus no cumulative mitigation measures were required and cumulative impacts would be less than significant.

V. ENVIRONMENTAL IMPACT ANALYSIS

N. UTILITIES

1. WATER

INTRODUCTION

This section addresses the potential environmental impacts associated with the provision of water to the Proposed Project. In accordance with Sections 10910-10915 of the State Water Code, a Water Supply Assessment was conducted for the Proposed Project. The Water Supply Assessment for the Proposed Project is discussed in detail below, and is attached as Appendix 10 to this Draft EIR.

ENVIRONMENTAL SETTING

Physical Conditions

Regional Climate

The climate in the Santa Clarita Valley is characterized as semi-arid and warm. Temperatures in the summer months can reach up to approximately 110 degrees Fahrenheit, and temperatures in the winter months can drop to approximately 20 degrees Fahrenheit. Average annual rainfall is approximately 18 inches in the flat-lying areas and approximately 27 inches in the mountainous areas. The region is subject to wide variations in precipitation.¹

Regional Geology and Hydrology

The project site is located in the 103-square-mile Santa Clara River Valley Groundwater East Subbasin (see Figure V.N.1-1), which is bounded by the Piru Mountains to the north, the Modelo and Saugus Formations and alluvium to the west, the Santa Susana Mountains to the south, and the Gabriel Mountains to the southeast. The subbasin is drained by the Santa Clara River, Bouquet Creek, and Castaic Creek.²

¹ Castaic Lake Water Agency, *Urban Water Management Plan 2000*, page 1-6.

² California Department of Water Resources, *California Groundwater Bulletin 118, Hydrologic Region South Coast, Santa Clara River Valley Groundwater Basin, February 27, 2004.*

In the Santa Clara River Valley, groundwater is found in alluvium, terrace deposits, and the Saugus Formation. Generally, groundwater in the subbasin is unconfined in the alluvium (i.e., Alluvial Aquifer), but may be confined, semi-confined, or unconfined in the Saugus Formation.³

Groundwater levels in the alluvium were relatively stable from 1970 through 2000, with varying depths to groundwater from approximately 13 to 100 feet depending on the location within the subbasin. Water levels tend to follow long-term precipitation patterns by dropping in period of low rainfall and recovering during periods of high rainfall. Groundwater levels in the Saugus Formation were also constant between 1970 and 2000. Groundwater flow in the subbasin is southward and westward, following the course of the Santa Clara River.⁴

Aquifer Recharge

The Alluvial Aquifer is recharged chiefly by infiltration of runoff in the Santa Clara River and its tributaries, with additional natural recharge from precipitation to the valley floor and subsurface flow. Recharge is also attributed to excess irrigation water that is used in urban landscaping and reclaimed water discharged into the Santa Clara River. From the sands and gravels beneath the Santa Clara River, water is pumped from relatively shallow wells (up to 200 feet in depth). The Alluvial Aquifer is estimated to store over 200,000 acre-feet of water.⁵

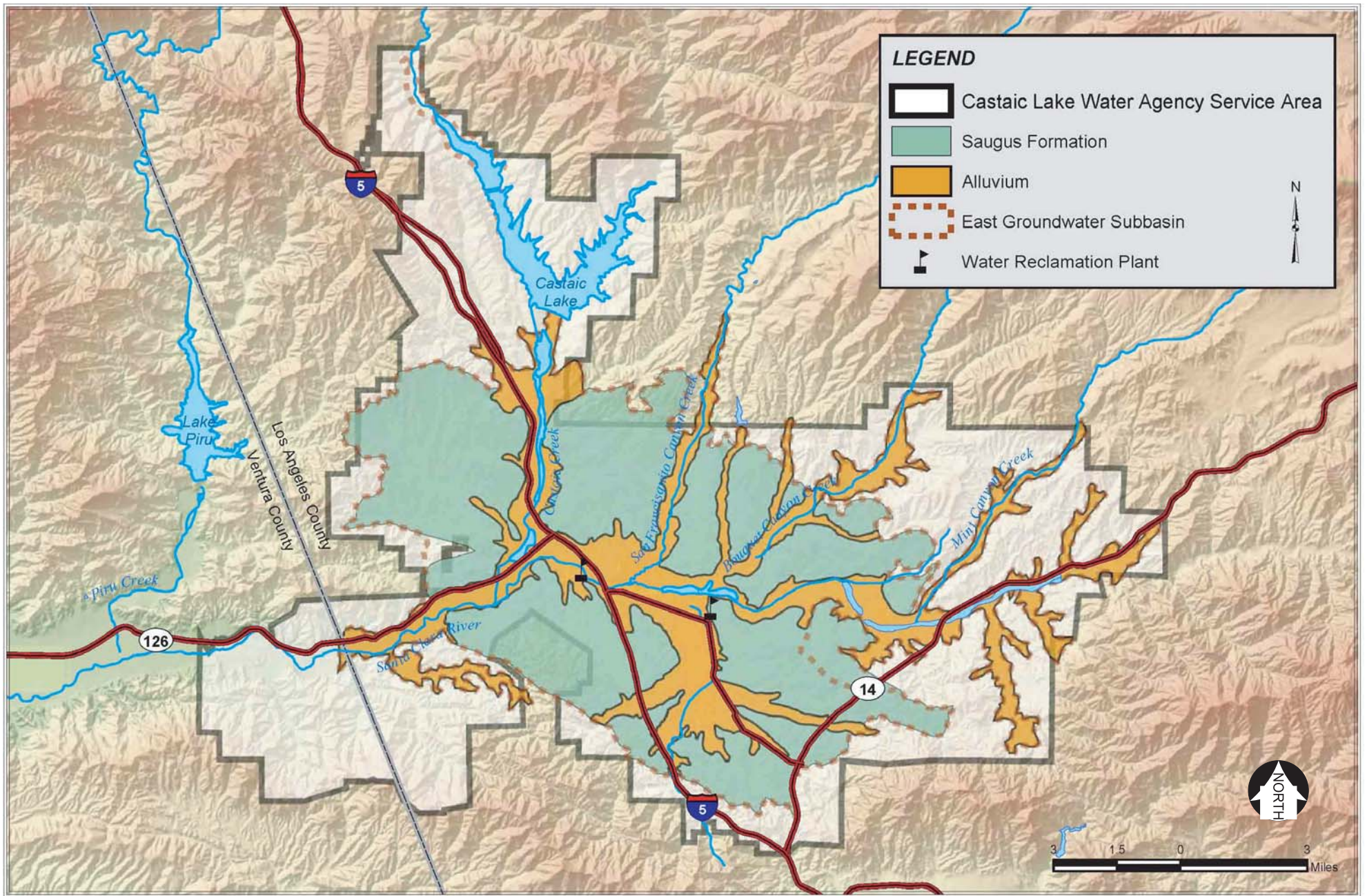
Beneath the Alluvial Aquifer, the Saugus Formation is a deeper layer of groundwater. Recharge to the Saugus Formation is from precipitation on the exposed formation and percolation of water from the alluvial aquifer. It is estimated that the Saugus Formation stores about one million acre-feet of water and is pumped by wells extending to about 2,000 feet in depth.⁶ Water is discharged through pumping for municipal irrigation, consumption by vegetation, and outflow to the Santa Clara River.

³ *Ibid.*

⁴ *Ibid.*

⁵ *Castaic Lake Water Agency, Urban Water Management Plan 2000, page 1-12*

⁶ *Ibid.*



Source: Castaic Lake Water Agency, 2000 Urban Water Management Plan, January 2005.



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Figure V.N.1-1
Alluvial and Saugus Formations
Santa Clara River Valley East Groundwater Subbasin

Local Geology and Hydrology

Groundwater beneath the project site is found in the recent alluvium (i.e., Alluvial Aquifer), and perched above the Saugus Formation and the Quaternary Terrace Deposits. Detailed information regarding the geology of the project site is presented in Section V.F, Geology and Soils, of this Draft EIR. Detailed information regarding the hydrology of the project site is presented in Section V.H, Hydrology and Water Quality, of this Draft EIR.

Cyclic Drought Conditions

Local droughts in the Santa Clarita Valley historically have resulted in short-term increased water demand, short-term increased groundwater pumping, and short-term decreased recharge to the local groundwater system.

Statewide drought affects water availability in the SWP system, and ultimately deliveries from the State Water Project (SWP) system. Droughts have occurred locally in 1947-1950, 1958-1960 and 1990-1991. Recent Statewide droughts have occurred in 1976-1977 and 1987-1992.⁷ Since the area's water supplies are dependent on rainfall conditions both locally and Statewide, it is important to note that wet and dry year conditions do not occur at the same time in Northern and Southern California. As a result, the water purveyors in Santa Clarita Valley are able to adjust the mix of available water resources on a year-to-year basis in response to local and Statewide hydrologic conditions.

Prior to 1990-1991, Statewide drought conditions had a minimal impact upon the Santa Clarita Valley, other than requiring additional water supply to compensate for the lack of spring rainfall for irrigation (e.g., crops, lawns and gardens). In 1990-1991, however, for the first time, Statewide drought conditions caused cutbacks in imported SWP supplies in the Santa Clarita Valley. Water production also declined in some wells operating in the shallow, outlying reaches of the Alluvial Aquifer. However, because Santa Clarita Water Division's (SCWD) alluvial wells are located in the major water bearing reaches of the aquifer, none of SCWD's alluvial wells experienced loss of production during 1990-1991. In addition to the alluvial groundwater supplies, the water purveyors in Santa Clarita Valley pumped more water from the Saugus Formation in 1990-1991, and requested that their

⁷ *The 1987-1992 drought was notable for its six-year duration. Statewide reservoir storage was about 40 percent of average by the third year of the drought. The SWP met contractors' delivery requests during the first four years of the drought, but then was forced by declining reservoir storage to reduce deliveries substantially. The SWP terminated deliveries to agricultural contractors and provided about 30 percent of requested urban deliveries in 1991, the single driest year of the drought. A 1991 Governor's executive order resulted in implementation of a State drought water bank. (Critical Water Shortage Contingency Plan, Governor's Advisory Drought Planning Panel, December 29, 2000.)*

customers voluntarily conserve water by 10 percent. Actual water use in the valley decreased more than 10 percent as a direct result of water conservation efforts.

Due to the steps taken by the local purveyors, water demands in the Santa Clarita Valley were met for the duration of the 1990-1991 drought. CLWA also elected not to participate in the State's Drought Water Bank because alternate local supplies were available to meet water demands in the Santa Clarita Valley. In addition, members of the Santa Clarita Valley Water Purveyors signed a Drought Emergency Water Sharing Agreement, agreeing to share water from all sources, and to facilitate beneficial water transfers, exchanges and wheeling arrangements. The purveyors also worked with the City of Santa Clarita and the County of Los Angeles to implement water use ordinances for Santa Clarita Valley residences, review water consumption and supply data and recommend measures to encourage conservation.

Since the 1990-1991 drought, CLWA and the other retail water purveyors have continued to work cooperatively to ensure customer demands are met under varying hydrologic conditions and with overall increasing demands from planned growth. These efforts have included water resource planning activities, acquisition of new water supplies and construction of transmission and treatment facilities. These efforts include the decision by most of the Santa Clarita Valley's water agencies to jointly prepare the Urban Water Management Plan (UWMP). The UWMP describes current and future implementation of water conservation measures (called "Water Demand Management Measures") within the CLWA service area. The UWMP also includes an update to the Santa Clarita Valley's Critical Water Shortage Contingency Plan. The updated plan is based on the water agencies' actual experience in addressing water shortages in the Santa Clarita Valley in 1991 (due to the continuation of the 1990-1991 Statewide drought) and in 1994 (due to the 1994 Northridge earthquake).

Water Use and Planning

Water Purveyors

Castaic Lake Water Agency

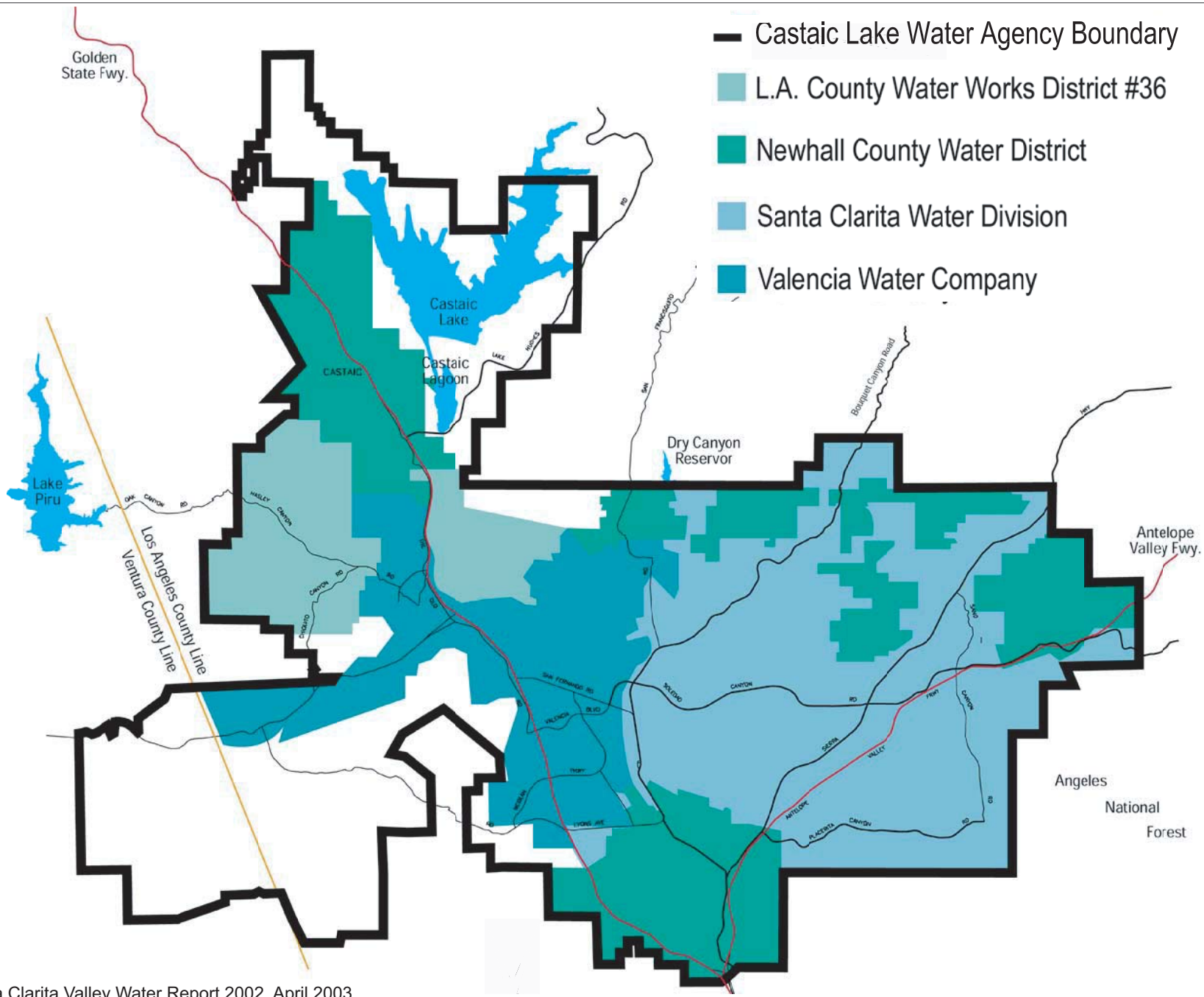
The Castaic Lake Water Agency (CLWA) was formed in 1962 as a wholesale water agency whose purpose it was to contract with the California Department of Water Resources (DWR) to provide supplemental water supply from the State Water Project (SWP) to retail water purveyors in the Santa Clarita Valley. CLWA obtains SWP water from the upper reservoir in Castaic Lake. CLWA serves the City of Santa Clarita, the unincorporated Santa Clarita Valley in Los Angeles County, and portions of unincorporated Ventura County. The CLWA service area encompasses approximately 195 square miles.

Retail Purveyors

The CLWA and the following four retail water purveyors provide water to most residents in the Santa Clarita Valley.

- **Los Angeles County Waterworks District 36.** The Los Angeles County Waterworks District 36 (the “District”) service area encompasses approximately 7,635 acres in the Hasley Canyon area and the unincorporated community of Val Verde. The District obtains all of its water supply from the CLWA, and does not have any currently operating groundwater extraction facilities.
- **Newhall County Water District.** The Newhall County Water District (NCWD) service area includes Newhall, Pinetree, Tesoro Del Valle, and Castaic. The NCWD has service connections that extend over a 35-square-mile area. The NCWD obtains all of its water supply from groundwater wells and SWP water from the CLWA.
- **Santa Clarita Water Division.** The CLWA’s Santa Clarita Water Division (SCWD) service area includes portions of the City of Santa Clarita and portions of the unincorporated communities of Saugus, Canyon Country, and Newhall. The SCWD obtains all of its water supply from the CLWA. The SCWD would be the water purveyor for the Proposed Project.
- **Valencia Water Company.** The Valencia Water Company (VWC) service area encompasses approximately 25 square miles and includes a portion of the City of Santa Clarita and portions of the unincorporated communities of Castaic, Stevenson Ranch, and Valencia. The VWC obtains all of its water supply from groundwater wells and SWP water from the CLWA.

The CLWA and the retail water purveyors’ service areas are illustrated in Figure V.N.1-2.



Source: Santa Clarita Valley Water Report 2002, April 2003.



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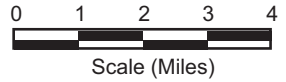


Figure V.N-2
 CLWA and Purveyors' Service Areas

Water Supply Facilities and Water Treatment Facilities

CLWA's water treatment facilities include the Earl Schmidt Filtration Plant and the Rio Vista Water Treatment Plant. The Earl Schmidt Filtration Plant has a capacity of 33 million gallons per day (gpd) of water, and the Rio Vista Water Treatment Plant has a capacity of 30 million gpd of water. The Earl Schmidt Filtration Plant is currently being expanded to a capacity of approximately 56 million gpd by Spring-2005.⁸

From CLWA's two water treatment facilities, water is distributed by gravity to the retail water purveyors through a network of pipelines and turnouts. Local water retailers combine this water with groundwater from municipal supply wells in the Alluvial Aquifer and the Saugus Formation.

With respect to water supply facilities, the four retail water purveyors service nearly 62,000 connections in the Santa Clarita Valley in 2003. Table V.N.1-1 lists the connections by water purveyor.

Table V.N.1-1
Santa Clarita Valley Water Connections

Retail Water Purveyor	Connections
Santa Clarita Water Division of CLWA	25,175
Los Angeles County Waterworks District 36	1,280
Newhall County Water District	8,650
Valencia Water Company	26,810
Total	61,915
<i>Source: Castaic Lake Water Agency, Groundwater Perchlorate Contamination Amendment and Other Amendments 2000 Urban Water Management Plan, January 2005.</i>	

Existing Water Supplies and Demand

CLWA is currently allocated 95,200 acre-feet (i.e., approximately 31,021 million gallons⁹) of water per year. In addition, the CLWA annually receives approximately 30,000 to 40,000 acre-feet of water from the Alluvial Aquifer and approximately 4,000 to 5,000 acre-feet of water from the Saugus Formation.¹⁰ Although historical pumping from the Saugus Formation has ranged as high as 15,000

⁸ Castaic Lake Water Agency, *Castaic Lake Water Agency FY 2004/05 Budget, July 1, 2004, page 5.*

⁹ One acre-foot is 325,851 gallons.

¹⁰ Castaic Lake Water Agency, *Groundwater Perchlorate Contamination Amendment and Other Amendments, 2000 Urban Water Management Plan, January 2005, page 1-4.*

acre-feet per year, the combination of recent perchlorate contamination (see Water Quality discussion below regarding perchlorate contamination) and planned use of this aquifer primarily for dry-year water supply has resulted in less pumping.

CLWA's allocation to the retail water purveyors is based on a "first come, first served" method. The CLWA distributes imported water supplies to the water service areas in a way that allows imported water to be delivered to the areas where it is needed. Developer impact fees and other types of contributions that fund CLWA's Capital Program are collected within each water service area and paid to the CLWA. However, historically, the CLWA has not been required to allocate water to the retail purveyors using this method because the available water supply has been more than sufficient to meet the purveyors' requests.

Water Quality

Although the overall quality of groundwater in the Santa Clarita Valley is considered to be good, ammonium perchlorate ("perchlorate") was discovered in 1997 in four groundwater wells in the Saugus Formation at a site formerly occupied by a local industry (i.e., the Whittaker-Bermite site). These four wells were immediately shut down. These four wells have a combined capacity of 9,000 gallons per minute, which represents approximately 14,500 acre-feet per year.¹¹ Subsequently, in November 2002, perchlorate was detected in a single Alluvial Aquifer well adjacent to the Whittaker-Bermite site (near the Saugus Speedway), which was immediately closed. In March 2005, perchlorate was detected in another Alluvial Aquifer well (known as "Q2") located immediately northwest of the confluence of Bouquet Creek and the Santa Clara River, which was immediately closed.¹²

Perchlorate is an inorganic chemical that is used in solid rocket propellants, fireworks, and explosives. Perchlorate can interfere with the ability of the thyroid gland to utilize iodine which produces thyroid hormones. Thyroid hormones are needed for normal prenatal and postnatal growth and development in children, and for normal metabolic function in adults.¹³

In the case of the Whittaker Bermite site, this 988.6-acre industrial site was used for approximately 80 years as a military flare and munitions manufacturing facility. As a result, the site was contaminated with various chemical compounds, including perchlorate which traveled downward into the

¹¹ *Ibid.*

¹² *Valencia Water Company, Impact and Response to Perchlorate Contamination Valencia Water Company Well Q2, prepared by Ludhorff & Scalmanini Consulting Engineers, April 2005.*

¹³ *Castaic Lake Water Agency, Perchlorate Information, website: http://www.clwa.org/perchlorate_information.htm, December 21, 2004.*

groundwater and, thus, into the local drinking water supply.¹⁴

As perchlorate dissolves easily in water, it presents health concerns and the California Office of Environmental Health Hazard Assessment (OEHHA) has proposed a Public Health Goal for the amount of perchlorate in drinking water. OEHHA's suggests a range of two to six micrograms per liter. In addition, the California Department of Health Services (DHS) was required to adopt a Maximum Contaminant Level (MCL) for perchlorate by January 1, 2004. However, this date has been extended into 2005, and there is presently no drinking water standard, or MCL, for perchlorate. The current perchlorate advisory action level is six micrograms per liter, which is not an enforceable standard.¹⁵

In November 2002, the State Department of Toxic Substances Control (DTSC) issued an Order that required Whittaker to complete all site investigations and feasibility studies for all contaminants of concern expeditiously. In response to DTSC's Order, a substantial amount of cleanup work has occurred since December 2002. In summary, recent activities included:

- Additional remedial investigations, including soil samples, borings, exploratory trenching and groundwater monitoring wells;
- Feasibility reports, treatability studies and pilot tests; and
- Remedial action plans.

In addition, in September 2004, a State appellate court invalidated the Santa Clarita Valley UWMP because the plan did not "assess the reliability of the water supply obtained from two layers of an aquifer contaminated with perchlorate."¹⁶ The court concluded that the UWMP's description of the contaminated groundwater was inadequate because it did not (1) address the time needed to treat the contaminated groundwater and (2) describe the reliability of the groundwater supply during the cleanup process. As a result, the CLWA prepared an amendment to their 2000 UWMP ("2000 UWMP Amendment") to address the concerns raised by the court.¹⁷ However, the 2000 UWMP Amendment

¹⁴ *City of Santa Clarita, Whittaker-Bermite Property Clean-Up Information Page, website: <http://www.santa-clarita.com/cityhall/ped/planning/bermite.asp>, December 28, 2004.*

¹⁵ *Castaic Lake Water Agency, Groundwater Perchlorate Contamination Amendment and Other Amendments, 2000 Urban Water Management Plan, January 2005, page 2-24.*

¹⁶ *Friends of the Santa Clara River et al. v. Castaic Lake Water Agency, filed September 22, 2004.*

¹⁷ *Castaic Lake Water Agency, Groundwater Perchlorate Contamination Amendment and Other Amendments, 2000 Urban Water Management Plan, January 2005.*

was prepared prior to the detention of perchlorate in Well Q2, as discussed above. To address the contamination of Well Q2, the VWC prepared "Impact and Response to Perchlorate Contamination Valencia Water Company Well Q2."¹⁸ Furthermore, a 2005 UWMP is currently being prepared and is expected to be completed in mid-2005, which will update both the 2000 UWMP and the 2000 UWMP Amendment.

Re-estimated Water Supplies and Demand

2000 UWMP Amendment

The 2000 UWMP Amendment addresses the amount of water supply available while planning, design, and construction of treatment and other restoration activities are being implemented, as well as long-term water supply. As such, the 2000 UWMP Amendment presents the following two sets of operational scenarios: (1) near-term conditions (2005-2007) to include the transition of local groundwater supplies from impacted to restored and (2) long-term conditions (through 2020) through the end of the planning horizon. The estimated water supply and demand for the near-term and long-term operational scenarios during an average/normal water year is presented in Table V.N.1-2 and Table V.N.1-3, respectively, below. As shown in both tables, the combination of existing and planned water supplies will be able to meet projected water demand in an average/normal water year.

**Table V.N.1-2
Water Supply and Demand -Near-Term Operational Scenario
Average/Normal Water Year (acre-feet)**

Existing Water Supply	2005	2006	2007
Local Supplies			
Alluvial Aquifer	35,000	35,000	35,000
Saugus Formation	5,000	5,000	9,000
Recycled Water	700	1,000	1,300
Imported Supplies			
SWP Table A Amount	41,000	42,380	39,760
Draw From Short-Term Semitropic Bank Account	0	0	0
Draw From Flexible Storage Account	0	0	0
Total Existing Supply	81,700	83,380	85,060
Estimated Demand (without conservation)	81,700	83,380	85,060
<i>Source: Castaic Lake Water Agency, 2000 Urban Water Management Plan, January 2005, Table 4-1.</i>			

¹⁸ Valencia Water Company, *Impact and Response to Perchlorate Contamination Valencia Water Company Well Q2*, prepared by Ludhorff & Scalmanini Consulting Engineers, April 2005.

**Table V.N.1-3
Water Supply and Demand - Long-Term Operational Scenario
Average/Normal Water Year (acre-feet)**

Existing Water Supply	2005	2010	2015	2020
Local Supplies				
Alluvial Aquifer	35,000	35,000	35,000	35,000
Saugus Formation	5,000	11,000	11,000	11,000
Recycled Water	700	1,700	1,700	1,700
Imported Supplies				
SWP Table A Amount	41,000	56,800	56,800	56,800
Draw From Short-Term Semitropic Bank Account	0	0	0	0
Draw From Flexible Storage Account	0	0	0	0
Total Existing Supply	81,700	104,500	104,500	104,500
Planned Water Supply	2005	2010	2015	2020
Local Supplies				
Recycled Water	0	7300	12,300	15,300
Imported Supplies				
Draw From Long-Term Water Banking Programs	0	0	0	0
Total Planned Supply	0	7,300	12,300	15,300
Total Supply (Existing plus Planned)	81,700	111,800	116,800	119,800
Estimated Demand (Without Conservation)	81,700	90,100	100,700	113,100

Source: Castaic Lake Water Agency, 2000 Urban Water Management Plan, January 2005, Table 4-3.

With respect to a dry year and multiple-dry year, as shown in Table V.N.1-4 and Table V.N.1-5, the existing and planned supplies would meet projected demands in both near-term and long-term conditions. As shown in both tables, the combination of existing and planned water supplies will be able to meet projected water demand in a single-dry year and multiple-dry water years.

**Table V.N.1-4
Water Supply and Demand - Near-Term Operational Scenario
Single Dry Year and Multiple-Dry Year (acre-feet)**

Existing Water Supply	Single Dry Year	Multiple Dry Years		
	2005	2005	2006	2007
Local Supplies				
Alluvial Aquifer	32,500	32,500	32,500	32,500
Saugus Formation	5,000	5,000	5,000	11,000
Recycled Water	700	700	1,000	1,300
Imported Supplies				
SWP Table A Amount	37,940	37,900	37,900	37,900
Draw From Short-Term Semitropic Bank Account	916	4,039	5,419	2,360

**Table V.N.1-4
Water Supply and Demand - Near-Term Operational Scenario
Single Dry Year and Multiple-Dry Year (acre-feet)**

Existing Water Supply	Single Dry Year	Multiple Dry Years		
	2005	2005	2006	2007
Draw From Flexible Storage Account	4,684	1,561	1,561	0
Total Existing Supply	81,700	81,700	83,380	85,060
Estimated Demand (without conservation)	81,700	81,700	83,380	85,060

Source: Castaic Lake Water Agency, 2000 Urban Water Management Plan, January 2005, Table 4-2.

**Table V.N.1-5
Water Supply and Demand - Long-Term Operational Scenario
Single Dry Year and Multiple-Dry Year (acre-feet)**

Existing Water Supply	Single Dry Year	Multiple Dry Years		
	2010	2018	2019	2020
Local Supplies				
Alluvial Aquifer	32,500	32,500	32,500	32,500
Saugus Formation	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700
Imported Supplies				
SWP Table A Amount	37,900	37,900	37,900	37,900
Draw From Short-Term Semitropic Bank Account (through 2013)	17,500	0	0	0
Draw From Flexible Storage Account	4,684	1,561	1,561	1,561
Total Existing Supply	109,284	88,661	88,661	88,661
Local Supplies				
Restored Contaminated Wells	10,000	10,000	10,000	10,000
New Saugus Wells	0	0	0	10,000
Recycled Water	7,300	12,300	12,300	15,300
Imported Supplies				
Draw From Long-Term Water Banking Programs	20,000	13,000	13,000	13,000
Total Planned Supply	37,300	35,300	35,300	48,300
Total Supply (Existing plus Planned)	146,584	123,961	123,961	136,961
Estimated Demand (Without Conservation)	90,100	108,140	110,620	113,100

Source: Castaic Lake Water Agency, 2000 Urban Water Management Plan, January 2005, Table 4-4.

Effect of Perchlorate Contamination in Well Q2 on Water Supply

As discussed above, perchlorate was detected in Well Q2 in March 2005. As a result of the detection of perchlorate in Well Q2, the VWC has removed it from active service and is pursuing rapid permitting and installation of wellhead treatment in order to return the well to water supply service. It is anticipated that the permitting and installation of wellhead treatment can be accomplished by mid-summer 2005, in advance of the peak water demand season. Nonetheless, the VWC assessed the effect of the removal of this well on its overall water supply until the proposed treatment is in place and the well is returned to service.¹⁹

The temporary closure of Well Q2 represents a reduction of 1,200 gallons per minute (gpm) of source capacity. With that closure, VWC would still operate 19 wells, including four wells in the Alluvial Aquifer and five wells in the Saugus Formation. The combined pumping capacity of the 14 wells in the Alluvial Aquifer is slightly greater than 20,000 gpm, and the combined pumping capacity of the five wells in the Saugus Formation is slightly greater than 10,000 gpm. Therefore, the combined source capacity of VWC's active wells, after the temporary closure of Well Q2, and its CLWA turnouts is approximately 57,000 gpm.²⁰

With a total source capacity of approximately 57,000 gpm, with the temporary closure of Well Q2, the VWC has sufficient source capacity to meet its maximum day demand of 32,500 gpm with allowance for potential outage at one or more individual wells or treated surface water connections. Furthermore, the VWC has sufficient surplus source capacity to meet future increases in maximum day demand with existing sources, to be increased by returning Well Q2 to service after installation of treatment.²¹ Therefore, considering that Well Q2 would be returned to service prior to the implementation of the Proposed Project, the temporary closure of Well Q2 would not alter the assessment of overall water supply presented in the 2000 UWMP Amendment or in the Water Supply Assessment, as described below. Furthermore, as discussed above, it is anticipated that the SCWD would be the water purveyor for the Proposed Project, not the VWC.

Reclaimed Water Supplies and Demand

Water reclamation is the process of treatment and cleaning of wastewater so that it can be reused for non-potable purposes (e.g., landscaping, industrial processes, and groundwater replenishment). Under

¹⁹ *Ibid.*

²⁰ *Ibid.*

²¹ *Ibid.*

certain conditions, the State requires the use of reclaimed water when it is available. Section 65602 of the California Government Codes states the following:

- (a) *The waters of the state are of limited supply and are subject to ever-increasing demands.*
- (b) *The continuation of California's economic prosperity is dependent on adequate supplies of water being available for future uses.*
- (c) *It is the policy of the state to promote the efficient use of water through the development of water recycling facilities.*
- (d) *Landscape design, installation, and maintenance can and should be water efficient.*
- (e) *The use of potable domestic water for landscaped areas is considered a waste or unreasonable use of water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available that meets the conditions described in Section 13550 of the Water Code.*

The Sanitation Districts of Los Angeles County operate two water reclamation plants that treat wastewater in the Santa Clarita Valley, the Saugus Water Reclamation Plant (SWRP) and the Valencia Water Reclamation Plant (VWRP). The SWRP provides primary, secondary, and tertiary treatment for seven million gallons of wastewater per day²² (2,555 million gallons per year). In Fiscal Year 2001-02 (the most recent data available), the SWRP reclaimed approximately 6,162 acre-feet of water²³ (2,008 million gallons). In addition, the VWRP provides primary, secondary, and tertiary treatment for 11 million gallons of wastewater per day²⁴ (4,015 million gallons per year). In Fiscal Year 2001-02, the VWRP reclaimed approximately 13,186 acre-feet of water²⁵ (4,297 million gallons). As of 2003, it was

²² Sanitation Districts of Los Angeles County, Saugus Water Reclamation Plant, website: <http://www.lacsd.org/waswater/wrp/saugus.htm>, December 23, 2004.

²³ Sanitation Districts of Los Angeles County, Water Reuse Summary for Fiscal Year 2001-2002, website: <http://www.lacsd.org/waswater/webreuse/refy0002.htm>, December 23, 2004.

²⁴ Sanitation Districts of Los Angeles County, Valencia Water Reclamation Plant, website: <http://www.lacsd.org/waswater/wrp/valencia.htm>, December 23, 2004.

²⁵ Sanitation Districts of Los Angeles County, Water Reuse Summary for Fiscal Year 2001-2002, website: <http://www.lacsd.org/waswater/webreuse/refy0002.htm>, December 23, 2004.

anticipated that the CLWA will deliver approximately 1,700 acre-feet (554 million gallons) of reclaimed water annually.²⁶

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, a project would have a significant impact if it would:

- 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;
- d) Have insufficient supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;

Project Impacts

The Proposed Project includes the development of 979 residential units, comprised of 96 single-family residences, 216 apartments, and 667 condominiums. A junior high school, a YMCA recreational facility, trails, and open space (debris basins, graded lots, and natural open space lots) are also included with the Proposed Project. A 41-foot high entry monument with a 16-foot high water feature is proposed at the entrance to the project site. Section IV, Project Description, of this Draft EIR provides a detailed discussion of the characteristics of the Proposed Project.

Water Supply Assessment

In 2001, the California State Legislature approved Senate Bill 610, which amended Sections 10910-10915 of the State Water Code to require:

...a city or county that determines a project is subject to the California Environmental Quality Act to identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water supply assessment, except as otherwise specified. The bill would require the assessment to include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water

²⁶ Castaic Lake Water Agency, Los Angeles County Waterworks District # 36, Newhall County Water District, and Valencia Water Company, Santa Clarita Valley Water Report 2002, April 2003, page 28.

supply for the Proposed Project and water received in prior years pursuant to those entitlements, rights, and contracts. The bill would require the city or county, if it is not able to identify any public water system that may supply water for the project, to prepare the water supply assessment after a prescribed consultation. The bill would revise the definition of "project," for the purposes of these provisions, and make related changes.²⁷

Section 10912(a) of the State Water Code defines a "project" for purposes of determining whether a Water Supply Assessment would be required as:

- (1) A proposed residential development of more than 500 dwelling units.*
- (2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.*
- (3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.*
- (4) A proposed hotel or motel, or both, having more than 500 rooms.*
- (5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.*
- (6) A mixed-use project that includes one or more of the projects specified in this subdivision.*
- (7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.*

As the Proposed Project includes the development of 979 residential units, a Water Supply Assessment was sought from the CLWA. The Water Supply Assessment for the Proposed Project is included as Appendix 10 to this Draft EIR. In its Water Supply Assessment, the CLWA concluded that the water demand generated by the Proposed Project falls within the available and projected water supplies for normal, single-dry, and multiple-dry years through 2020 (see Table V.N.1-6), and within the 20-year water demand growth projected in CLWA's 2000 UWMP, as amended. As a result, the CLWA found that it would be able to meet the water demand of the Proposed Project, in addition to existing and planned future demands of the water system.

²⁷ *Senate Bill 610, Legislative Counsel's Digest.*

**Table V.N.1-6
Existing and Planned Water Supplies Through 2020
(acre-feet)**

	Available During		Available During Single Dry Year	Available During Each of Three Consecutive Dry Years
	Average Year	Wet Year		
Existing Water Supplies (2004)				
Local Supplies				
Alluvial Aquifer	35,000	40,000	32,500	32,500
Saugus Formation	11,000	11,000	15,000	24,000
Recycled Water	1,700	1,700	1,700	1,700
Imported Supplies				
SWP Table A Amount ^a	56,800	95,200	37,900	37,900
Draw From Short-Term Semitropic Bank Account (through 2013)	0	0	50,870	16,950
Draw From Flexible Storage Account	0	0	4,684	1,561
Total Existing Supplies	104,500	147,900	142,654	114,611
Planned Water Supplies (through 2020)				
Local Supplies				
Restored Impacted Wells	--	--	10,000	10,000
New Saugus Wells	0	0	10,000	--
Recycled Water	15,300	15,300	15,300	15,300
Imported Supplies				
Draw From Long-Term Water Banking Programs	0	0	40,000	13,000
Total Planned Supplies	15,300	15,300	75,300	38,300
Total Existing and Planning Supplies Through 2020 (not including Short-Term Semitropic Bank After 2013)	119,800	163,200	167,084	135,961

^a Since the 2000 UWMP was adopted, DWR released its SWP Delivery Reliability Report (May 2003), which analyzes the reliability of SWP supplies. During infrequent dry periods, deliveries are projected to be less than 50 percent, and possibly as low as 19 percent during an unusual single dry year condition that occurs about once every 70 years. During very wet years, full deliveries can be expected. Thus, the amount of water available to CLWA in the worst-case single dry year would be 19 percent of 95,200 af, or 18,088 af. In a worst-case multiple dry-year period, the amount of water available to CLWA in each of those dry years would be 37 percent of 95,200 af, or 35,244 af. The May 2003 DWR report also assumes average year SWP deliveries of 76 percent. This would result in 72,352 af of CLWA's Table A entitlement. The 2005 UWMP will reflect this new information.

For the 2000 UWMP, water supplies reflected in this table are based on SWP reliability as of 2000. Use of the 2003 SWP reliability figures would reduce the existing Single Dry Year and Consecutive Dry Year Table A amounts to 18,088 af and 35,244 af, respectively. The corresponding total existing supplies would be reduced to 122,842 af and 111,955 af, respectively. Total existing and planned supplies in Single Dry and Consecutive Dry Years would be reduced to 147,272 af and 133,305 af, respectively. Assuming 76 percent reliability in the average year, total existing supplies would be 120,052 af and total existing and planned supplies would be 135,352 af.

Source: Castaic Lake Water Agency, Santa Clarita Water Division, SB 610 Water Supply Assessment for The Keystone Project, March 2005.

Proposed Project Water Demand

The Proposed Project's estimated potable water demand is based on water demand factors that have been provided by the CLWA in the Water Supply Assessment. Table V.N.1-7 summarizes the water demand that would be generated with the Proposed Project.

**Table V.N.1-7
Proposed Project Water Demand**

Land Use	Size	Annual Rate	Water Demand (af per year)
Single-Family Residences	96 units	0.80 af / unit	77
Condominiums	667 units	0.24 af / unit	160
Apartments	216 units	0.23 af / unit	50
School	21 acres	3 af / acre	63
YMCA Facility ^a	4 acres	3 af / acre	12
Manufactured Slopes	86 acres	3 af / acre	258
Water Feature ^b	16 feet high	N/A	N/A
Total	--	--	620
<p><i>Note:</i> af = acre-feet</p> <p>^a The proposed YMCA Facility is categorized as "Parks" in Table 1 of the Water Supply Assessment.</p> <p>^b The water feature would be supplied with 2,500 gallons of water when it is first constructed. Then, the water would be re-circulated through a looped water system.</p> <p>Source: Castaic Lake Water Agency Santa Clarita Water Division, SB 610 Water Supply Assessment for The Keystone Project, March 2005, page 5; and Christopher A. Joseph & Associates, 2005.</p>			

As shown in Table V.N.1-7, the Proposed Project would generate a demand for approximately 620 acre-feet of water per year. This water would be delivered to the Proposed Project by a system of water lines that would be installed within the proposed roadways.

Existing Conditions Plus Project Water Demand

As shown in Tables V.N.1-2, V.N.1-3, and V.N.1-4, the existing water demand in the Santa Clarita Valley is approximately 81,700 acre-feet per year. When combined with the Proposed Project's demand of 620 acre-feet per year, the total water demand in the Santa Clarita Valley would be approximately 82,320 acre-feet per year.

According to the Water Supply Assessment for the Proposed Project, the project's estimated water demand (as indicated in Table V.N.1-7) was accounted for in the 2000 UWMP, as amended. The Water Supply Assessment states the following:²⁸

The timing of the project places it within the timeframe for calculating 'planned future uses' within the 2020 water supply projection included in the 2000 UWMP.... The 2000 UWMP assumes an average growth rate of 2,240 connections per year based on the average growth rate that occurred during the 1990s. The Keystone project would add approximately 331 residential connections, which is less than the annual average anticipated by the 2000 UWMP and is, therefore, considered to be accounted for in this plan.

The Water Supply Assessment for the Proposed Project concluded that "there will be sufficient water supply available when The Keystone project is ready for occupancy, in addition to existing and other planned future uses."²⁹ Therefore, it is anticipated that the future water supplies will meet the demand of the Proposed Project in addition to the existing demand and the associated impact would be less than significant. Nonetheless, mitigation measures are recommended below to further reduce the Proposed Project's less-than-significant impact on water supplies and to support the water conservation efforts of the CLWA.

Fire Flow

With respect to fire flow requirements, the County of Los Angeles Fire Department has indicated that the Proposed Project would require the following:³⁰

- High Density Residential – up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to five hours duration;
- Single-Family Detached Residential – 1,250 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration;

²⁸ *Castaic Lake Water Agency, Santa Clarita Water Division, SB 610 Water Supply Assessment for The Keystone Project, March 2005, page 3.*

²⁹ *Ibid., page 4.*

³⁰ *Written correspondence from David R. Leininger, Chief, Forestry Division Prevention Bureau, County of Los Angeles Fire Department, October 7, 2004 and December 17, 2004.*

- Two-family dwelling units (duplexes) – 1,500 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration;
- Five or more units with a single driveway access – 1,500 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration; and
- Institutional – 8,000 gallons per minute at 20 pounds per square inch residual pressure for up to four hours duration.

The actual fire flow requirements would be confirmed for each proposed land use by the County of Los Angeles Fire Department prior to Final Tract Map approval. As further discussed in Section V.M.2, Fire Protection, the final fire flow requirements for the Proposed Project would be based on the size of the buildings, their relationship to other structures, property lines, and types of building materials used. The associated water infrastructure would also be required to meet commercial and residential fire flow requirements as determined by the SCWD and the County of Los Angeles Fire Department. Therefore, the impact of the Proposed Project on fire flows would be less than significant (see also Section V.M.2, Fire Protection).

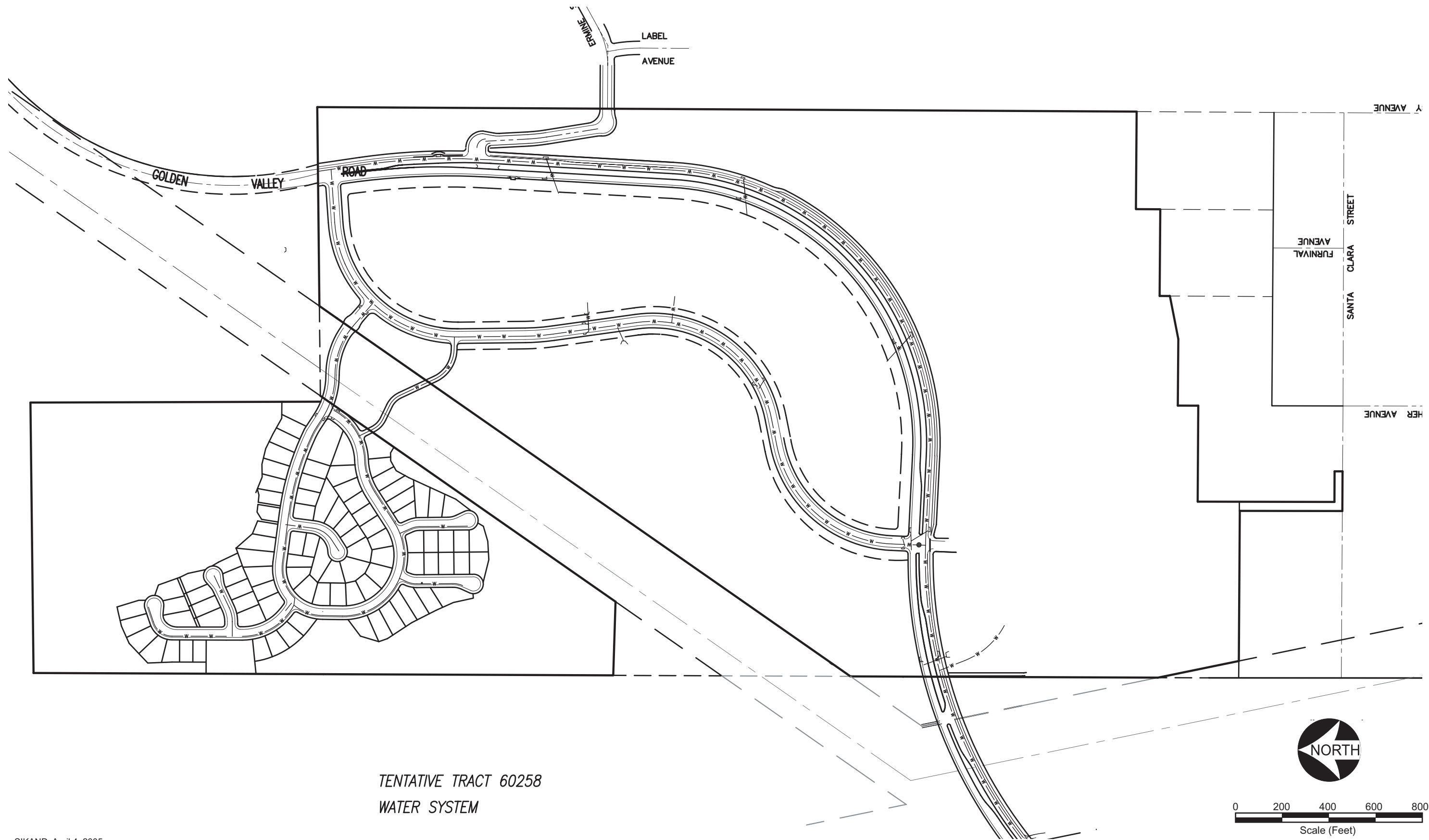
Water Facilities

The Proposed Project would be connected to existing water lines in Ermine Street (12-inch line) to the east, Golden Valley Road (16-inch line) to the north (under construction), and Newhall Ranch Road to the south. As indicated by the SCWD, no major increases in existing water distribution infrastructure or capacity enhancing alterations would be required in the general vicinity of the Proposed Project.³¹

Furthermore, as discussed above, the number of water connections that would be added to the existing water supply system in the Santa Clarita Valley is within the growth projections in the 2000 UWMP, as amended. As discussed in the Water Supply Assessment for the Proposed Project, the 2000 UWMP assumed an average growth rate of 2,240 connections per year based on the average growth rate that occurred during the 1990s. The Proposed Project would add approximately 331 residential connections, which is less than the annual average anticipated by the 2000 UWMP and is, therefore, considered to be accounted for in the 2000 UWMP, as amended.

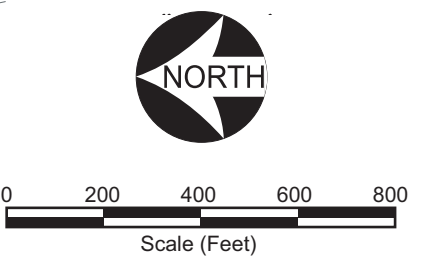
With respect to onsite water facilities and infrastructure, the Proposed Project would likely include an approximately 14-inch water main that would loop throughout the project site and connect to smaller water lines that range in size from approximately eight to 10 inches. These proposed onsite water lines are illustrated in Figure V.N.1-3.

³¹ Written correspondence W.J. Manetta, Jr., Retail Manager, Santa Clarita Water District, November 2, 2004.



TENTATIVE TRACT 60258
WATER SYSTEM

Source: SIKAND, April 4, 2005.



With respect to water treatment facilities, it is anticipated that the expanded Earl Schmidt Filtration Plant, which will be completed prior to the development of the Proposed Project, and the Rio Vista Filtration Plant will be able to accommodate the water treatment demand of the Proposed Project. As discussed above and in the Water Supply Assessment for the Proposed Project, the water demand associated with the Proposed Project was anticipated in the 2000 UWMP, as amended. As such, the CLWA's water treatment requirements associated with the water supply projections in the 2000 UWMP, as amended, can be accommodated by the Earl Schmidt Filtration Plant and the Rio Vista Filtration Plant.

Overall, the impacts of the Proposed Project on water facilities and water treatment facilities are anticipated to be less than significant.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square

List of Related Projects

Map No.	Project Name	Project Location	Description
			feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

The Water Supply Assessment for the Proposed Project included an analysis of the water demand of all planned future uses in combination with the Proposed Project. The conclusions of the Water Supply Assessment with respect to planned future uses are discussed below in addition to the list of 12 related projects (see Related Projects list above).

Water Supplies

Implementation of the Proposed Project in combination with the 12 related projects would generate a demand for approximately 2,307 af per year of water, further increasing the demand for water in the Santa Clarita Valley (see Table V.N.1-8). However, the CLWA anticipates that its projected water supplies available during normal, single-dry, and multiple-dry water years, as included in its 2000 UWMP, as amended, would meet the projected water demand associated with the Proposed Project, in addition to the existing and other planned future uses in the CLWA's system.

Furthermore, as discussed above, a Water Supply Assessment was prepared by the CLWA for the Proposed Project (see Appendix 10 to this Draft EIR). Pursuant to Section 10910(c)(4) of the State Water Code, the Water Supply Assessment included a discussion of whether the water supply projections can meet the water demand associated with the Proposed Project, in addition to existing and planned future uses, including agricultural and manufacturing uses. As discussed above, the Water Supply Assessment for the Proposed Project included the Proposed Project and "planned future uses", which includes probable future projects.³² The Water Supply Assessment clarifies "planned future

³² *Castaic Lake Water Agency, Santa Clarita Water Division, SB 610 Water Supply Assessment for The Keystone Project, March 2005.*

uses” as within the projections included in the 2000 UWMP, as amended.³³ Therefore, the Proposed Project and related projects would not be cumulatively considerable, and impacts on water supplies would be less than significant.

**Table V.N.1-8
Projected Water Consumption for Proposed and Related Projects**

No.	Land Use	Size	Daily Consumption Rate^a (gpd)	Daily Water Consumption (gpd)	Annual Water Consumption (af)
1	HH Seco II - Commercial Retail	40,000 sq.ft.	180 gpd/1,000 sq.ft.	7,200	8
2	Rice Dev – Self Storage	84, 000 sq.ft.	30 gpd/1,000 sq.ft.	2,520	3
3	TT 062322 –Townhomes	420 du	234 gpd/du	98,280	110
4	Riverpark – Single-Family	432 du	312 gpd/du	134,784	151
	Multi Family	657 du	234 gpd/du	153,738	172
	Commercial	16,000 sq.ft.	180 gpd/1,000 sq.ft.	2,880	3
	Retail				
5	Aspen Investment - Industrial	109, 000 sq.ft.	30 gpd/1,000 sq.ft.	3,270	4
6	Soledad Circle – Single-Family	150 du	312 gpd/du	46,800	52
7	TT 46018 – Single-Family	1,298 du	312 gpd/du	404,976	454
	Multi Family	1,202 du	312 gpd/du	281,268	315
	Commercial Retail	150,000 sq.ft.	180 gpd/1,000 sq.ft.	27,000	30
8	TR 52763 – Single-Family	11 du	312 gpd/du	3,432	4
9	Plum Canyon – Single-Family	498 du	312 gpd/du	155,376	174
10	Rodgers Dev - Commercial Retail	34,000 sq.ft.	180 gpd/1,000 sq.ft.	6,120	7
11	TT 98046 – Single-Family	91 du	312 gpd/du	28,392	32
12	TT 47760 – Single-Family	480 du	312 gpd/du	149,760	168
Related Projects Total					1,687
Proposed Project Total					620
Cumulative Total					2,307

³³ Castaic Lake Water Agency, Groundwater Perchlorate Contamination Amendment and Other Amendments, 2000 Urban Water Management Plan, January 2005.

**Table V.N.1-8
Projected Water Consumption for Proposed and Related Projects**

No.	Land Use	Size	Daily Consumption Rate^a (gpd)	Daily Water Consumption (gpd)	Annual Water Consumption (af)
<i>Notes: af = acre-feet; sq.ft. = square feet; gpd – gallons per day</i>					
^a <i>Water Consumption rates are 120 percent of wastewater generation rates.</i>					

Water Facilities

As discussed in the Water Supply Assessment for the Proposed Project, the 2000 UWMP assumed an average growth rate of 2,240 water connections per year based on the average growth rate that occurred during the 1990s. The Proposed Project would add approximately 331 residential connections, which is less than the annual average anticipated by the 2000 UWMP. Therefore, the effect of the additional water connections due to the Proposed Project would not incrementally contribute a considerable amount to the cumulative total number of connections. As such, the associated cumulative impact would not be cumulatively considerable and impacts would be less than significant.

With respect to water treatment facilities, it is anticipated that the expanded Earl Schmidt Filtration Plant and the Rio Vista Filtration Plant will be able to accommodate the water treatment demand of the Proposed Project and the related projects.

In addition, the potential need for the related projects to upgrade water lines to accommodate their water needs is site-specific and there is little, if any, cumulative relationship between the development of the Proposed Project and the related projects. Therefore, no cumulative water infrastructure impact or water treatment facilities impact are anticipated from the development of the Proposed Project and the related projects. Thus, the Proposed Project's incremental increase is not considerable and the impacts would be less than significant.

MITIGATION MEASURES

Project Mitigation Measures

Although the Proposed Project would not have a significant impact on water supply the following mitigation measures are recommended to reduce further the Proposed Project's impacts associated with water supplies:

- N.1-1** The project developer shall ensure that the landscape irrigation system be designed, installed and tested to provide uniform irrigation coverage. Sprinkler head patterns shall be adjusted to minimize over spray onto walkways and streets.
- N.1-2** The project developer shall install either a "smart sprinkler" system to provide irrigation for the landscaped areas or, at a minimum, set automatic irrigation timers to water landscaping during early morning or late evening hours to reduce water losses from evaporation. Irrigation run times for all zones shall be adjusted seasonally, reducing water times and frequency in the cooler months (fall, winter, spring). Sprinkler timer run times shall be adjusted to avoid water runoff, especially when irrigating sloped property.
- N.1-3** The project developer shall select and use drought-tolerant, low-water consuming plant varieties to reduce irrigation water consumption.
- N.1-4** The project developer shall install ultra-low flush water toilets and water-saving showerheads in new construction. Low-flow faucet aerators should be installed on all sink faucets.

Cumulative Mitigation Measures

No cumulative mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

The Proposed Project's impacts on water supply would be less than significant without mitigation. However, the implementation of the recommended mitigation measures N.1-1 through N.1-4 provide measures to reduce wasteful consumption of water resources and, thus, would further reduce the Proposed Project's impacts.

Cumulative

The Water Supply Assessment for the Proposed Project included the Proposed Project and “planned future uses”, which includes probable future projects. The Assessment clarified “planned future uses” as within the projections included in the 2000 UWMP. Therefore, no cumulative impacts to water supply is expected and impacts would be less than significant. No cumulative water infrastructure impact or water treatment facilities impact are anticipated from the development of the Proposed Project and the related projects and thus no mitigation is required and cumulative impacts would be less than significant.

V. ENVIRONMENTAL IMPACT ANALYSIS

N. UTILITIES

2. SEWER

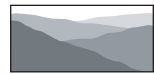
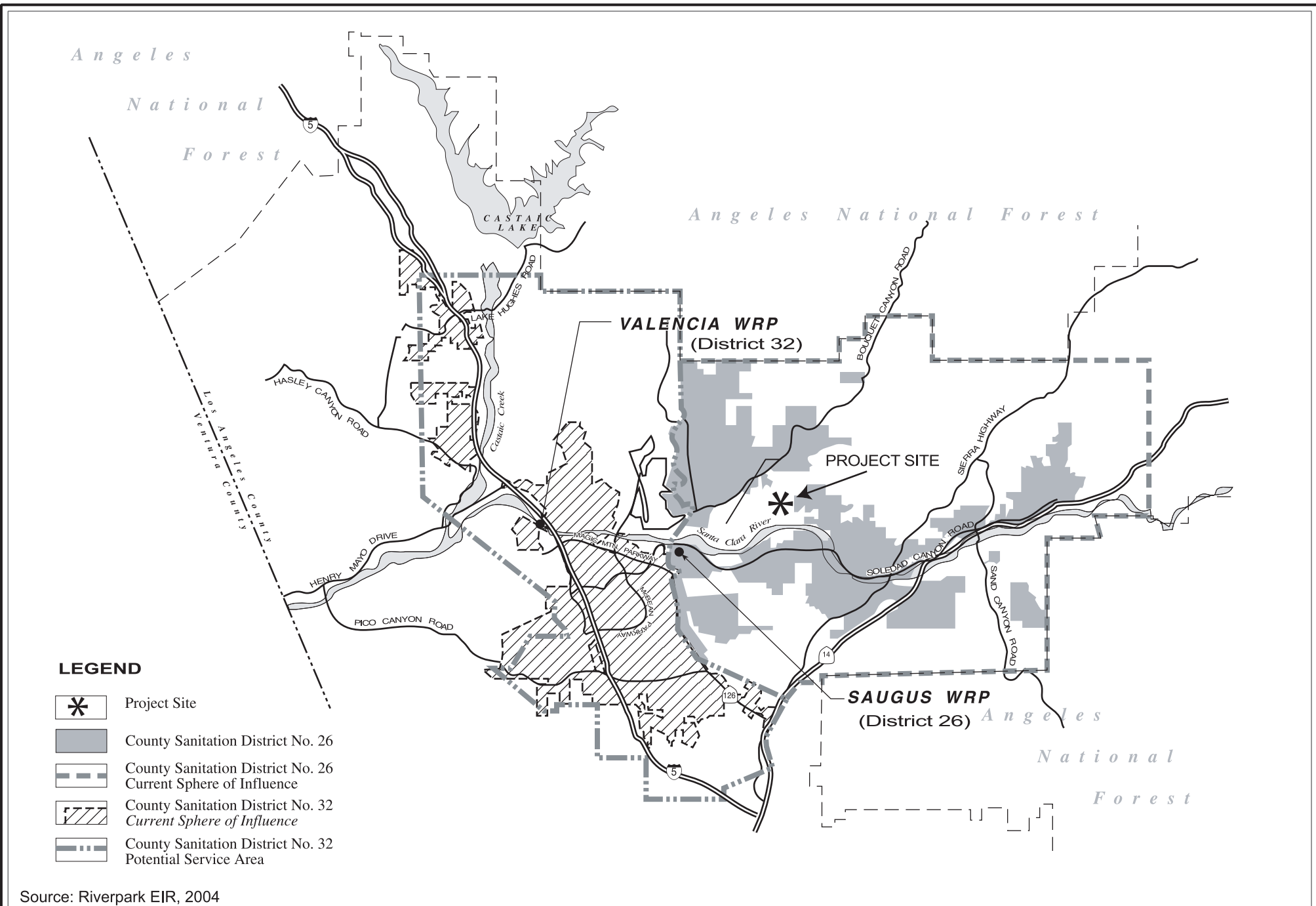
ENVIRONMENTAL SETTING

The majority of wastewater generated in the Santa Clarita Valley (that which is conveyed to the County's sewer system rather than to individual septic tanks and leach fields) is treated at two existing water reclamation plants (WRPs) which are operated by the County Sanitation Districts of Los Angeles County (CSDLAC). These two treatment facilities, the Saugus WRP (District 26) located at 26200 Springbrook Avenue in Saugus and the Valencia WRP (District 32) located at 28185 The Old Road in Valencia have been interconnected to form a regional treatment system known as the Santa Clarita Valley Joint Sewerage System (SCVJSS). The relationship between the two districts was established through a joint powers agreement that created the regional treatment system and permits the Valencia WRP to accept flows that exceed the capacity of the Saugus WRP. These two facilities, provide primary, secondary and tertiary treatment. The location of these treatment facilities and service areas are shown in Figure V.N.2-1.

The SCVJSS currently has a combined permitted treatment capacity of 19.1 million gallons per day (mgd) and treats an average 18.4 mgd. A 9 mgd expansion of the Valencia WRP will be completed in early 2005 giving the SCVJSS a combined treatment capacity of 28.1 mgd; with this expansion the system is expected to meet the Regional Growth Management Plan forecasted demand through 2010.³⁴ Expansion of the SCVJSS is funded through the District's Connection Fee Program. All new users are required to pay a fair share³⁵ connection fee to the CSDLAC prior to their connection to the local sewer network. These fees fund the expansion of treatment capacity and the installation of trunk lines, while all on-site improvements remain the responsibility of the developer of the Proposed Project. The rate of area development with the accompanying demand for connections, and the fees associated with them, drives the rate at which expansions to the existing system are designed and built. Connection permits are not issued if it is determined there would not be sufficient capacity in the existing system. A second phase expansion to the SCVJSS of 6 mgd has been designed and approved, but construction is currently on hold pending the development of further demand in the area.

³⁴ *Telecommunication with Ruth Frazen, Engineering Technician, County Sanitation Districts of Los Angeles County, December 23, 2004.*

³⁵ *A 'fair share' is defined as those costs associated with expanding the existing regional system to accommodate the anticipated sewage flows from the Proposed Project.*



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Environmental Planning and Research

Figure V.N.2-1
Existing Wastewater Treatment Facilities and Sanitation Districts

Wastewater is conveyed to the SCVJSS through a network of primary and secondary collectors, which then flow into trunk wastewater mains and on to the water reclamation plants. The CSDLAC maintains the trunk lines that lead to the two reclamation plants, and the Los Angeles County Department of Public Works Sewer Maintenance for the City of Santa Clarita maintains the local collectors.

The Proposed Project site is currently undeveloped and there is no wastewater collection or conveyance system on the property. Local collector lines would convey flows to the CSDLAC Soledad Canyon Trunk Sewer in Honby Avenue at Santa Clara Street. This 21-inch diameter trunk sewer has a design capacity of 3.9 mgd and conveyed a peak flow of 2.4 mgd when last measured in 2003.³⁶

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G of the state CEQA guidelines a significant impact would occur if the Proposed Project would:

- b) 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.
- e) Result in a determination by the wastewater treatment provider which serves or may serve the Proposed Project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

The Proposed Project would generate wastewater from residential, commercial and institutional uses. Project impacts are discussed below in terms of their effects on wastewater collection and conveyance systems, as well as treatment facilities.

Construction Related Impacts

As required by state and local ordinance, construction contractors for the Proposed Project would provide portable, on-site sanitation facilities which would be serviced at approved disposal sites. The amount of construction-related wastewater that would be generated would not have a significant impact on local disposal or treatment facilities due to the expected low volume of waste.

³⁶ Written correspondence from Ruth I. Frazen, Engineering Technician, County Sanitation Districts of Los Angeles County, October 28, 2004

Long-term Operational Impacts

The City of Santa Clarita Department of Planning and Economic Development and the Department of Transportation and Engineering Services, Building and Safety Division require that all new subdivision wastewater systems connect to the CSDLAC's existing sanitary wastewater system. Thus the Proposed Project would need to construct new primary and secondary wastewater lines for connection to the Soledad Canyon trunk sewer. In addition, the Proposed Project site is entirely outside of the jurisdictional service boundaries of the SCVJSS and will therefore require annexation into the Saugus WRP (District 26) before sewerage service can be provided to the proposed development.³⁷

Upon completion, the Proposed Project would generate approximately 235,431 gallons of sewage per day (see Tables V.N.2-1 and V.N.2-2, Project Sewage Generation) calculated by utilizing County Sanitation District loading and unit rates.

**Table V.N.2-1
Project Sewage Generation**

Proposed Land Use	Unit of Measure	Generation Factor	Total Sewage Generation (gpd)
Proposed Project			
Single-Family Residence	96 du	260 gpd/du	24,960
Multi-Family Residence	883 du	195 gpd/du	172,185
Health Club w/ Showers	30,476 sq. ft.	600 gpd/1,000 sq ft	18,286
Middle School	100,000 sq. ft.	200 gpd/1,000 sq. ft.	20,000
		Total	235,431
Source: County Sanitation Districts of Los Angeles Loading and Unit Rates, October 2004 gpd = gallons per day; du = Dwelling unit; sq.ft. = square feet			

³⁷ Written correspondence from Ruth I. Frazen, Engineering Technician, County Sanitation Districts of Los Angeles County, October 28, 2004

**Table V.N.2-2
Project Sewage Generation**

Wastewater Generation	Million Gallons per Day
Existing Site Generation	0.00
Forecasted Project Generation	0.24
Existing plus Project	18.64
Existing Available SCVJSS Capacity ¹	28.10
Remaining Available Capacity	9.46
<i>Source: County Sanitation Districts of Los Angeles Loadings and Unit Rates</i>	
<i>¹ - including 9 mgd expansion coming on-line in early 2005</i>	

As discussed above the existing Soledad Canyon trunk line in the project vicinity has a design capacity of 3.9 mgd and currently conveys a peak flow of 2.4 mgd, leaving 1.5 mgd of remaining capacity. Since the Proposed Project would be anticipated to generate 0.24 mgd, the trunk sewer is considered adequate to accommodate flow projections. It is therefore concluded that the project would not have a significant adverse impact on the District's trunk sewer.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development	Southwest corner of Seco	Development for an 84,000 square foot

	Master Case 02-231	Cyn Rd and Copper Hill Dr	self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Implementation of the Proposed Project in conjunction with the 12 related projects (see Related Projects list above) would increase the generation of sewage within the SCVJSS's service area. The cumulative amount of sewage generated is projected to be approximately 1.5 mgd (see Table V.N.2-3). As previously discussed, the design capacity of the SCVJSS is 28.10 mgd and the SCVJSS's current average wastewater flow is 18.4 mgd. Therefore, the SCVJSS has a remaining capacity of approximately 9.7 mgd. The cumulative sewage generation of 1.5 mgd would be well within the design capacity of the SCVJSS, representing about 15.5 percent of the remaining capacity. In addition, it should be noted that connection permits are not issued if there is not sufficient capacity in the system, and all new development projects are required to pay the District's connection fees to assure the continual expansion of district facilities. Therefore no cumulatively significant impacts to the sewerage system are anticipated. Thus, the Proposed Project's incremental increase in sewage generation is not considerable and impacts would be less than significant.

**Table V.N.2-3
Cumulative Sewage Generation**

Proposed Land Use		Unit of Measure	Generation Factor	Total Sewage Generation (gpd)
Proposed Project				
Single-Family Residence		96 du	260 gpd/du	24,960
Multi-Family Residence		883 du	195 gpd/du	172,185
Health Club w/ Showers		30,476 sq.ft.	600 gpd/1,000 sq.ft.	18,286
Middle School		100,000 sq.ft.	200 gpd/1,000 sq.ft.	20,000
Proposed Project Subtotal				235,431
Related Projects				
1	HH Seco II - Commercial Retail	40,000 sq.ft.	150 gpd/1,000 sq.ft.	6,000
2	Rice Dev – Self Storage	84, 000 sq.ft.	25 gpd/1,000 sq.ft.	2,100
3	TT 062322 –Town homes	420 du	195 gpd/du	81,900
4	Riverpark – Single-Family	432 du	260 gpd/du	112,320
	Multi Family	657 du	195 gpd/du	128,115
	Commercial Retail	16,000 sq.ft.	150 gpd/1,000 sq.ft.	2,400
5	Aspen Investment - Industrial	109, 000 sq.ft.	25 gpd/1,000 sq.ft.	2,725
6	Soledad Circle – Single-Family	150 du	260 gpd/du	39,000
7	TT 46018 – Single-Family	1,298 du	260 gpd/du	337,480
	Multi Family	1,202 du	195 gpd/du	234,390
	Commercial Retail	150,000 sq.ft.	150 gpd/1,000 sq.ft.	22,500
8	TR 52763 – Single-Family	11 du	260 gpd/du	2,860
9	Plum Canyon – Single-Family	498 du	260 gpd/du	129,480
10	Rodgers Dev - Commercial Retail	34,000 sq.ft.	150 gpd/1,000 sq.ft.	5,100
11	TT 98046 – Single-Family	91 du	260 gpd/du	23,660
12	TT 47760 – Single-Family	480 du	260 gpd/du	124,800
Related Projects Subtotal				1,254,830
Cumulative Sewage Generation Total				1,490,261

**Table V.N.2-3
Cumulative Sewage Generation**

Proposed Land Use	Unit of Measure	Generation Factor	Total Sewage Generation (gpd)
<p><i>Source: County Sanitation Districts of Los Angeles Loading and Unit Rates, October 2004.</i></p> <p><i>gpd = gallons per day; du = dwelling unit; sq.ft. = square feet</i></p>			

MITIGATION MEASURES

Project Mitigation Measures

As discussed in the impact analysis, the Proposed Project would not result in any significant impacts. However, as is standard operation procedure for development projects in the City of Santa Clarita, the following measures are required to be incorporated into the Proposed Project's process and design.

N.2-1- Applicant shall obtain a will-serve letter from the County Sanitation Districts of Los Angeles County prior to issuance of building permits in order to verify that there is sufficient capacity in the receiving trunk lines and the reclamation plant to serve the project.

N.2-2 All local wastewater lines within the project boundaries are to be constructed by the applicant and dedicated to the City of Santa Clarita Transportation and Engineering Services Department.

N.2-3 Prior to the issuance of building permits, the applicant shall pay wastewater connection fees.

Cumulative Mitigation Measures

As no significant cumulative sewer impacts have been identified, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

The project's impact on sewage treatment distribution facilities would be less than significant. Implementation of the recommended water conservation measures would further reduce the already less than significant impact.

Cumulative

The project's cumulative impact on sewage treatment distribution facilities would be less than significant. The implementation of the recommended water conservation measures as standard operation procedure for development projects in the City of Santa Clarita would further reduce the already less than significant impact.

V. ENVIRONMENTAL IMPACT ANALYSIS

N. UTILITIES

3. SOLID WASTE

INTRODUCTION

Solid Waste Disposal Options

The City of Santa Clarita has the responsibility to develop plans and strategies to manage solid waste generated within its jurisdiction. The Los Angeles County Department to Public Works (LASDWP) has the responsibility to develop plans and strategies to manage and coordinate solid waste generated (including hazardous waste) in the County unincorporated areas and address the disposal needs of Los Angeles County as a whole. In the past solid waste was simply collected and disposed of at landfills in the local vicinity. More recently, many jurisdictions, including the County of Los Angeles, are stating that the existing local landfill space may reach capacity in the very near future. Given recent landfill expansions and the proposed hauling of waste by rail to remote landfill locations, the City of Santa Clarita does not agree with these conclusions. However, in response to what the County continues to view as a serious disposal crisis, alternative methods of collection, transfer, disposal and the reduction, recycling and re-use of solid waste have been implemented. The City's methods to reduce the amount of waste disposed have in landfills include: residential curbside co-mingled recyclable materials collection (proposed), separation and recycling, commercial and industrial recycling and waste prevention education.

Currently most City solid waste is disposed of in local landfills. Since 1997 the City has diverted from 44 to 51% of its solid waste stream through recycling efforts, in an effort to meet the provision of the California Integrated Waste Management Act, also known as AB 939, which required the diversion of 50% of solid waste by the year 2000. This diversion will increase the life expectancy of landfills, but not eliminate the need for new landfill space. As growth occurs throughout southern California, new landfill space will need to be developed and maximized and/or other waste disposal alternatives will need to be implemented.

It is extremely speculative to identify specific options that will be implemented to dispose of solid waste twenty, fifty or one hundred years from now. The City of Santa Clarita Source Reduction and Recycling Element (SRRE) (July 22, 1991) notes that regional competition for ever-scarce landfill space makes planning uncertain. This EIR presents a worst-case scenario which assumes that no new development of landfills within the County would be permitted and that no disposal options at landfills outside of the County of Los Angeles would be possible. The City has therefore adopted strategies to address solid waste disposal needs:

- Aggressive implementation of diversion programs, including source reduction, recycling efforts, composting and waste prevention education efforts.
- Dependence on Chiquita Canyon Landfill through 2019.
- Use of alternative regional landfills, including Sunshine Canyon, Puente Hills, Antelope Valley and Lancaster Landfills; and
- Use of rail facilities as soon as these become available, to secure a more stable and dependable access to disposal facilities with remaining capacity.

Since the adoption of the City's SRRE and the Household Hazardous Waste Element (HHWE) (August 2, 1991) there have been substantial changes in the methods of waste reduction and recycling. "Since the SRREs were prepared in the early 1990s, technologies have improved, new markets have developed, existing markets have expanded, and the overall economics of waste diversion are increasingly positive. The County believes the addition of new landfill capacity in the County promises to maintain competition for disposal, and thus will keep disposal costs down. However, inexpensive disposal is only one factor to consider in developing an integrated solid waste management program; source reduction, recycling, collection, transfer and composting are also factors to be considered. Landfills have often hidden (potentially huge) costs associated with their operation, especially if environmental cleanup or risks to human health are involved. On the other hand, diversion has no such further costs and provides the current benefits of local jobs and raw materials for new or existing industries." ³⁸

Plans and Policies for Solid Waste Disposal

A consequence of California's growth has been a substantial increase in solid waste generation, which has necessitated the need for additional landfill space. Landfills are generally viewed as an undesirable land use; consequently approvals for new landfills and expansions of existing landfills have proven difficult to obtain, often taking up to ten years. This situation has focused increased public attention on what is perceived to be decreasing landfill capacity.

California Integrated Waste Management Act

In 1989 the California state legislature passed the California Integrated Waste Management Act (AB 939 or CIWMAC) requiring cities and counties to reduce the amount of solid waste entering existing

³⁸ *Approaching an Integrated Solid Waste Management System for Los Angeles County, May 2, 1997, GBB Solid Waste Management Consultants.*

landfills, and to implement recycling, reuse and waste prevention efforts. This legislation established mandates to reduce the amount of solid waste entering landfills by least 50% by the year 2000.

The CIWMAC requires every city and county in the state to prepare a Source Reduction and Recycling Element (SRRE) to its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory state diversion goals of 25% by the year 1995 and 50% by the year 2000. The purpose of AB 939 is to “reduce, recycle and re-use solid waste generated in the state to the maximum extent feasible.

The term “integrated waste management” refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. AB 939 established the waste management hierarchy as follows:

- Source Reduction;
- Recycling;
- Composting;
- Transformation;
- Disposal.

California Integrated Waste Management Board Model Ordinance

Subsequent to the CIWMAC, additional legislation was enacted to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Re-use and Recycling Access Act of 1991 (section 42900-42911 of the Public Resources Code) directs the California Integrated Waste Management Board (CIWMB) to draft a ‘model ordinance’ related to adequate areas for collecting and loading recyclable materials in development projects. If by September 1, 1994 a local agency had not adopted its own ordinance based on the CIWMB model, the CIWMB model took effect for that agency. The City of Santa Clarita chose to use the CIWMB Model Ordinance by adopting City Resolution No. 93-97 in July 1993.

The Model Ordinance is used by the City as the basis for imposing recycling conditions on new development projects and on existing projects that add 30% or more to their existing floor area. The Model Ordinance requires that any new development project for which an application is submitted on or after September 1, 1994, include “adequate, accessible and convenient areas for collecting and loading recyclable materials.” For subdivisions of single-family detached homes recycling is required to serve only the needs of the homes within that subdivision. The Model Ordinance also requires recycling areas to be:

- Compatible with nearby structures;
- Secured and protected against adverse environmental conditions;
- Clearly marked, and adequate in capacity, number and distribution;
- In conformance with local building code requirements for garbage collection access and clearance;
- Designed, placed and maintained to protect adjacent developments and transportation corridors from adverse impacts such as noise, odors, vectors or glare;
- In compliance with federal, state and local laws relating to fire, building, access, transportation, circulation and safety; and
- Convenient for persons who deposit, collect and load the materials.

City of Santa Clarita Source Integrated Solid Waste Management Program

The City of Santa Clarita has established a comprehensive Integrated Waste Management Program that incorporates the hierarchy of preferred solid waste management practices as established by AB 939 and stated above. City sponsored programs intended to implement these solid waste management practices include:

- City Facilities Procurement Policy;
- City Facilities Recycling program;
- Curbside residential and commercial recycling;
- Curbside Christmas tree recycling;
- Curbside motor oil and filter recycling;
- Certified oil recycling collection centers;
- Yard trimming recycling;
- Home composting program;
- Participation in the Household Hazardous Waste Program;
- Educational outreach; and

- Earth Day and Earth Month Activities.

City of Santa Clarita Source Reduction and Recycling Element (SRRE)

The City of Santa Clarita SRRE was prepared in response to AB 939. It describes policies and programs that will be implemented by the City to achieve the state's mandates of 25 and 50% waste disposal reductions by the years 1995 and 2000 respectively. Per the CIWMAC the SRRE projects disposal capacity for a fifteen-year period. The current SRRE fifteen-year period commenced in 1991. The City of Santa Clarita is currently in full compliance with the SRRE.³⁹

City of Santa Clarita Household Hazardous Waste Element (HHWE)

AB 939 requires every city and county within the state to prepare an HHWE and to provide for management of household hazardous waste generated by the residents within its jurisdiction. The City household hazardous waste management program, consisting of collection and public education/information services, has been formulated to serve residents throughout the City in a convenient and cost-effective manner. In addition to reducing the amount of solid waste which might otherwise be sent to a landfill, these programs are important components of the City's efforts to clean up the solid waste stream. The City of Santa Clarita adopted its HHWE in 1991.

City of Santa Clarita Non-Disposal Facility Element (NDFE)

AB 939 requires every city and county within the state to prepare and adopt an NDFE identifying all existing, expansions of existing and proposed new non-disposal facilities which will be needed to implement the local jurisdiction's SRRE. The City's NDFE identifies one proposed and one existing material recovery facility / transfer station that the City intends to utilize to implement its SRRE and meet the diversion requirements of AB 939. In addition, the City's NDFE also identifies the utilization of the Chiquita Canyon Landfill for diversion of yard trimmings. The Chiquita Canyon Landfill received approval to operate a composting facility and the composting operation was initiated in October 1996.

Los Angeles Countywide Siting Element

In 1997 the County of Los Angeles prepared a countywide siting element that estimates the amount of solid waste generated in the County and proposes various diversion and alternate disposal options. The City of Santa Clarita disagrees with some of the findings and conclusions of the Los Angeles

³⁹ *Telecommunication with Benjamin Lucha, Environmental Analyst, City of Santa Clarita Environmental Services, 12/27/2004.*

Countywide Siting Element. This report identifies issues regarding waste generation, waste management and assumptions used in the Countywide Siting Element.

ENVIRONMENTAL SETTING

In 2000 approximately 299,450 tons of solid waste were generated by uses in the City of Santa Clarita. With the implementation of the waste diversion measures outlined by the City's Integrated Solid Waste Management Program approximately 126,604 tons (42.2%) were diverted from landfills.⁴⁰ The CIWMB has approved a time extension for compliance with AB 939 to 2004 and is expected to grant an additional one year extension through 2005.⁴¹ The City has contracted with a private contractor to construct and operate a new material recovery facility (MRF) for the City in order to bring it into full compliance with AB 939. Construction of the MRF is scheduled to begin in April 2005 and the facility is expected to be fully operational by February 2006. The City's current diversion rate is 43%.⁴²

The Proposed Project site is currently vacant, undeveloped land and therefore generates no solid waste.

Existing Solid Waste Collections and Disposal in the City of Santa Clarita

Three private haulers are franchised by the City of Santa Clarita Department of Field Services to collect residential, commercial and industrial waste in the City. These haulers operate under two franchise systems, one for commercial/industrial uses and one for residential uses. Under the residential franchise three haulers provide semi- and fully automated weekly service for recycled materials, household trash and yard trimmings. When collected the waste may be taken to any landfill that is willing to accept it and which provides the greatest economic advantages to the hauler, based on location and disposal fees. In 2003 (the year for which the most current data is available) the City sent over 80% of its solid waste to the Chiquita Canyon Landfill.⁴³

⁴⁰ California Integrated Waste Management Board, Board Approved/Accepted Diversion Rate Data as of 12/28/2004. Website: <http://www.ciwmb.ca.gov/LGTools/MARS/JurDrDtl.asp?Flag=1&Ju=468&Yr=2000> December 28, 2004

⁴¹ Ibid.

⁴² Telecommunication with Benjamin Lucha, Environmental Analyst, City of Santa Clarita Environmental Services, 12/27/2004.

⁴³ California Integrated Waste Management Board, Jurisdiction Disposal and Alternative Daily Cover by Facility, 12/28/2004 Website: <http://www.ciwmb.ca.gov/LGCentral/DRS/Reports/JurDspFa.asp?VW=Out> December 28, 2004

Currently most solid waste collected within Los Angeles County by private haulers is disposed of within the County. However intercounty transfer of solid waste may occur in the near future if landfills outside of Los Angeles County begin to provide greater economic advantages to haulers or if landfills within the County reach capacity. Landfills in the California desert, which would receive Los Angeles area waste by railcar, are currently in the permit process.

Figure V.N-1 illustrates location of Los Angeles County landfills in relation of the Proposed Project site. The Chiquita Canyon Landfill encompasses 2,650 square miles, assuming the acceptance of the maximum permitted capacity of 6,000 tons daily it has an estimated remaining life of 14 years. The Antelope Valley Public Landfill I and II encompass approximately 185 acres. The landfill has a maximum daily permitted capacity of 1,800 tons and an estimated remaining life of 18 years.⁴⁴ The Lancaster Landfill and Recycling Center encompasses approximately 276 acres. This landfill has a maximum daily permitted capacity of 1,700 tons and an estimated remaining life of 25 years.⁴⁵

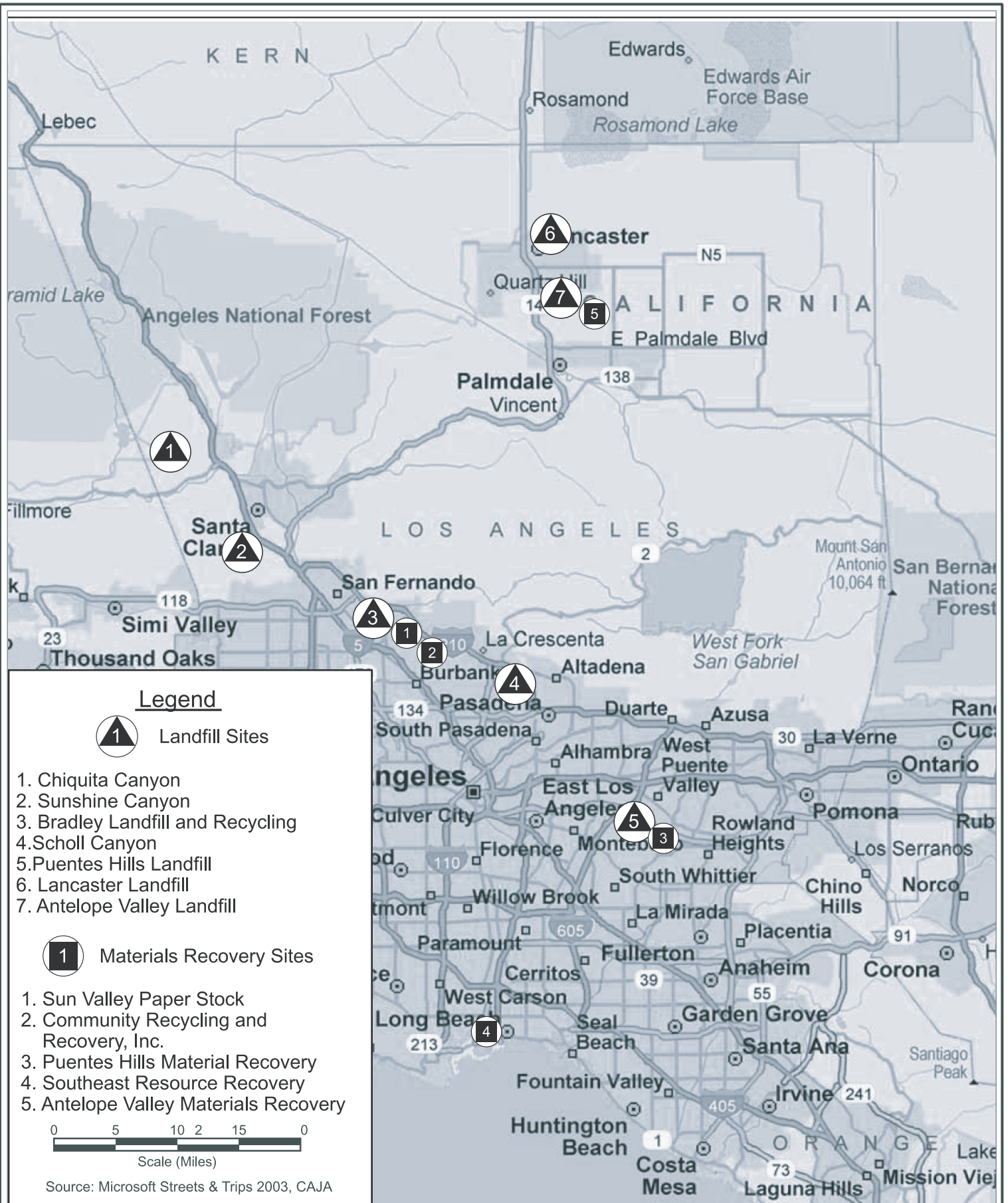
As discussed above, approximately 80% of wastes collected by haulers from the City of Santa Clarita and not diverted would go to the Chiquita Canyon Landfill, located approximately six miles west of the Proposed Project site. In addition, currently a very small amount of waste generated in the City is sent to the Antelope Valley II Landfill in Palmdale (5.6%), the Puente Hill Landfill in Whittier (4.6%), and the Bradley Landfill West in Los Angeles (4.4%).⁴⁶ However the City has indicated that it expects to utilize the landfills in the Antelope Valley (Antelope Valley Public Landfill I and II and the Lancaster Landfill and Recycling Center) exclusively in the future.⁴⁷

⁴⁴ California Integrated Waste Management Board, Los Angeles County Countywide Integrated Waste Management Plan, 2002 Annual Report, Facility/Site Summary Details, 2004.

⁴⁵ Written correspondence from John D. Kilgore, Supervising Engineer, Planning Section, County Sanitation Districts of Los Angeles County, October 26, 2004

⁴⁶ California Integrated Waste Management Board, Jurisdiction Disposal and Alternative Daily Cover by Facility, 12/28/2004 Website: <http://www.ciwmb.ca.gov/LGCentral/DRS/Reports/JurDspFa.asp?VW= Out> December 28, 2004

⁴⁷ Local Agency Formation Commission for Los Angeles County, Draft Santa Clara Municipal Service Review, October 29, 2004.



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Figure V.3.N-1
Major Los Angeles
County Landfill Sites

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, a significant impact to solid waste services would occur if

- f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
- g) Comply with federal, state and local statutes and regulations related to solid waste?

Project Impacts

Short Term Construction Impacts

Site preparation, (removal of existing vegetations and grading activities) and construction activities would generate a variety of scraps and waste, with the majority of recyclables being wood waste, drywall, metal, paper and cardboard. Based on a construction generation rate of 90 tons per acre and 85.2 acres of proposed development⁴⁸, construction of the Proposed Project would be expected to generate approximately 7,668 tons of waste over project build-out. Recycling of construction-related waste materials in compliance with AB 939, assuming a 50% diversion rate, means that approximately 3,438 tons of solid waste over project build-out would go to landfills. However, the actual amount of solid waste entering landfills versus the amount generated is influenced by a number of variables, including market demand for recyclables, product packaging, and the purchase of reusable, as opposed to disposable, products.

As previously stated, the total landfill capacity in Los Angeles County is limited, therefore any addition to the overall waste stream flowing to the County's landfills will hasten the day the County runs out of landfill capacity and any additional solid waste from any source may be considered adverse. Because an adequate amount of landfill space has not been ensured to accommodate long-term solid waste disposal at current generation rates, even with mitigation, the Proposed Project's construction-related solid waste impact would be considered significant.

⁴⁸ *Riverpark DEIR, February 2004, Section 4.9 Solid Waste Disposal. Please refer to Section IV. Project Description, Table IV-1, Land Use Summary for details of development acreage.*

Long-term Operational Impacts

Operation of the Proposed Project would result in ongoing generation of solid waste. Over the long term the project's 979 residences, Junior High School and YMCA Facility would generate approximately 10,839 pounds of solid waste per day, or 1,979 tons per year, as shown in Table V.N.3-1. Per AB 939 there is a requirement to reduce the solid waste stream by 50%, which means that approximately 5,419.5 pounds of the Proposed Project's total waste stream (989 tons per year) would be diverted elsewhere than to a landfill (e.g. recycled.) Therefore, the Proposed Project is anticipated to produce approximately 5,419.5 pounds per day of solid waste (2.71 tons).

**Table V.N.3-1
Keystone Project Solid Waste Generation**

Land Use	Unit of Measure	Generation Factor (pound/unit/day)	Total Waste Generation (pound/day)	Total Waste Generation (tons/year)
Residential				
Single-Family	96 du	11.40 lb/du ¹	1,094	200
Multi-Family	883 du	8.60 lb/du ¹	7,594	1,386
Junior High School	1,200 students	1 lb/ student ²	1,200	219
YMCA Facility	30,476 sq. ft.	3.12 lb/100 sq ft ³	951	174
		Total	10,839	1,979
<p><i>du = dwelling unit; sq.ft. = square feet</i></p> <p>¹ California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Residential Developments</i>, website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Residential.htm, May 13, 2005.</p> <p>² California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Institutions</i>, website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Institution.htm, May 13, 2005.</p> <p>³ California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Service Establishments</i>, website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Service.htm, May 13, 2005.</p> <p><i>Note: These factors do not reflect any recycling activities.</i></p>				

Total landfill capacity in the County is limited and any addition to the overall waste stream would reduce the County's overall landfill capacity. The Chiquita Canyon Landfill, the Antelope Valley Public Landfill I and II and the Lancaster Landfill and Recycling Center have sufficient capacity for their currently projected solid waste intake and the Proposed Project's intake for the short-term.

However, because local landfills will eventually reach capacity, the Proposed Project's long-term impact on solid waste facilities would be considered significant.

It should also be noted that additional capacity may become available through the expansion of the Puente Hills Landfill, conversion of waste-to-energy and through waste-by-rail programs to landfills outside of Los Angeles County (e.g., the proposed Eagle Mountain Landfill in Riverside County). However these options remain unapproved and due to the changing dynamics in the field remain speculative.

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two-mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi-family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon	North and south of Golden	498 single-family DU

List of Related Projects

Map No.	Project Name	Project Location	Description
	TR 31803	Valley Rd, west of Plum Cyn Rd	
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

As indicated in Table V.N.3-2, the Proposed Project, in combination with the related projects (see Related Projects list above), would generate a cumulative total of approximately 71,482 pounds (35.9 tons) of solid waste per day. As discussed above, new landfill options and additional capacity may become available through the expansion of the Puente Hills Landfill, conversion of waste-to-energy and through waste-by-rail programs to landfills outside of Los Angeles County (e.g., the proposed Eagle Mountain Landfill in Riverside County). Because solid waste (including hazardous waste) could eventually be disposed of outside of Los Angeles County, and the disposal market is driven by the free enterprise system, it is reasonable to assume that as local options are exhausted solid waste generated by cumulative development would be disposed of outside of Los Angeles County and even possibly outside of the state. Given this assumption, the cumulative project area could encompass a geographic area outside the jurisdictional boundaries of the City of Santa Clarita, Los Angeles County and even possibly the state border. However it is beyond the scope of this EIR and too speculative to attempt to quantify the solid waste that could be generated by cumulative development that is proposed in greater Los Angeles County or the region beyond, or to assess the landfill options that might be available or, more importantly, other solid waste disposal options which could become available.

It is reasonable to assume that the market forces that drive the waste disposal industry will put pressure on officials and governmental agencies to continually identify new, economically and politically feasible means of waste disposal in the future to accommodate growth. However, because new facilities are not currently available, cumulative project impacts would be considered significant. Therefore the Proposed Project's incremental increase would be considerable and impacts would be significant.

**Table V.N.3-2
Cumulative Solid Waste Generation**

Proposed Land Use		Unit of Measure	Generation Factor (lb/unit/day)	Total Waste Generation (lb/day)
Proposed Project				
Single-Family Residence		96 du	11.40 lb/du ¹	1,094
Multi-Family Residence		883 du	8.60 lb/du ¹	7,594
YMCA Facility		30,476 sq. ft.	3.12 lb/100 sq ft ³	951
Junior High School		1,200 students	1 lb/ student ²	1,200
Proposed Project Subtotal				10,839
Related Projects				
1	HH Seco II - Commercial Retail	40,000 sq.ft.	2.5 lb/100 sq.ft. ⁴	1,000
2	Rice Dev – Self Storage	84,000 sq.ft.	0.9 lb/100 sq.ft. ⁴	756
3	TT 062322 –Townhomes	420 du	8.60 lb/du	3,612
4	Riverpark – Single-Family	432 du	11.40 lb/du	4,925
	Multi-Family	657 du	8.60 lb/du	5,650
	Commercial Retail	16,000 sq.ft.	2.5 lb/100 sq.ft.	400
5	Aspen Investment - Industrial	109, 000 sq.ft.	5.0 lb/1,000 sq.ft. ⁵	545
6	Soledad Circle – Single-Family	150 du	11.40 lb/du	1,710
7	TT 46018 – Single-Family	1,298 du	11.40 lb/du	14,797
	Multi-Family	1,202 du	8.60 lb/du	10,337
	Commercial Retail	150,000 sq.ft.	2.5 lb/100 sq.ft.	3,750
8	TR 52763 – Single-Family	11 du	11.40 lb/du	125
9	Plum Canyon – Single-Family	498 du	11.40 lb/du	5,677
10	Rodgers Dev - Commercial Retail	34,000 sq.ft.	2.5 lb/100 sq.ft.	850
11	TT 98046 – Single-Family	91 du	11.40 lb/du	1,037
12	TT 47760 – Single-Family	480 du	11.40 lb/du	5,472
Related Projects Subtotal				60,643
Cumulative Solid Waste Generation Total				71,482
¹ California Integrated Waste Management Board, Estimated Solid Waste Generation Rates for Residential Developments, website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Residential.htm , May 13, 2005.				
² California Integrated Waste Management Board, Estimated Solid Waste Generation Rates for Institutions, website:				

<http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Institution.htm>, May 13, 2005.

³ California Integrated Waste Management Board, *Estimated Solid Waste Generation Rates for Service Establishments*, website: <http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Service.htm>, May 13, 2005.

⁴ California Integrated Waste Management Board, *Estimated Solid Waste Generation Rates for Commercial Establishments*, website: <http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Commercial.htm>, May 13, 2005.

⁵ California Integrated Waste Management Board, *Estimated Solid Waste Generation Rates for Industrial Establishments*, website: <http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Industrial.htm>, May 13, 2005.

lb = pound; du = dwelling unit; sq.ft. = square feet

MITIGATION MEASURES

Mitigation Measures Already Incorporated into the Project

- N.3-1** Solid waste collection/recycling areas are to be compatible with nearby structures, secure, protected against adverse environmental conditions, clearly marked, adequate in capacity, number and distribution, and contain a sufficient number of bins to serve the recycling and solid waste needs of the development. (Model Ordinance)
- N.3-2** Design and construct collection/recycling areas to accommodate front-loader packing trucks, including maneuvering room. (Model Ordinance)
- N.3-3** Design and construct driveways and/or travel aisles with adequate width and maneuverability space of unobstructed garbage collection, trash container storage and vehicle access and clearance. (Model Ordinance)
- N.3-4** Post signs at all access points of the recycling areas that clearly identify all recycling and solid waste collection and loading areas and the materials accepted therein. (Model Ordinance)
- N.3-5** The applicant shall comply with all applicable state and Los Angeles County regulating and procedure for the use, collection and disposal of solid and hazardous wastes.

Project Mitigation Measures

Short-term Construction

- N.3-6** The construction contractor shall only contract for waste disposal services with a company that recycles construction related wastes.

- N.3-7** To facilitate the on-site separation and recycling of construction related wastes, the construction contractor shall provide temporary waste separation bins, which shall be prominently placed on each construction site.
- N.3-8** All construction documents shall specify that building materials shall be made of recycled materials, or materials with the highest content possible of recycled materials, to the extent feasible.

Long-term Operational

- N.3-9** The Project Applicant shall locate recycling/separation areas in close proximity to dumpsters for non-recyclables, elevators, loading docks, and primary internal and external access points.
- N.3-10** The Project Applicant shall locate recycling/separation areas such that they are not in conflict with any applicable federal, state or local laws.
- N.3-11** The Project Applicant shall locate recycling/separation areas so they are convenient for those persons who deposit collect, and load the recyclable material.
- N.3-12** The Project Applicant shall place recycling containers/bins so that they do not block access to one another.
- N.3-13** The project shall employ the use of xeriscape techniques and plant drought tolerant and native vegetation in common landscaped areas, wherever possible, to reduce yard waste.
- N.3-14** For commercial and institutional developments and residential buildings having five or more dwelling units, no refuse collection or recycling areas are to be located between a street and the front of a building.
- N.3-15** The project shall install on-site trash compactors for non-recyclables in all commercial (YMCA and junior high school) food service areas.
- N.3-16** If possible, kitchen, garage and garden design shall accommodate trash and recyclable components to assist the City's recycling efforts. This includes a design to accommodate a minimum of three 90-gallon containers in locations allowable under the development's CC&Rs.
- N.3-17** First time buyers shall receive educational material on the City's waste management efforts, including information concerning curbside recycling, used motor oil recycling, and hazardous waste collection programs. Education material shall be passed on to consecutive buyers using the development's CC&Rs

Cumulative Mitigation Measures

There are no cumulative mitigation measures known to be available that would fully mitigate significant impacts.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project

Land suitable for landfill development or expansion is quantitatively finite and limited due to numerous environmental, economic, regulatory and political constraints. Given the market forces that drive the solid waste industry it is reasonable to assume that alternative solid waste disposal space and technologies will be developed in the near future. However, until such time as long-term landfill space and/or other disposal alternatives become feasible and available, the project's short term and long-term impacts to County solid waste facilities would be significant and unavoidable.

Cumulative

It is reasonable to assume that the market forces that drive the waste disposal industry will put pressure on officials and governmental agencies to continually identify new, economically and politically feasible means of waste disposal in the future to accommodate growth. However, because new facilities are not currently available, cumulative project impacts would be considered significant. and thus, the Proposed Project's short-term, long-term and cumulative impacts on the County's solid waste disposal facilities are significant and unavoidable.

V. ENVIRONMENTAL IMPACT ANALYSIS

O. TRANSPORTATION

INTRODUCTION

The following summarizes the information provided in the following traffic report:

- Austin-Foust Associates, The Keystone Traffic Impact Analysis, June 2005

The traffic analysis follows the City of Santa Clarita traffic study guidelines and evaluates potential project-related impacts associated with the proposed development at 12 key intersections in the vicinity of the project site. The study intersections were determined with in conjunction with the City of Santa Clarita staff. The traffic report is included in Appendix I.

Methodology

The traffic analysis evaluates the Proposed Project for an Interim Year time frame using the Santa Clarita Valley Consolidated Traffic Model (SCVCTM). The SCVCTM was developed jointly by the City of Santa Clarita and the County of Los Angeles and is the primary tool used for forecasting traffic volumes for the Santa Clarita Valley.

The SCVCTM has the ability to provide traffic volume forecasts for two future scenarios; Interim Year, which generally corresponds to a horizon year of 2015, and Long-Range, which represents General Plan buildout conditions. Consistent with the EIR traffic studies done for other recent projects in the City of Santa Clarita, this analysis uses the SCVCTM Interim Year horizon, which is roughly halfway between existing conditions and buildout of the General Plan, as the basis for background traffic conditions. An update to the SCVCTM was recently undertaken (see Reference 7 in Section 1.6) which included incorporating current land use information for planned and pending cumulative projects. As part of the development of this traffic impact analysis, the SCVCTM land use database was reviewed and verified for use in the cumulative analysis.

The Intersection Capacity Utilization (ICU) method was used to determine Volume-to-Capacity (V/C) ratios and Levels of Service (LOS) at the study intersections. This study presents existing traffic volumes, forecasts future traffic volumes with and without the Proposed Project, determines project-related impacts and presents recommendations for mitigation, where appropriate.

ENVIRONMENTAL SETTING

Existing Roadway System

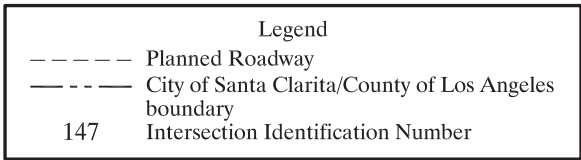
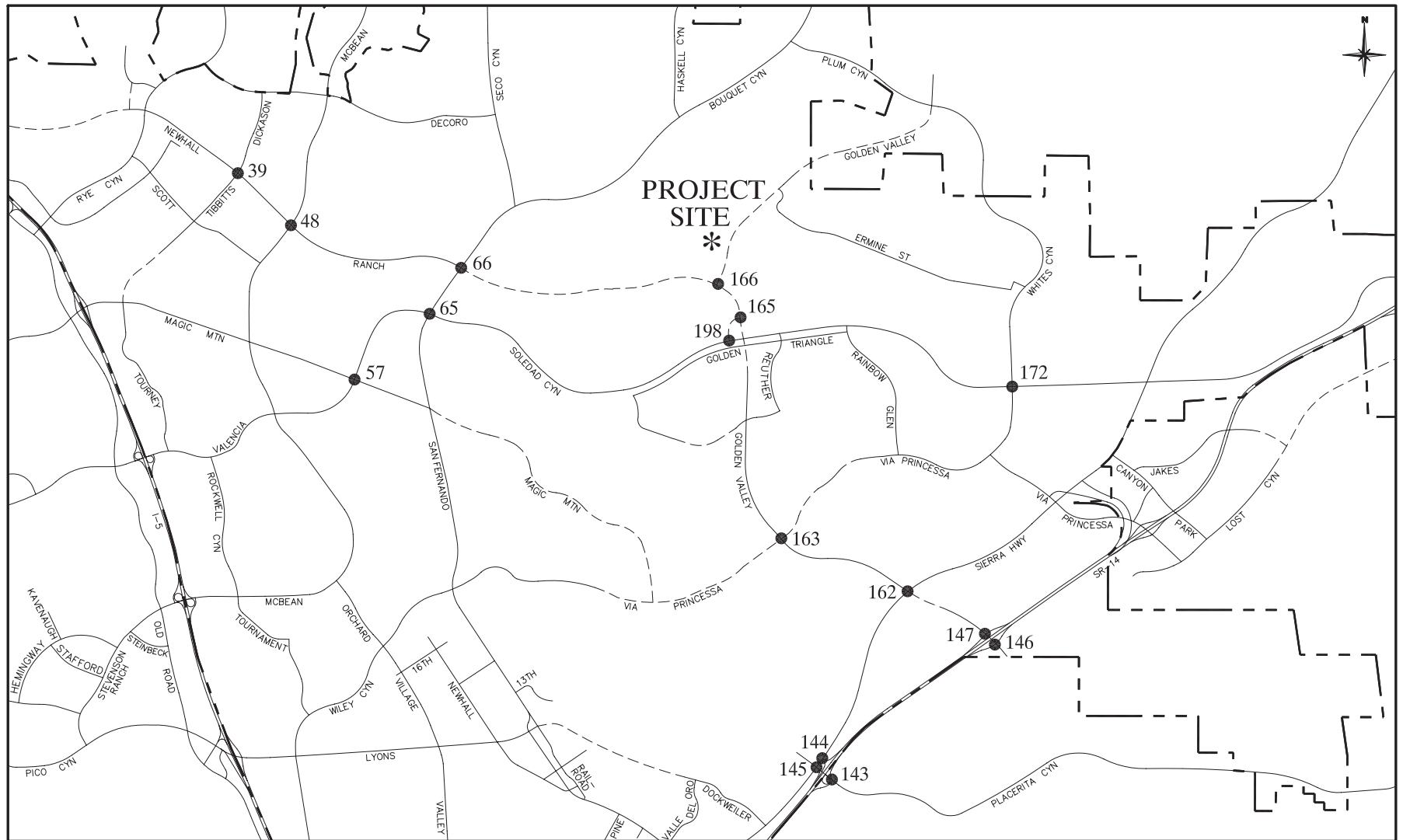
Major arterial streets near the project site consist of Soledad Canyon Road, Bouquet Canyon Road and Plum Canyon Road/Whites Canyon Road. The established criteria used by the City of Santa Clarita for determining a study area is based on the addition of 50 or more peak hour trips in the peak direction through an intersection, or as determined by the City Traffic Engineer for locations that merit special attention. In consultation with staff from the City of Santa Clarita, the following 12 intersections were selected for analysis to evaluate the potential impacts generated by the Proposed Project:

- 143. SR-14 NB Ramps & Placerita Canyon Road
- 144. Sierra Highway & SR-14 SB Ramps
- 146. SR-14 NB Ramps & Golden Valley Road
- 147. SR-14 SB Ramps & Golden Valley Road
- 39. Dickason Drive & Newhall Ranch Road
- 48. McBean Parkway & Newhall Ranch Road
- 57. Valencia Boulevard & Magic Mountain Parkway
- 65. Bouquet Canyon Road & Soledad Canyon Road
- 66. Bouquet Canyon Road & Newhall Ranch Road
- 145. Sierra Highway & Placerita Canyon Road
- 162. Sierra Highway & Golden Valley Road
- 172. Whites Canyon Road & Soledad Canyon Road

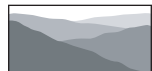
The existing lane configurations at the 12 study intersections are shown in Figure V.O-1.

Existing Traffic Conditions

For CEQA purposes, defined performance criteria are utilized to determine if a Proposed Project causes a significant impact. In most traffic studies, performance criteria are based on two primary



Source: Austin-Foust Associates, Inc., June 2005, June 2005

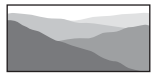


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Figure V.O-1
Project Study Area

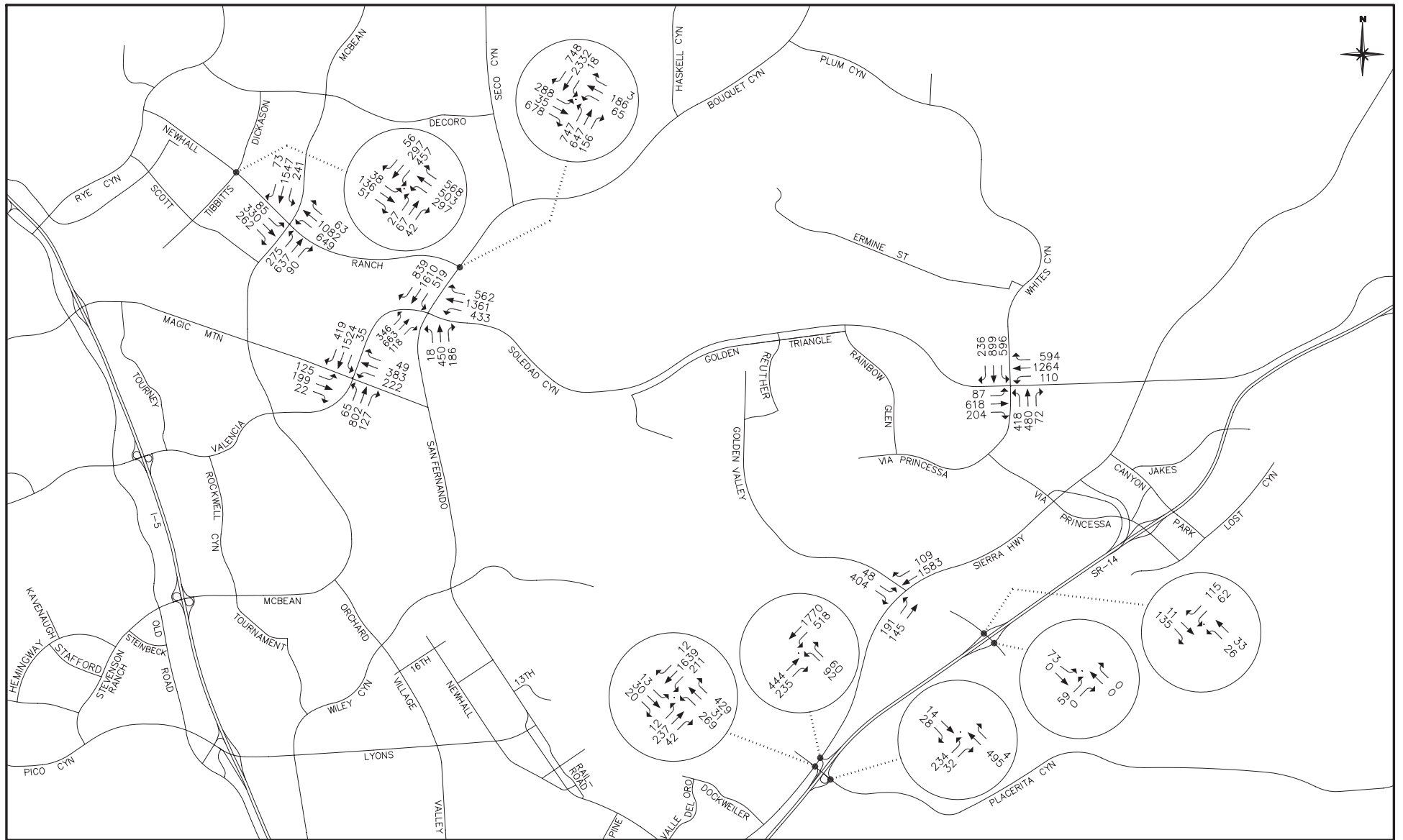


Source: Austin-Foust Associates, Inc. June, 2005

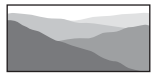


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Figure V.O-2
Average Daily Traffic Volumes (in 000s) - Existing

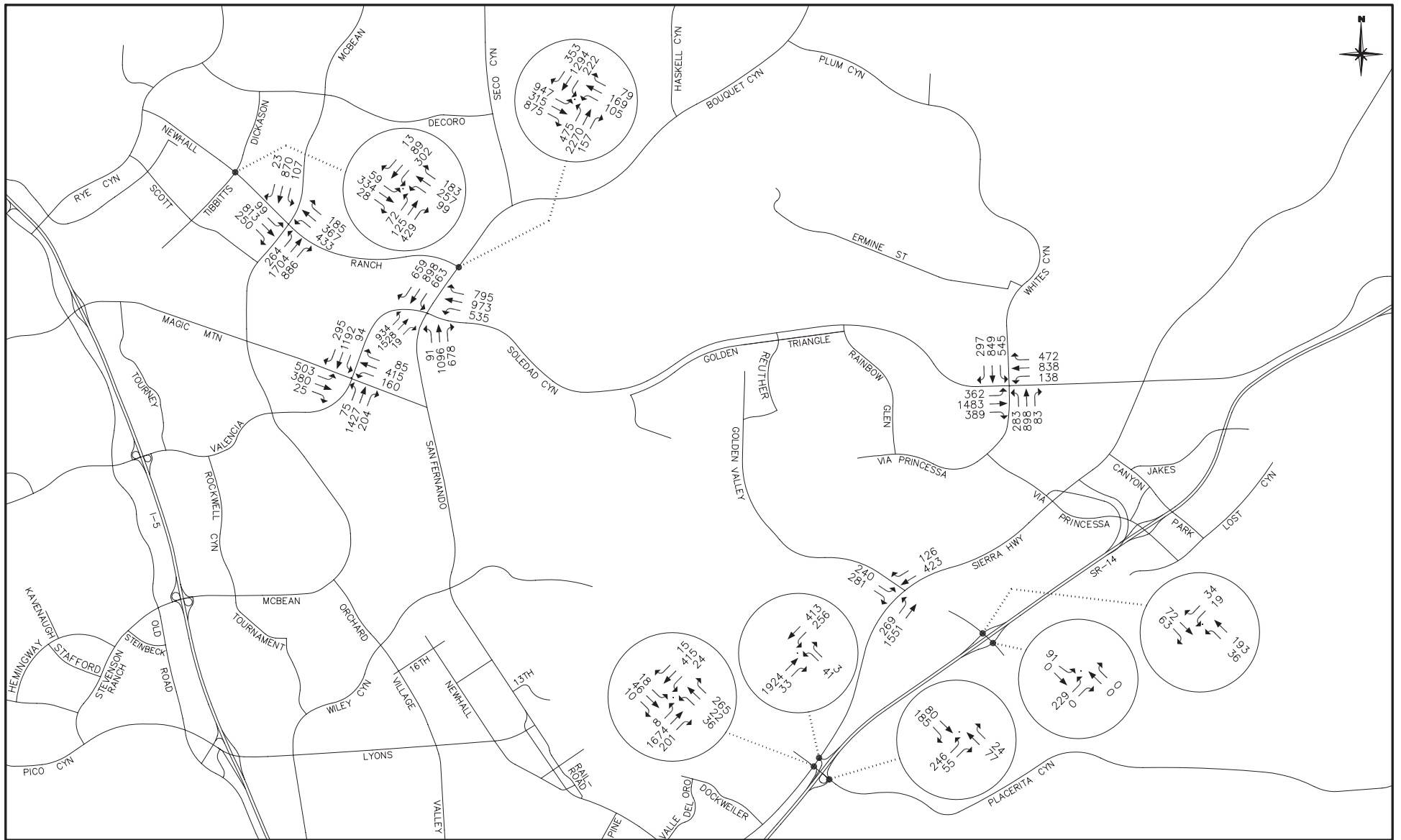


Source: Austin-Foust Associates, Inc. June, 2005

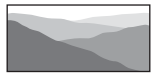


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Figure V.O-3
AM Peak Hour Turning Movement Volumes- Existing



Source: Austin-Foust Associates, Inc. June, 2005



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Figure V.O-4
PM Peak Hour Turning Movement Volumes- Existing

measures. The first is “capacity”, which establishes the vehicle carrying ability of a roadway and the second is “volume.” The volume measure is either traffic count or a forecast for a future point in time. The ratio between the volume and the capacity gives a volume/capacity (V/C) ratio and based on that V/C ratio, a corresponding level of service (LOS) is defined. Traffic LOS is designated A through F with LOS A representing free flow conditions and LOS F representing severe traffic congestion. A qualified description of each Level of Service is provided in technical Appendix I.

Both the V/C ratio and the LOS are used in determining impact significance. Certain LOS values are deemed unacceptable by the City, and increases in the V/C ratio which cause or contribute to the LOS being unacceptable are defined as a significant impact. In establishing V/C based performance criteria, there are certain items that need to be addressed to obtain suitable V/C estimates and relate them to LOS. For instance, while ADT is a useful measure to show general levels of traffic on a facility and to provide data for other related aspects such as noise and air quality, highway congestion is largely a peak hour or peak period occurrence and ADT does not reflect peak period conditions very effectively. Because of this, ADT is not used here as the basis for capacity evaluation but instead this evaluation focuses on those parts of the day when such congestion can occur, specifically the AM and PM peak hours.

Arterial Roads

For the arterial system, the peak hour is the accepted time period used for impact evaluation and a number of techniques are available to establish suitable V/C ratios and define the corresponding LOS. These definitions and procedures are established by individual local jurisdictions or by regional programs such as the Congestion Management Program (CMP).

The analysis of the arterial road system is based on intersection capacity since this is the defining capacity limitation on an arterial highway system. There may be exceptions where certain facilities have long distances between signalized intersections, but within the traffic analysis study area, peak hour intersection performance is the most representative measure for evaluating the arterial road system. Levels of service for arterial roadway intersections are determined based on operating conditions during the AM and PM peak hours. For intersections, the intersection capacity utilization (ICU) methodology is applied, providing a planning level basis for determining V/C and LOS. This methodology sums the V/C ratios for the critical movements of an intersection and is the preferred procedure for intersection analysis by the City of Santa Clarita. The ICU methodology is generally compatible with the intersection capacity analysis methodology outlined in the Highway Capacity Manual (HCM) 2000.

Existing Traffic Volumes and Levels of Service

The existing average daily traffic (ADT) volumes on the study area roadway system are illustrated in Figure V.O-2. Illustrations of peak hour turning movement volumes for each study area intersection can be found in Figures V.O-3 and V.O-4 for the AM and PM peak hours, respectively. The peak hour counts were collected on various dates between October 2002 and January 2005 and, except for the Golden Volley Road interchange, were not more than one year old at the time the traffic analysis was initiated. The Golden Valley Road interchange at SR-14 is currently limited in access to the existing neighborhood in that immediate area. Since the land use in that neighborhood has been built out since before October 2002, and since the traffic volumes using the interchange will change appreciably with the extension of Golden Valley Road to Sierra Highway (planned for June 2005), it was determined through consultations with City staff that updated traffic counts are not needed at these two intersections.

The results of the ICU LOS analyses for existing project area intersections are shown in Table V.O-1. The table shows how most intersections currently meet the performance standard with the exception of Bouquet Canyon Road at Soledad Canyon Road and Whites Canyon Road at Soledad Canyon Road.

As noted in the table, four intersections in the study area are not currently controlled by a traffic signal. For those locations, the ICU provides an indication of the level of service based on traffic signal control and provides a benchmark for comparison of future conditions with the Proposed Project.

Table V.O-1
ICU Summary - Existing Conditions

Location	AM Peak Hour		PM Peak Hour		Count Data
	ICU	LOS	ICU	LOS	
Freeway On/Off Ramp Intersections					
143. SR-14 NB Ramps & Placerita Cyn Rd.	0.37	A	0.29	A	Oct. 2004
144. Sierra Hwy & SR-14 SB Ramps	0.66	B	0.83	D	Oct. 2004
146. SR-14 NB Ramps & Golden Valley Rd	0.17	A	0.28	A	Oct. 2002
147. SR-14 SB Ramps & Golden Valley Rd	0.52	A	0.24	A	Oct. 2002
Existing Intersections					
39. Dickason Dr. & Newhall Ranch Rd	0.40	A	0.42	A	Mar. 2004
48. McBean Pkwy & Newhall Ranch Rd	0.68	B	0.72	C	Sept. 2003
57. Valencia Blvd. & Magic Mtn Pkwy	0.62	B	0.72	C	Sept. 2003
65. Bouquet Cyn Rd. & Soledad Cyn Rd	0.78	C	1.02	F	Sept. 2003
66. Bouquet Cyn Rd & Newhall Ranch Rd	0.78	C	0.85	D	Sept. 2003
145. Sierra Hwy & Placerita Cyn	0.74	C	0.80	C	Oct. 2004
162. Sierra Hwy & Golden Valley Rd	0.70	B	0.61	B	Jan. 2005
172. Whites Cyn Rd & Soledad Cyn Rd	0.86	D	0.92	E	Mar. 2004

Table V.O-1
ICU Summary - Existing Conditions

Location	AM Peak Hour		PM Peak Hour		Count Data
	ICU	LOS	ICU	LOS	
<i>1. Unsignalized, stop-sign control</i> <i>Level of service ranges:</i> <i>.00-.60 A</i> <i>.61-.70 B</i> <i>.71-.80 C</i> <i>.81-.90 D</i> <i>.91-1.00 E</i> <i>Above 1.00 F</i> <i>Source Austin-Foust Associates, Inc. March, 2005.</i>					

Freeway Segments

For the freeway system, the peak hour is the accepted time period used for impact evaluation. The procedures for determining LOS are established by the State of California Department of Transportation (Caltrans) and by regional programs such as the Congestion Management Program (CMP).

The Caltrans guidelines for the preparation of traffic impact studies define the transition between LOS C and LOS D as the target LOS to be maintained. Caltrans acknowledges that this may not always be feasible and allows for an alternative target LOS when appropriate.¹ If an existing freeway is operating at less (worse) than the appropriate target LOS, the guidelines state that the existing measure of effectiveness (MOE) should be maintained. The MOE for freeway segments is Density and is measured in passenger cars per mile per lane (pc/mi/ln). The Caltrans guidelines do not specify thresholds of significance for use in determining significant project impacts.

The CMP guidelines for a transportation impact analysis (see Reference 8 in Section 1.6 of the CMP) require a simplified analysis of freeway impacts that consists of a demand-to-capacity calculation for the affected CMP monitoring locations.² The CMP defines a significant impact occurring when the Proposed Project increases traffic demand by two percent of capacity ($V/C \geq .02$), causing or worsening LOS F. Table V.O-2 summarizes traffic volumes for the mainline freeway location for existing conditions.

¹ *Guidelines for the Preparation of Traffic Impact Studies, Caltrans, December 2002*

² *2004 Congestion Management Program for Los Angeles County, Los Angeles County Metropolitan Transportation Authority, July 2004*

**Table V.O-2
CMP Existing Freeway Traffic Volumes**

Location/Year	Capacity	AM Peak Hour			PM Peak Hour		
		Volume	V/C	LOS	Volume	V/C	LOS
1008. I-5 n/o SR-14 - Northbound							
2003 Caltrans Count	10,000	2,710	0.271	A	7,730	0.773	D
1008. I-5 n/o - Southbound							
2003 Caltrans Count	10,000	7,660	0.766	C	3,760	0.376	B
<i>Level of service ranges:</i> 0.00 – 0.35 A > 0.77 – 0.93 D > 1.25 – 1.35 F(1) > 0.35 – 0.54 B > 0.93 – 1.00 E > 1.35 – 1.45 F(2) > 0.54 – 0.77 C > 1.00 – 1.25 F > 1.45 F(3)							
(XX) = Project Increment							
Note: Counts from Caltrans as noted. Forecasts from the SCVCTM Interim Year 4.0							
Source: Austin-Foust Associates, Inc., March 2005.							

Public Transit

Santa Clarita Transit currently does not provide fixed-route transit immediately adjacent to the project site. The nearest fixed-route transit line is for Routes 5 and 6, which passes south of the project site on Soledad Canyon Road. Routes 5 and 6 provide service to the Stevenson Ranch Area, Hart High School, the Valencia Town Center and Canyon Country. Also, Route 1 passes just east of the project site through the Ermine Street neighborhood. The nearest transit center is the Santa Clarita Metrolink station which is located approximately one mile southwest of the project site.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

The ICU Calculation methodology and associated impact criteria for the study area arterial system are summarized below in Table V.O-3.

**Table V.O-3
Arterial Intersection Performance Criteria**

LOS	With Project ICU	Project Increment
D	0.81 – 0.90	Greater than or equal to 0.02
E, F	0.91 or more	Greater than on equal to 0.01
<p>V/C Calculation Methodology Level of service to be based on peak hour intersection capacity utilization (ICU) values calculated using the following assumptions: Saturation Flow Rate: 1,750 vehicles/hour/lane for all lanes Clearance Interval: 10</p> <p>Performance Standards LOS D or existing LOS, which ever is greater, for existing intersections. Source: Austin-Foust Associates, Inc., March 2005.</p>		

In addition, an intersection is considered to be adversely impacted if:

- The intersection is forecasted to operate deficiently (i.e., worse than the performance standard), and
- Compared to the ICU in the no-project alternative, the ICU in the with-project alternative increases the ICU by the criteria provided in Table V.O-3.

Project Impacts

Project Site Access

Primary vehicle access to the site would be via a major arterial, Golden Valley Road, which would run on a north-south axis through the site and Ermine Street to the east, which would connect to Golden Valley Road within the project site boundaries. Golden Valley Road would connect to the proposed east-west roadway, Newhall Ranch Road, which would intersect with Golden Valley Road east of the project boundary. Golden Valley Road is currently under construction north of the project site to serve the Sun Cal development that is under construction. Golden Valley Road is being constructed from Plum Canyon Road to The Keystone project site's northern boundary. With project implementation, Golden Valley Road would continue south through the project site to Newhall Ranch Road.

There would be a gap between the project site southeastern boundary and the City's proposed Newhall Ranch Road alignment. The Project Applicant proposes to construct approximately 1,890 feet of roadway to connect the project site, via Golden Valley Road, to the proposed Newhall Ranch Road alignment. Construction of Golden Valley Road would include full grading, the construction of four vehicle lanes, a landscaped median and a Class I trail within a maximum right-of-way of 126 feet. The roadway would be split by a median and would have varying levels of elevation depending upon the

location on the project site. The portion of Golden Valley Road right-of-way that crosses the project site would also include bus stops.

Project Traffic Generation

Trip generation estimates for the Proposed Project are shown in Table V.O-4. The trip generation is calculated using published data from the Institute of Transportation Engineers (ITE) Seventh Edition Trip Generation Manual.

The Proposed Project is estimated to generate approximately 11,005 ADT's with approximately 1,468 occurring in the AM peak hour and approximately 1,009 occurring in the PM peak hour. These values represent the total volume of traffic entering and exiting each component of the project site.

On-site trip generation was calculated to estimate number of vehicles that will remain on the project's internal roadway system, traveling to and from the residential, school and YMCA sites.

**Table V.O-4
Trip Generation and Trip Rate Summary**

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Total Project Trip Generation								
Single-Family Residential	96 DU	18	54	72	61	36	97	919
Townhome	665 DU	67	319	386	313	173	486	5,320
Apartment	218 DU	22	89	111	87	48	135	1,465
<i>Subtotal Residential</i>	<i>979 DU</i>	<i>107</i>	<i>462</i>	<i>569</i>	<i>461</i>	<i>257</i>	<i>718</i>	<i>7,704</i>
Middle School	1,600 STU	464	384	848	128	112	240	2,592
YMCA	31 TSF	31	20	51	15	36	51	709
TOTAL		602	866	1,468	604	405	1,009	11,005
On-Site Trip Generation								
Residential (Out) to School/YMCA (In) ⁶		60	60	120	3	3	6	378
School/YMCA (Out) to Residential (In)		10	10	20	15	15	30	150
TOTAL		70	70	140	18	18	36	528
Off-Site Trip Generation								
TOTAL PROJECT MINUS ON-SITE		532	796	1,328	586	387	973	10,477
Trip Rates								
Single-Family Residential ¹	DU	0.19	0.56	0.75	0.64	0.37	1.01	9.57
Townhome ²	DU	0.10	0.48	0.58	0.47	0.26	0.73	8.00
Apartment ³	DU	0.10	0.41	0.51	0.40	0.22	0.62	6.72
Middle School ⁴	STU	0.29	0.24	0.53	0.08	0.07	0.15	1.62
YMCA ⁵	TSF	0.99	0.63	1.62	0.48	1.16	1.64	22.88
<i>Notes:</i>								

**Table V.O-4
Trip Generation and Trip Rate Summary**

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
<p><i>Trip rates correspond to the peak hour of adjacent street traffic.</i></p> <p><u>Trip Rate Sources</u> ¹ITE Category 210 (Single-Family Residential) ²Los Angeles County Department of Public Works special rate for Residential Condominium/Townhouse ³ITE Category 220 (Apartment) ⁴ITE Category 522 (Middle School/Junior High School) ⁵ITE Category 495 (Recreational Community Center) ⁶Based on 1.3 children per household (ages 1-18), with 212 being of middle school age (13% of total middle school population)</p> <p><u>Abbreviations</u> DU = Dwelling Units, STU = Student, TSF = Thousand Square Feet</p> <p>Source: Austin-Foust Associates, Inc., March 2005.</p>								

This differs from off-site trip generation that estimates the number of vehicles leaving the project site and traveling on surrounding roadways. Given the size of the project, approximately 13 percent of the 1,600 middle school students are estimated to reside on-site. In the AM peak hour, this equates to approximately 60 trips from home to school (120 tripends) and in the PM peak hour, approximately 15 trips from school to home (30 tripends). Note that the number of trips between home and school are not the same in the AM and PM peak hours since the total number of school trips is greater during the AM peak hour.

Off-site estimates are used in this analysis to represent the project’s impacts on the analysis area circulation systems. The off-site ADT volume of approximately 10,477 represents 95 percent of the project total and corresponding PM peak hour estimate of 973 for an off-site volume is 96 percent of the total.

Project Trip Distribution

The geographic distribution of project-generated trips was determined using the SCVCTM to prepare a project-only select zone run. The Interim Year version of the SCVCTM provided the background conditions for this select zone run. The model takes into account the specific type of land use proposed for the site and how that land use would interact with the other land uses in the City.

Figure V.O-5 illustrates the project-only ADT’s and distribution percentages for the Proposed Project. The volumes presented in this section represent the off-site trips and do not include the on-site trips discussed in the Project Trip Generation section. Figures A-1 and A-2 in Appendix I illustrate the

project-generated trips for the AM and PM peak hours, respectively, within the study area. Since the SCVCTM performs separate assignments for the AM peak hour, the PM peak hour and the off-peak period, the specific volumes for any individual time period will not precisely match the percentages noted in the previous figure.

Approximately 57 percent of the trips generated by the project are assigned west of the project via future Newhall Ranch Road and Soledad Canyon Road. West of San Fernando Road and Bouquet Canyon Road, these trips are then assigned along Newhall Road (20 percent), Valencia Boulevard (12 percent), San Fernando Road (8 percent) and Bouquet Canyon Road (7 percent).

Approximately 40 percent of the trips generated by the project are assigned south and east of the project via Golden Valley Road and Soledad Canyon Road. There is a significant interaction with the business district in the vicinity of Soledad Canyon Road and Golden Valley Road. Beyond that location, 13 percent of the trips are assigned to Soledad Canyon Road, and 16 percent to Golden Valley Road, with approximately 10 percent of these ultimately utilizing the interchanges at Golden Valley Road and Placerita Canyon to access SR-14.

Related Projects - Future Traffic Conditions

In order to make a realistic estimate of future on-street conditions prior to the occupancy of the Proposed Project, the potential impact of the Proposed Project was evaluated within the context of the cumulative impact of all ongoing development. Standard practice with the City of Santa Clarita is the use of the City's Interim Year (2015) traffic model.

The Interim Year transportation system consists of roadway improvements and future infrastructure consistent with the related projects included within the horizon year. Generally, this horizon year corresponds to the year 2015 based on anticipated Santa Clarita Valley growth rates from sources such as the Southern California Association of Governments (SCAG). While this horizon does not coincide specifically with the buildout of the project site, it represents the best time frame for planning purposes since it includes a comprehensive set of cumulative development projects that have been incorporated into the SCVCTM. With this, a conservative scenario is established for analyzing the impacts of the Proposed Project combined with projected and approved growth on a reasonably expanded circulation system.

Interim Year land use is based on data provided by the City and County and includes approved, pending and planned development projects. For this analysis, the Interim Year land use data base, which was recently updated in 2004, was utilized since it includes the most recent data from the City and County regarding these future projects. Table V.O-5 summarizes the total land use and trip generation statistics for the entire Santa Clarita Valley area (including the Proposed Project) for existing (2004), Interim

Year (2015) and Long-range General Plan (2030) conditions. Table V.O-6 lists a total of 47 related projects included with the Interim Year Scenario that are reasonably foreseeable projects within the Santa Clarita Valley, east of I-5 freeway, in the City of Santa Clarita and the County of Los Angeles unincorporated areas.

**Table V.O-5
Land Use and ADT Summary – Santa Clarita Valley Existing and Future**

Land Use Type	Units	Existing 2004		Interim Year 2015		Long-Range General Plan 2030	
		Amount	ADT	Amount	ADT	Amount	ADT
Single-Family Residential	DU	51,300	500,600	72,600	709,700	90,300	886,000
Multi-Family Residential	DU	25,600	202,700	39,200	305,200	49,400	385,800
Commercial Retail, Office & Industrial	MSF	31.8	695,600	67.1	1,208,300	82.6	1,581,400
Other	--	--	171,200	--	224,400	--	247,400
Total	--	--	1,570,100	--	2,447,600	--	3,100,600
<i>Notes:</i> DU= Dwelling Units MSF= Million Square Feet Source Austin-Foust Associates, Inc. March 2005.							

**Table V.O-6
Related Project Summary**

Project Name	Project Location	Description
Gates-King Industrial Park Master Case 99-264	South of San Fernando Rd between Pine St and Sierra Hwy	Subdivide 584 acres (buildout of 203.2 acres) into 88 industrial lots for 4.4 million square feet of industrial building square footage. The project would also dedicate 207.6 acres of open space to the City
Rice Development Master Case 02-231	Southwest corner of Bouquet Cyn Rd and Newhall Ranch rd	Development for an 84,000 square foot self storage facility.
Carl's Jr. Master 02-309	Northwest corner of Via Princessa and Sierra Hwy	Development for a new 3,000 square foot drive thru restaurant.
Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr.	Development for 8 new industrial buildings totaling 109,

**Table V.O-6
Related Project Summary**

Project Name	Project Location	Description
Rodgers Development Masters Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center.
Montezuma Land Development Case 02-063	Southeast corner of Golden Valley Rd. and Sierra Hwy.	Subdivision of 90 acres for 174 single-family homes, a park site and four open space lots.
HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd. and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center.
California Canyons Annexation Master Case 96-206	Northeast corner of City	Total area: 43.1 acres 68 existing single-family homes
North Valencia No. 2	North of Newhall Ranch Rd, west of McBean Pkwy.	1,900 dwelling units (1,400 SFD and 500 MF) 210,000 commercial square feet, and 4.1 acres of private recreation facilities.
West Creek	East and west of Copper Hill Drive, west of San Francisquito Creek, north of Decoro Dr.	2,545 dwelling units (1,806 SFD and 739 MF, 180,000 commercial retail square feet, 10-acre elementary school, 6.4 acres of recreational facilities.
Lost Canyon Road Annexation Master Case 02-235	West of the Sand Canyon area, south of SR-14	38.8 acres of vacant business park zoning.
Northpark Annexation Master Case 98-183	North Part of the City (north and south portions of Decoro Dr.)	1,351 existing residential units on 457 acres
Stonecrest Annexation Master Case 01-068	West of Pinetree area, north of SR-14	425 existing residential units and 610,930 square feet of commercial on 215.9 acres
Golden Valley Ranch Master Case 97-212	Southeast of the City, east of SR-14 and north of Placerita Cyn Rd.	1,251 acres of planned community (4498 SFR of which 108 are age restricted and 290 are SFR, 1 school lot, 1 fire station site)
Porta Bella or Whitaker-Bermite (partial)	South of Soledad Cyn Rd, east of circle J Ranch area, west of Centre Pointe (Golden Valley) Business Park	Approximately 50% of the project land use is included in the Interim Year database. 100% of the project land use is included in the long-range database. 2,911 dwelling units and 92 acres of commercial development on 996 total acres.
Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
Tesoro del Valle	North of Copper Hill Dr, west of McBean Pkwy.	1,791 dwelling units, 10-acre commercial center and elementary school.
TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
TR 52763 (S&S)	West of Plum Cyn Rd, north of	11 Single-Family DU

**Table V.O-6
Related Project Summary**

Project Name	Project Location	Description
	Whites Cyn	
Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
CP 99226/TR 52990	North of Sierra Hwy, West of Vasquez Cyn Rd	63 single-family DU
CP 98152	North of Sierra Hwy, west of Fitch	110 multi family DU
TR 52790	North of Soledad Cyn Rd, west of Sierra Hwy	75 single-family DU
Wes Thompson	South of Sierra Hwy, east of Sand Cyn Rd	365 single-family DU
TR 54372	North of Soledad Cyn Rd, west of Sand Cyn Rd	74 single-family DU
CP 98176	North of Soledad Cyn Rd, west of Sand Cyn Rd	75 single-family DU
Sand Canyon Gateway/Rodgers Enterprises	Northeast quadrant of the intersection of Sand Cyn Rd and Soledad Cyn Rd	87 single-family DU, 100,000 square feet commercial, mobile home removal
Mattson Project	South of Soledad Cyn Rd, west of Sand Cyn Rd	14,000 square feet church and 2,000 square feet daycare.
Tick Canyon/Park Place	North of Soledad Cyn Rd at the terminus of Shadow Pines Blvd.	492 single-family DU and 34 acre park
02-063 (Montezuma Land Development)	South of Sierra hwy, east of Golden Valley Rd	174 single-family DU
TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU
Retail	South of McBean Pkwy/West of Tournament Rd	4,000 square foot commercial retail
UCLA Film Archive	North of McBean Pkwy/West of Rockwell Cyn Rd	385,000 square foot commercial office
College of the Canyons	South of Valencia Blvd/West of Rockwell Cyn Rd	28,000 square foot commercial office, 6,500 students
Valley Residential	East of Calgrove Blvd/Valley St.	138 single-family DU
Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi family DU, 16,000 square feet commercial retail
Valencia Town Center Expansion	East of McBean Pkwy, north of Valencia Blvd, south of Magic Mountain Pkwy and west of Citrus St.	620,000 square feet of commercial retail and office
Newhall Ranch Road/McBean Pkwy	North of Newhall Ranch Rd, east of McBean Pkwy	200,000 Square feet commercial office, 40,000 square feet commercial retail
Legacy (Rye Canyon) Business Park	North of Newhall Ranch Rd, west of Copper Hill Dr	Approx. 4,000,000 square feet industrial park (including existing), 150,395square feet Wal-mart
TT 062322	North of Soledad Cyn, south of Santa	420 Townhomes

**Table V.O-6
Related Project Summary**

Project Name	Project Location	Description
	Clara river, approx 1 Mi. east of Bouquet Cyn Rd	
McBean Medical Office	Southwest corner of McBean Pkwy and Valencia Blvd.	79,000 square feet medical office
Tourney South	South of Magic Mountain Pkwy, east of Tourney Rd	170,000 square feet commercial office
Tourney North	North of Valencia Blvd, west of Tourney Rd	250,000 square feet commercial office
Centerpoint Commercial	South of Newhall Ranch Rd, west of Rye Cyn Rd	155,000 square feet of retail shopping center
Highridge Business Park	North of Newhall Ranch Rd, east of Copper Hill Dr	300,000 square feet industrial park, 80,000 square feet commercial
Henry Mayo Newhall Memorial Hospital	McBean Parkway at Orchard Village Road	Addition of 694,659 square feet of floor area build out over 20-25 years
<i>Source: Source Austin-Foust Associates, Inc. March 2005.</i>		

Future Roadway Projects

The City’s Circulation Element includes significant future roadway projects throughout the valley that will affect traffic patterns of both existing and future trips. Near to the project site, Newhall Ranch Road will be extended eastward as a four-lane roadway from its current terminus at Bouquet Canyon Road to Golden Valley Road. Golden Valley Road itself will be extended southward beyond Sierra Highway to provide a direct connection to SR-14.

A Golden Valley Road extension northeast to Plum Canyon Road is also shown in the County of Los Angeles’ Master Plan of Arterial Highways. The segment of this roadway north of the project site is currently under construction. This analysis presents forecasts for scenarios “with” and “without” the completion of this roadway since its construction is dependent upon the private development located just north of the project site.

Traffic Impact Analysis

Before project impact analysis can be conducted, the future conditions are first presented in order to provide a point of comparison of potential project impacts. Thus the following analysis presents “Future Conditions Without the Proposed Project” followed by the “Future Conditions With the Proposed Project” .

Future Conditions Without the Proposed Project

Interim Year No-Project Traffic Conditions

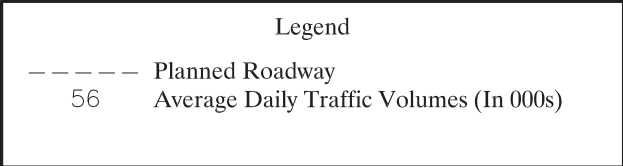
Interim Year no-project ADT volumes within the study area are shown in Figure V.O-6. Table V.O-7 provides the corresponding ICU values and also listed for comparison purposes are the ICU's for existing conditions. The ICU tabulations indicate that the following intersections are forecast to exceed the available capacity by the Interim Year.

Freeway On/Off Ramp Intersections:

- 144. Sierra Highway & SR-14 SB Ramps (AM and PM)

Existing Arterial Intersections:

- 57. Valencia Boulevard & Magic Mountain Parkway (AM and PM)
- 66. Bouquet Canyon Road & Newhall Ranch Road (AM and PM)
- 145. Sierra Highway & Placerita Canyon Road (AM and PM)
- 162. Sierra Highway & Golden Valley Road (AM and PM)
- 172. Whites Canyon Road & Soledad Canyon Road (AM and PM)



Source: Austin-Foust Associates, Inc. June, 2005

Table V.O-7
ICU and LOS Summary – Existing and Interim Year Without Project

Intersection	Existing				Interim Year without Project				Increase	
	AM	PM	AM	PM	AM	PM	AM	PM		
Freeway On/Off Ramp Intersections										
143. SR-14 NB Ramps & Placerita Cyn Rd ¹	0.37	A	0.29	A	0.62	B	0.45	A	0.25	0.16
144. Sierra Hwy & SR-14 SB Ramps ¹	0.66	B	0.83	D	0.94	E	1.02	F	0.28	0.19
146. SR-14 NB Ramps & Golden Valley Rd ¹	0.17	A	0.28	A	0.33	A	0.76	C	0.16	0.48
147. SR-14 SB Ramps & Golden Valley Rd ¹	0.52	A	0.24	A	0.80	C	0.74	C	0.28	0.50
Existing Intersections										
39. Dickason Dr & Newhall Ranch Rd	0.40	A	0.42	A	0.77	C	0.82	D	0.37	0.40
48. McBean Pkwy & Newhall Ranch Rd	0.68	B	0.72	C	0.84	D	0.89	D	0.16	0.17
57. Valencia Blvd & Magic Mtn Pkwy	0.62	B	0.72	C	1.04	F	1.08	F	0.42	0.36
65. Bouquet Cyn Rd & Soledad Cyn Rd	0.78	C	1.02	F	0.76	C	0.92	E	-0.02 ²	-0.10 ²
66. Bouquet Cyn Rd & Newhall Ranch Rd	0.78	C	0.85	D	0.94	E	1.07	F	0.16	0.22
145. Sierra Hwy & Placerita Cyn Rd	0.74	C	0.80	C	0.99	E	1.03	F	0.25	0.23
162. Sierra Hwy & Golden Valley Rd	0.70	B	0.61	B	1.15	F	0.92	E	0.45	0.31
172. Whites Cyn Rd & Soledad Cyn Rd	0.86	D	0.92	E	0.95	E	1.14	F	0.09	0.22
Future Intersections										
163. Golden Valley Rd & Via Princessa	--	--	--	--	0.79	C	0.84	D	--	--
165. Golden Valley Rd & Valley Center	--	--	--	--	0.40	A	0.59	A	--	--
198. Valley Center and Soledad Cyn Rd	--	--	--	--	0.63	B	0.71	C	--	--
¹ Unsignalized, stop-sign control ² The ICU for Interim Year without Project at Bouquet Canyon Road and Soledad Canyon Road (Intersection 65) is less than the ICU for existing conditions due to redistribution of traffic that occurs because of roadway improvements such as the Newhall Ranch Road extension to Golden Valley Road. Level of service ranges: 0.00 – 0.60 A 0.61 – 0.70 B 0.71 – 0.80 C 0.81 – 0.90 D 0.91 – 1.00 E Above 1.00 F										

Source: Austin-Foust Associates, Inc., March 2005.

Future Conditions With the Proposed Project

Within the project impact analysis (Interim Year), two scenarios have been analyzed which include: a) Without Golden Valley Road extension to Plum Canyon; and b) With Golden Valley Road connection to Plum Canyon Road. Each scenario includes two subsets of analyses, with and without an Ermine Street connection to the east.

Interim Year Without Golden Valley Road Extension to Plum Canyon Road

The traffic forecasts provided in this section include conditions that represent both a “with” and “without” Ermine Street connection to future Golden Valley Road. Ermine Street is a local east-west roadway in the residential development east of the Proposed Project, and it provides access to other local streets that connect to Whites Canyon Road. The Ermine Street connection is designed to provide access to Golden Valley Road for residents of the existing development, and some traffic from the Proposed Project would also use Ermine Street.

The Proposed Project would generate approximately 10,480 total off-site ADT's. Approximately 1,330 and 970 off-site trips would occur in the AM and PM peak hours, respectively. These are the off-site estimates that are used to represent the project's impacts on the analysis area circulation system.

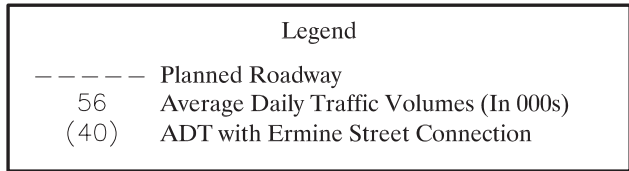
Without Ermine Street Connection to Golden Valley Road

Interim Year ADT volumes that include project-generated traffic are illustrated in Figure V.O-7. Project-only peak hour intersection volumes and peak hour intersection volumes for this scenario can be found in Appendix I, Figures B-1 and B-2.

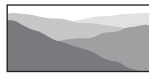
With Ermine Street Connection to Golden Valley Road

Interim Year ADT volumes for this scenario will differ slightly from the “without” Ermine Street connection volumes since the redistribution of existing traffic that would occur due to the connection is estimated to be approximately 2,000 vehicles per day. Figure V.O-7 presents ADT volumes for the project with Ermine Street connection to Golden Valley Road.

The peak hour ICU values can be found in Table V.O-8 which provide a comparison between Interim Year “no project” and “with project” conditions (without Golden Valley Road extension to Plum Canyon Road), with and without Ermine Street connection to Golden Valley Road. The table shows



Source: Austin-Foust Associates, Inc. June, 2005



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Environmental Planning and Research

Figure V.O-7,
Average Daily Traffic Volumes - Interim Year With & Without Ermine Street Connection-
Without Golden Valley Road Extension to Plum Canyon Road

that eight intersections experience a significant impact due to the project-generated traffic, and seven of those intersections are forecast to exceed LOS “D”.

The following intersections are those significantly impacted:

Freeway On/Off Ramp Intersections

- 144. Sierra Highway & SR-14 SB Ramps (AM and PM)

Existing Intersections

- 57. Valencia Boulevard & Magic Mtn Parkway (AM and PM)
- 65. Bouquet Canyon Road & Soledad Canyon Road (PM)
- 66. Bouquet Canyon Road & Newhall Ranch Road (AM and PM)
- 145. Sierra Highway & Placerita Canyon Road (PM)
- 162. Sierra Highway & Golden Valley Road (AM and PM)
- 172. Whites Canyon Road & Soledad Canyon Road (AM)

Future Intersections

- 163. Golden Valley Road & Via Princessa (AM)

Interim Year With Golden Valley Road Extension to Plum Canyon Road

The connection of Golden Valley Road northeast of the project site to Plum Canyon Road, as shown in the County of Los Angeles’ Master Plan of Arterial Highways, was analyzed to determine the project’s impacts under this scenario. The volume forecasts for this scenario were prepared with a special version of the SCVCTM Interim Year. Since this unique model run features a distribution and assignment traffic that differs from the forecasts presented in the previous section, changes to turning movement volumes will occur throughout the study area.

Without Ermine Street Connection to Golden Valley Road

Interim Year ADT volumes for the scenario that includes the Golden Valley Road extension to Plum Canyon Road are illustrated in Figure V.O-8 through V.O-10. Note that the project only volumes

presented in this section represent the off-site trips and do not include the on-site trips discussed in Project Trip Generation.

Table V.O-8
ICU and LOS Summary – Interim Year With and Without Project Without Golden Valley Road Extension to Plum Canyon Road
With and Without Ermine Street Connection to Golden Valley Road

Intersection	Interim Year without Project				Interim Year with Project (With Ermine)				Interim Year with Project (Without Ermine)				Increase ²	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway On/Off Ramp Intersections														
143. SR-14 NB Ramps & Placerita Cyn Rd ¹	0.62	B	0.45	A	0.65	B	0.46	A	0.65	B	0.46	A	0.03	0.01
144. Sierra Hwy & SR-14 SB Ramps ¹	0.94	E	1.02	F	0.99	E	1.05	F	0.99	E	1.05	F	0.05*	0.03*
146. SR-14 NB Ramps & Golden Valley Rd ¹	0.33	A	0.76	C	0.34	A	0.77	C	0.34	A	0.77	C	0.01	0.00
147. SR-14 SB Ramps & Golden Valley Rd ¹	0.80	C	0.74	C	0.81	D	0.74	C	0.81	D	0.74	D	0.01	0.0
Existing Intersections														
39. Dickason Dr & Newhall Ranch Rd	0.77	C	0.82	D	0.79	C	0.83	D	0.79	C	0.83	D	0.02	0.01
48. McBean Pkwy & Newhall Ranch Rd	0.84	D	0.89	D	0.84	D	0.90	D	0.84	D	0.90	D	0.00	0.01
57. Valencia Blvd & Magic Mtn Pkwy	1.04	F	1.08	F	1.05	F	1.09	F	1.05	F	1.09	F	0.01*	0.01*
65. Bouquet Cyn Rd & Soledad Cyn Rd	0.76	C	0.92	E	0.77	C	0.95	E	0.77	C	0.95	E	0.01	0.03*
66. Bouquet Cyn Rd & Newhall Ranch Rd	0.94	E	1.07	F	0.98	E	1.13	F	0.98	E	1.13	F	0.04*	0.06*
145. Sierra Hwy & Placerita Cyn Rd	0.99	E	1.03	F	0.99	E	1.07	F	0.99	E	1.07	F	0.00	0.04*
162. Sierra Hwy & Golden Valley Rd	1.15	F	0.92	E	1.17	F	0.95	E	1.17	F	0.95	E	0.02*	0.03*
172. Whites Cyn Rd & Soledad Cyn Rd	0.95	E	1.14	F	0.96	E	1.14	F	0.97	E	1.14	F	0.01* (0.02)*	0.00
Future Intersections														

**Table V.O-8
 ICU and LOS Summary – Interim Year With and Without Project Without Golden Valley Road Extension to Plum Canyon Road
 With and Without Ermine Street Connection to Golden Valley Road**

Intersection	Interim Year without Project				Interim Year with Project (With Ermine)				Interim Year with Project (Without Ermine)				Increase ²	
	AM		PM		AM		PM		AM		PM		AM	PM
163. Golden Valley Rd & Via Princessa	0.79	C	0.84	D	0.83	D	0.84	D	0.83	D	0.84	D	0.04*	0.00
165. Golden Valley Rd & Valley Center	0.40	A	0.59	A	0.48	A	0.64	B	0.50	A	0.65	B	0.08 (0.10)	0.05 (0.06)
166. Golden Valley Rd & Newhall Ranch Rd.	--	--	--	--	0.51	A	0.56	A	0.52	A	0.52	A	--	--
198. Valley Center and Soledad Cyn Rd	0.63	B	0.71	C	0.69	B	0.70	B	0.68	B	0.73	C	0.06 (0.05)	-0.01 (0.02)

*Significant Impact (See Table V.O-5)

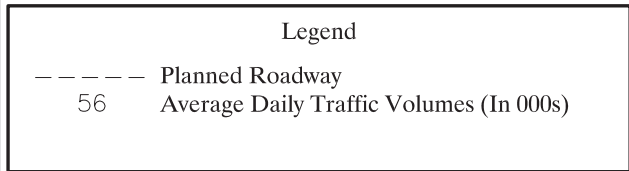
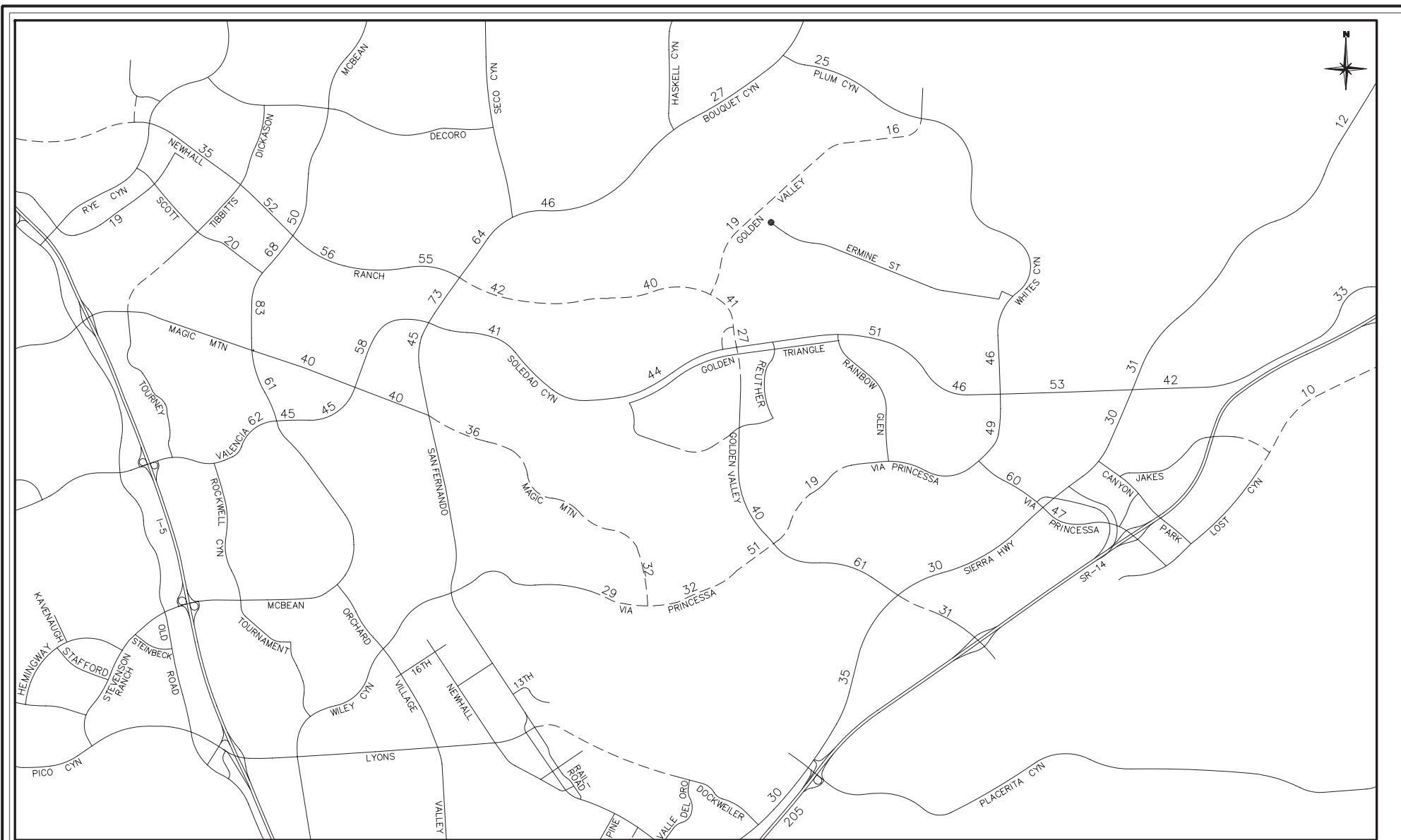
¹Unsignalized, stop-sign control

²Increase in ICU value noted in Column 4 is for Column 2 minus Column 1. Parenthesized value indicates an increase in ICU for Column 3 minus Column 1. Where no parenthesized value is noted, increase is the same for both Column 2 minus 1 and Column 3 minus 1.

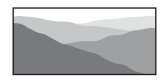
Level of service ranges:

- 0.00 – 0.60 A
- 0.61 – 0.70 B
- 0.71 – 0.80 C
- 0.91 – 1.00 E
- Above 1.00 F

Source: Austin-Foust Associates, Inc., March 2005

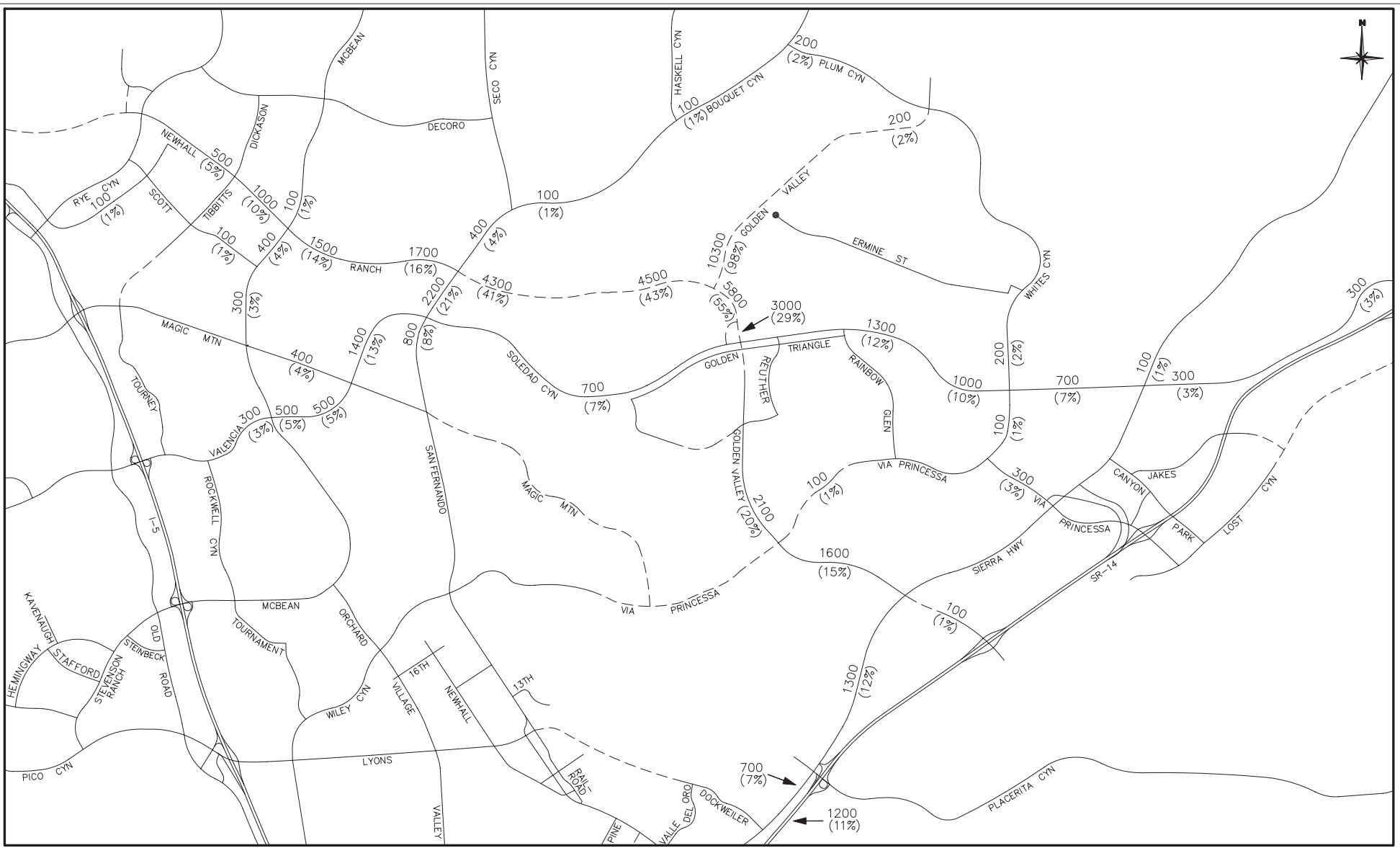


Source: Austin-Foust Associates, Inc., June 2005



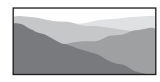
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Figure V.O-8
Average Daily Traffic Volumes, Interim Year Without Ermine Street Connection
With Golden Valley Road Extension to Plum Canyon Road



Legend	
-----	Planned Roadway
1000	Project ADT Volume
(10%)	Percent of Total Project Off-site Trips

Source: Austin-Foust Associates, Inc. June, 2005



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Figure V.O-9
Average Daily Traffic Volumes - Project Only Without Ermine Street Connection-
With Golden Valley Road Extension to Plum Canyon Road



Legend	
---	Planned Roadway
56	Average Daily Traffic Volumes (In 000s)
(40)	ADT with Ermine Street Connection

Source: Austin-Foust Associates, Inc., June 2005



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Figure V.O-10
Average Daily Traffic Volumes, Interim Year With & Without Ermine Street Connection
With Golden Valley Road Extension to Plum Canyon Road

**Table V.O-9
 ICU and LOS Summary – Interim Year With and Without Project With Golden Valley Road Extension to Plum Canyon Road
 With and Without Ermine Street Connection to Golden Valley Road**

Intersection	Interim Year without Project Without GVR Extension				Interim Year without Project With GVR Extension				Interim Year with Project With GVR Extension (With Ermine)				Interim Year with Project With GVR Extension (Without Ermine)				Increase ²	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
Freeway On/Off Ramp Intersections																		
143. SR-14 NB Ramps & Placerita Cyn Rd ¹	0.62	B	0.45	A	0.61	B	0.45	A	0.64	B	0.47	A	0.64	B	0.47	A	0.03	0.02
144. Sierra Hwy & SR-14 SB Ramps ¹	0.94	E	1.02	F	0.91	E	1.01	F	0.95	E	1.04	F	0.95	E	1.04	F	0.04*	0.03*
146. SR-14 NB Ramps & Golden Valley Rd ¹	0.33	A	0.76	C	0.32	A	0.74	C	0.33	A	0.74	C	0.33	A	0.74	C	0.01	0.00
147. SR-14 SB Ramps & Golden Valley Rd ¹	0.80	C	0.74	C	0.79	C	0.69	B	0.80	C	0.70	C	0.80	C	0.70	C	0.01	0.01
Existing Intersections																		
39. Dickason Dr & Newhall Ranch Rd	0.77	C	0.82	D	0.73	C	0.81	D	0.75	C	0.82	D	0.75	C	0.82	D	0.02	0.01
48. McBean Pkwy & Newhall Ranch Rd	0.84	D	0.89	D	0.86	D	0.87	D	0.87	E	0.88	D	0.87	E	0.88	D	0.01	0.01
57. Valencia Blvd & Magic Mtn Pkwy	1.04	F	1.08	F	1.05	F	1.08	F	1.06	F	1.09	F	1.06	F	1.09	F	0.01*	0.01*
65. Bouquet Cyn Rd & Soledad Cyn Rd	0.76	C	0.92	E	0.75	C	0.96	E	0.76	C	0.99	E	0.76	C	0.99	E	0.01	0.03*
66. Bouquet Cyn Rd & Newhall Ranch Rd	0.94	E	1.07	F	0.92	E	1.10	F	0.96	E	1.22	F	0.96	E	1.22	F	0.04*	0.12*
145. Sierra Hwy & Placerita Cyn Rd	0.99	E	1.03	F	1.02	F	1.05	F	1.02	F	1.09	F	1.02	F	1.09	F	0.00	0.04*
162. Sierra Hwy & Golden Valley Rd	1.15	F	0.92	E	1.14	F	0.95	E	1.16	F	0.97	E	1.16	F	0.97	E	0.02*	0.02*

**Table V.O-9
 ICU and LOS Summary – Interim Year With and Without Project With Golden Valley Road Extension to Plum Canyon Road
 With and Without Ermine Street Connection to Golden Valley Road**

Intersection	Interim Year without Project Without GVR Extension				Interim Year without Project With GVR Extension				Interim Year with Project With GVR Extension (With Ermine)				Interim Year with Project With GVR Extension (Without Ermine)				Increase ²			
	AM		PM		AM		PM		AM		PM		AM		PM		AM	PM		
172. Whites Cyn Rd & Soledad Cyn Rd	0.95	E	1.14	F	0.92	E	1.10	F	0.93	E	1.10	F	0.94	E	1.10	F	-0.01*	(0.02*)	0.00	
Future Intersections																				
163. Golden Valley Rd & Via Princessa	0.79	C	0.84	D	0.86	D	0.85	D	0.89	D	0.87	D	0.89	D	0.87	D	0.03*		0.02*	
165. Golden Valley Rd & Valley Center	0.40	A	0.59	A	0.43	A	0.63	B	0.49	A	0.68	B	0.52	A	0.68	B	0.06	(0.09)	0.05	
166. Golden Valley Rd & Newhall Ranch Rd.	--	--	--	--	0.52	A	0.73	C	0.69	B	1.05	F	0.69	B	0.97	E	0.17		0.32* ³	
198. Valley Center and Soledad Cyn Rd	0.63	B	0.71	C	0.69	B	0.69	B	0.73	C	0.68	B	0.73	C	0.71	C	0.04		-0.01	(0.02)
*Significant Impact (See Table V.O-5)																				
¹ Unsignalized, stop-sign control																				
² Increase in ICU value noted in Column 5 is for Column 3 minus Column 2. Parenthesized value indicates an increase in ICU for Column 4 minus Column 2. Where no parenthesized value is noted, increase is the same for both Column 3 minus 2 and Column 43 minus 2.																				
Level of service ranges:																				
0.00 – 0.60 A																				
0.61 – 0.70 B																				
0.71 – 0.80 C																				
0.81 – 0.90 D																				
0.91 – 1.00 E																				
Above 1.00 F																				
Source: Austin-Foust Associates, Inc., March 2005.																				

With Ermine Street Connection to Golden Valley Road

Interim Year ADT volumes for this scenario will differ slightly from the “without” Ermine Street connection volumes since the ADT redistribution of existing traffic that would occur due to the connection to be approximately 2,000 vehicles per day. Figure V.O-8 presents ADT volumes for the project with Ermine connection to Golden Valley Road.

Peak hour ICU values can be found in Table V.O-8 which provides a comparison between Interim Year “no project” and Interim Year “with project” condition that include the Golden Valley Road extension to Plum Canyon Road, both with and without Ermine Street connections to the extension. Note that two “no project” scenarios are shown in the table (no-project without the Golden Valley Road Extension and no-project with the Golden Valley Road Extension) in order to illustrate the change in traffic volumes that will occur due to the redistribution of existing traffic as well as due to just the project traffic alone. The change in ICU values, as shown in the last two columns of the table, represents the net impact of the project generated traffic.

Table 9 shows that nine intersections experience a significant impact due to the project-generated traffic when compared to the no project scenario, and eight of those intersections forecast to exceed LOS “D”. The following intersections are those significantly impacted:

Freeway On/Off Ramp Intersection

- 144. Sierra Highway & SR-14 SB Ramps (AM and PM)

Existing Intersections

- 57. Valencia Boulevard & Magic Mtn Parkway (AM and PM)
- 65. Bouquet Canyon Road & Soledad Canyon Road (PM)
- 66. Bouquet Canyon Road & Newhall Ranch Road
- 145. Sierra Highway & Placerita Canyon Road (AM and PM)
- 162. Sierra Highway & Golden Valley Road (AM and PM)
- 172. Whites Canyon Road & Soledad Canyon Road

Future Intersections

- 163. Golden Valley Road & Via Princessa (AM and PM)
- 166. Golden Valley Road & Newhall Ranch Road (PM)

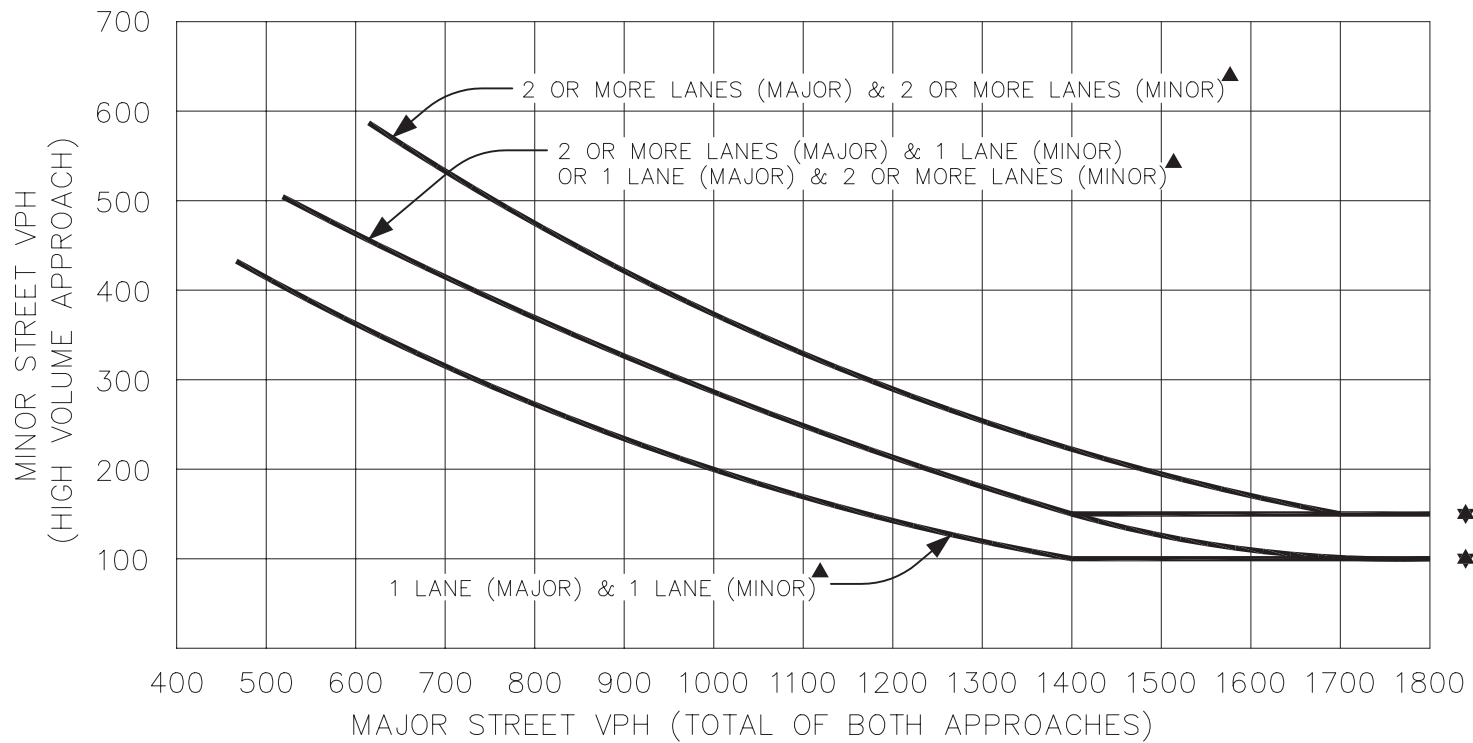
Traffic Signal Warrants

Four of the study locations are currently stop sign controlled intersections and four intersections are planned future intersections. Two of the planned future intersections, Golden Valley Road at Valley Center Drive and Valley Center Drive at Soledad Canyon Road have been previously identified in other

traffic studies to warrant signalization. Figure V.O-11 illustrates the Caltrans peak hour volume warrant and Table V.O-10 summarize peak hour traffic volumes for the stop sign controlled intersections and two future intersections not previously analyzed and evaluates them using the warrant.

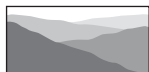
Table V.O-10
Traffic Signal Volume Warrant

Intersection		Existing		Interim Year ¹ without Project		Interim Year ¹ with Project	
		AM	PM	AM	PM	AM	PM
143. SR-14 NB Ramps & Placerita Cyn Rd¹							
Major Approach	Total of Both Approaches	541	366	849	840	850	840
Minor Approach	Highest Volume	266	301	632	395	680	450
Satisfies Warrant?		No	No	Yes	Yes	Yes	Yes
144. Sierra Hwy & SR-14 SB Ramps							
Major Approach	Total of Both Approaches	2,967	2,626	3,834	3,287	4,030	3,380
Minor Approach	Highest Volume	152	44	280	210	280	210
Satisfies Warrant?		Yes	No	Yes	Yes	Yes	Yes
146. SR-14 NB Ramps & Golden Valley Rd¹							
Major Approach	Total of Both Approaches	73	232	1016	2520	1020	2520
Minor Approach	Highest Volume	59	91	152	1048	170	1060
Satisfies Warrant?		No	No	Yes	Yes	Yes	Yes
147. SR-14 SB Ramps & Golden Valley Rd¹							
Major Approach	Total of Both Approaches	753	364	1,828	2,595	1,880	2,610
Minor Approach	Highest Volume	146	57	1,256	986	1260	990
Satisfies Warrant?		No	No	Yes	Yes	Yes	Yes
163. Golden Valley Rd & Via Princessa							
Major Approach	Total of Both Approaches	--	--	3,333	4,750	3,590	4,870
Minor Approach	Highest Volume	--	--	1,824	2,660	1,830	2,660
Satisfies Warrant?		--	--	Yes	Yes	Yes	Yes
166. Golden Valley Rd & Newhall Ranch Rd.							
Major Approach	Total of Both Approaches	--	--	--	--	2,602	3,786
Minor Approach	Highest Volume	--	--	--	--	796	387
Satisfies Warrant?		--	--	--	--	Yes	Yes
Note: Analysis based on Caltrans Peak Hour Urban Warrant.							
¹ Without Golden Valley Road extension to Plum Canyon Road, and without Ermine Street connection to Golden Valley Road.							
Source: Austin-Foust Associates, Inc., March 2005.							



- ▲ NOTE: THESE CURVES ARE RECOMMENDED FOR USE IN AREAS OF URBAN CLASSIFICATION (i.e. POSTED SPEED LIMIT ON THE MAJOR STREET IS 35 MPH OR LESS).
- ★ NOTE: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES, AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH ONE LANE.

Source: Austin-Foust Associates, Inc.



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Figure V.O-11
Peak Hour Volume Warrant
(Urban Areas)

The following location met the peak hour volume warrant for existing conditions:

- 144. Sierra Highway & SR-14 SB Ramps

The following additional locations meet the peak hour volume warrant for Interim Year conditions without the project:

- 143. SR-14 NB Ramps & Placerita Canyon Road
- 146. SR-14 NB Ramps & Golden Valley Road
- 147. SR-14 SB Ramps & Golden Valley Road
- 163. Golden Valley Road & Via Princessa

The following additional location meets the peak hour volume warrant for Interim Year conditions with the project:

- 166. Golden Valley Road & Newhall Ranch Road

The construction of Golden Valley Road to Plum Canyon Road or the connection of Ermine Street to future Golden Valley Road would not change the findings of this signal warrant analysis.

Proposed Project Site Circulation

The site plan for the project indicates that access to the site is proposed from a new roadway that will intersect with the future extension of Golden Valley Road at two locations. A third intersection with Golden Valley Road is also planned within the project's boundary to connect to existing Ermine Street.

On Golden Valley Road, a four-way intersection with "T" Street is planned approximately 0.40 miles north of the future extension of Newhall Ranch Road. This intersection will serve both the project's residential development located west of Golden Valley Road and the school and YMCA site located on the east. The second intersection with Golden Valley Road at Ermine Street will be configured as a "T" intersection and will be located approximately 0.50 miles north of the four-way intersection. The third intersection with Golden Valley Road will be located approximately 0.10 mile north of the Ermine Street intersection.

AM and PM peak hour intersection volumes along Golden Valley Road at the three locations identified above are illustrated in Figure V.O-10. These volumes assume a "worse-case" scenario and represent

the “with Golden Valley Road extension to Plum Canyon Road” and “with Ermine Street connection to future Golden Valley Road” conditions.

Peak hour ICU values can be found in Table V.O-11. As shown, each intersection operates at an acceptable level of service based on the recommended lane configurations.

Table V.O-11
ICU and LOS Summary – Project Driveways With Golden Valley Road Extension to Plum Canyon Road With Ermine Street Connection to Golden Valley Road

Location	Interim Year With Project			
	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
1. Golden Valley Rd & “I” St North (tee int.)	0.70	B	0.59	A
2. Golden Valley Rd & Ermine St	0.61	B	0.64	B
3. Golden Valley Rd & “I” St South (four-way int.)	0.82	D	0.78	C
<i>Level of service ranges:</i> 0.00 – 0.60 A 0.61 – 0.70 B 0.71 – 0.80 C 0.81 – 0.90 D 0.91 – 1.00 E Above 1.00 F				
<i>Source: Austin-Foust Associates, Inc., March 2005.</i>				

Table V.O-12 summarizes the peak hour traffic volumes for the two project driveways along Golden Valley Road and the proposed intersection with Ermine Street and evaluates them using the Caltrans peak hour volume warrant. All three locations meet the peak hour volume warrant.

Table V.O-12
Traffic Signal Volume Warrant – Project Driveways With Golden Valley Road Extension to Plum Canyon Road With Ermine Street Connection to Golden Valley Road

Intersection		Interim Year With Project	
		AM	PM
1. Golden Valley Rd & “I” St North (tee int.)			
Major Approach	Total of Both Approaches	1,447	2,239
Minor Approach	Highest Volume	231	132
Satisfies Warrant?		Yes	Yes
2. Golden Valley Rd & Ermine St			
Major Approach	Total of Both Approaches	1,660	2,569
Minor Approach	Highest Volume	178	9

Table V.O-12
Traffic Signal Volume Warrant – Project Driveways With Golden Valley Road Extension
to Plum Canyon Road With Ermine Street Connection to Golden Valley Road

Intersection	Interim Year With Project		
	AM	PM	
Satisfies Warrant?	Yes	No	
3. Golden Valley Rd & "I" St South (four-way int.)			
Major Approach	Total of Both Approaches	2,285	2,912
Minor Approach	Highest Volume	404	148
Satisfies Warrant?	Yes	Yes	
<i>Note: Analysis based on Caltrans Peak Hour Urban Warrant.</i>			
<i>Source: Austin-Foust Associates, Inc., March 2005.</i>			

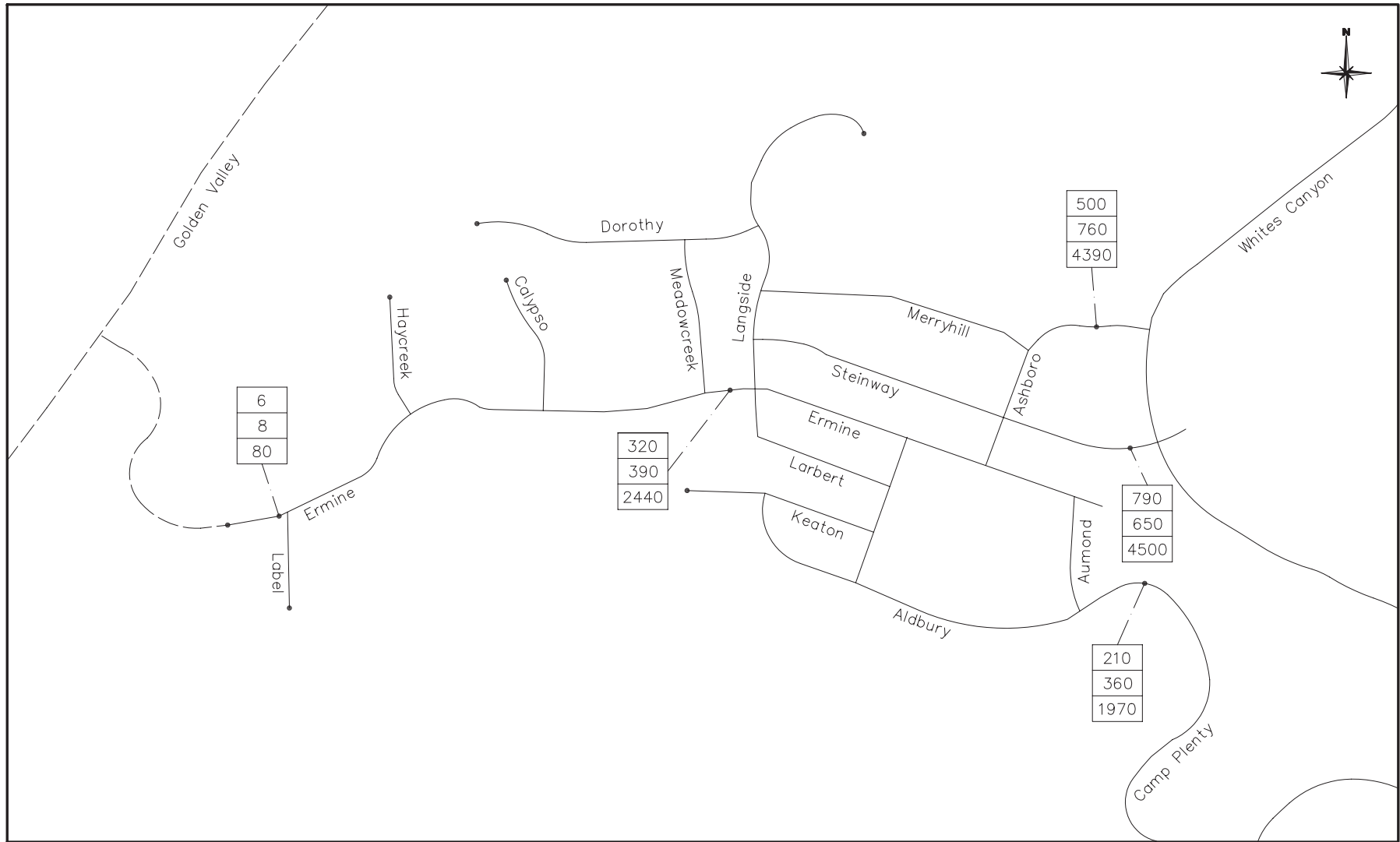
Existing Neighborhood Traffic

Located east of the Proposed Project site is an existing residential development. Ermine Street is a local east-west roadway within the development, and it provides access to other local streets that connect to Whites Canyon Road.

Provided in this analysis are scenarios with and without a connection of Ermine Street to future Golden Valley Road. The Ermine Street intersection would be configured as a "T" intersection, with the project having two separate intersections on Golden Valley Road, north and south of the Ermine Street intersection. This connection is designed to provide alternate access to areas west for residents of the existing development, and some traffic from the Proposed Project would use Ermine Street.

Figure V.O-12 illustrates the residential neighborhood located east of the Proposed Project site. Vehicular entry and exit locations to this neighborhood were identified in traffic counts of existing conditions were collected in January 2005. These are shown on the graphic as AM and PM peak hour volumes and 24-hour average daily traffic (ADT) volumes.

Approximately 2,000 ADT from this neighborhood that would redistribute to Golden Valley Road if the connection of Ermine Street to Golden Valley Road is provided. This volume represents approximately 18% of the total measured ADT of this neighborhood.

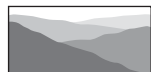


Legend

----- Proposed Roadway

210	AM Peak Hour Volume
360	PM Peak Hour Volume
1970	ADT Volume

Source: Austin-Foust Associates, Inc.



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Figure V.O-12
Peak Hour and ADT Volumes -
Ermine Street Neighborhood

Future Freeway Conditions

CMP Analysis

To address the increasing public concern that traffic congestion was impacting the quality of life and economic vitality of the State of California, the Congestion Management Program (CMP) was enacted by Proposition 111. The intent of the CMP is to provide the analytical basis for transportation decisions through the State Transportation Improvement Program (STIP) process. A Countywide approach has been established by the Metropolitan Transportation Authority, the Local CMP agency, to implement the statutory requirements of the CMP. The Countywide approach includes designating a highway network that includes all state highways and principal arterials within the County and monitoring the network's LOS standards. This monitoring of the CMP network is one of the responsibilities of local jurisdictions. If level of service standards deteriorate, then local jurisdictions must prepare a deficiency plan to be in conformance with the Countywide plan.

The CMP requires that a proposed development address two major subject areas with respect to traffic impacts. These are the project's impacts on the CMP highway system and on the local and regional transit systems.

According to the CMP guidelines, the geographical area examined in a CMP traffic impact analysis (TIA) consists of the CMP monitoring locations that meet the following criteria:

1. CMP intersections where the Proposed Project will add 50 or more trips during the AM or PM weekday peak hours.
2. Mainline freeway monitoring locations where the project will add 50 or more trips, in either direction, during either the AM or PM weekday peak hours.

Two CMP intersections and one CMP freeway location meet the above criteria. The affected locations are as follows:

1. Intersections 133 – Magic Mountain Parkway & Valencia Boulevard
2. Intersection 136 – Sierra Highway & Placerita Canyon Road
3. Station 1008 – I-5 north of SR -14

Table V.O-13 summarizes traffic volumes for the mainline freeway location for existing conditions as well as 2015 forecasts from the SCVCTM.

Table V.O-13
CMP Existing and Future Freeway Traffic Volumes

Location/Year	Capacity	AM Peak Hour			PM Peak Hour		
		Volume	V/C	LOS	Volume	V/C	LOS
1008. I-5 n/o SR-14 - Northbound							
2003 Caltrans Count	10,000	2,710	0.271	A	7,730	0.773	D
2015 Forecast (No Project)	10,000	3,864	0.386	B	9,173	0.917	D
2015 Forecast (With Project)	10,000	3,930 (66)	0.393 (0.007)	B	9,240 (67)	0.924 (0.007)	D
1008. I-5 n/o - Southbound							
2003 Caltrans Count	10,000	7,660	0.766	C	3,760	0.376	B
2015 Forecast (No Project)	10,000	9,009	0.901	D	5,441	0.544	C
2015 Forecast (With Project)	10,000	9,170 (161)	0.917 (0.016)	D	5,470	0.547 (0.003)	C
<i>Level of service ranges:</i> 0.00 - 0.35 A > 0.77 - 0.93 D > 1.25 - 1.35 F(1) > 0.35 - 0.54 B > 0.93 - 1.00 E > 1.35 - 1.45 F(2) > 0.54 - 0.77 C > 1.00 - 1.25 F > 1.45 F(3)							
(XX) = Project Increment							
Note: Counts from Caltrans as noted. Forecasts from the SCVCTM Interim Year 4.0							
Source: Austin-Foust Associates, Inc., March 2005.							

The CMP methodology for estimation of freeway LOS is based on calculation of the demand-to-capacity (D/C) ratio and associated LOS, as listed in the previously referenced table. Calculation of LOS based on V/C ratios is a surrogate for the speed-based LOS used by Caltrans for traffic operational analysis. The CMP criteria for a significant impact is a V/C increase due to the project of two percent of capacity that causes or worsens LOS F.

The volumes show that based on CMP methodology, the project increment is less than two percent of capacity. Therefore, the project does not have a CMP significant impact.

Table V.O-14 summarizes the intersection ICU's and LOS for the two intersections based on the CMP ICU calculation methodology. The CMP ICU methodology differs from the City methodology used

Table V.O-14
ICU and LOS Summary - CMP Monitoring Intersections

Intersection	Without Project		With Project		Increase					
	AM	PM	AM	PM	AM	PM				
57. Valencia Blvd &	1.11	F	1.18	F	1.12	F	1.18	F	0.01	0.00

Magic Mtn Pkwy					(0.93)	(E)	(1.08)	(F)	(-0.18)	(-0.10)
145. Sierra Hwy & Placerita Cyn Rd	1.07	F	1.13	F	1.07 (1.07)	F (F)	1.17 (1.05)	F (F)	0.00 (0.00)	0.04 (-0.08)
<p><i>Note: Values in parentheses indicate ICU and LOS with the project mitigation identified in previous sections. ICUs calculated using Los Angeles County CMP methodology</i></p> <p><i>Level of service ranges:</i> 0.00 – 0.60 A 0.61 – 0.70 B 0.71 – 0.80 C 0.81 – 0.90 D 0.91 – 1.00 E Above 1.00 F</p> <p><i>Source: Austin-Foust Associates, Inc., March 2005.</i></p>										

elsewhere in this section in regards to the per lane capacity used in the calculation. Included in the table are the relevant ICU's and LOS after taking into account the project mitigation identified below. With mitigation, there is no longer a significant impact and project mitigation is sufficient for CMP.

CMP methodology states that a significant project impact occurs when the Proposed Project increases traffic demand at a CMP monitoring location by two percent of capacity, causing or worsening LOS "F". With the mitigation the project has no significant impacts since the project results in an improvement over no-project conditions.

Another component of the CMP transportation impact analysis is a review of transit impacts. The Proposed Project is forecast to generate 10,477 net ADT. The conversion to person trips is accomplished by using CMP guidelines which results in a total of 14,667 average daily person trips. Applying the CMP's factor for converting total person trips to transit trips (.035) results in approximately 513 total daily transit trips and approximately 51 peak hour transit trips.

The City of Santa Clarita does not have level of service standards for transit service that are applicable to future development such as the Proposed Project. Transit service is evaluated and funded on an as-needed basis. If additional fixed route service will be needed near the project site in the future, the project should coordinate with the transit provider to identified appropriate bus stop/turnout locations.

State Highways

The project site is located northwest of State Route 14. In the vicinity of the project, SR-14 is a six-lane freeway under the jurisdiction of Caltrans and will provide regional transportation for residents of the site. Project traffic will utilize the Golden Valley Road and Placerita Canyon Road interchanges for access to the project.

Table V.O-15 summarizes the volume of project traffic forecast to use SR-14 in the vicinity of the project site. Project volumes have been forecast using the SCVCTM runs prepared for the impact analysis presented above.

Table V.O-15
Project Volumes on State Highways

Location	AM Peak Hour		PM Peak Hour	
	NB	SB	NB	SB
SR-14 north of Golden Valley Rd	4	4	0	4
SR-14 south of Golden Valley Rd	18	30	12	3
SR-14 south of Placerita Canyon Rd	66	161	67	29
<i>Source: Austin-Foust Associates, Inc., March 2005.</i>				

Consistent with Caltrans *Guide for the Preparation of Traffic Impact Studies* project volumes on State highway facilities are being provided to Caltrans in order to determine the appropriate level of study for these facilities. As stated in the guidelines, “a traffic study may be as simple as providing a traffic count to as complex as a microscopic simulation. The appropriate level of study is determined by the particulars of a project, the prevailing highway conditions, and the forecasted traffic.”

Table V.O-16 shows the project’s equitable share. In the critical peak direction, which for the SR-14 freeway is southbound in the AM peak hour and northbound in the PM peak hour, the project’s share ranges from 0.5 percent to 0.2 percent south of Golden Valley Road and from 2.2 percent to 0.9 percent south of Placerita Canyon Road.

**Table V.O-16
Freeway Traffic Shares**

Location	AM Peak Hour					PM Peak Hour				
	(T) Project	Existing	(T _E) Existing + Approved	(T _B) Long- Range General Plan Buildout	(P) Project Share	(T) Project	Existing	(T _E) Existing + Approved	(T _B) Long- Range General Plan Buildout	(P) Project Share
Northbound										
SR-14 south of Golden Valley Rd	18	2,370	2,420	3,560	1.6%	12	6,980	7,120	14,060	0.2%
SR-14 south of Placerita Canyon Rd	66	2,740	2,520	4,320	3.7%	67	7,200	7,340	14,820	0.9%
Southbound										
SR-14 south of Golden Valley Rd	30	6,550	6,680	12,980	0.5%	3	3,150	3,210	4,490	0.2%
SR-14 south of Placerita Canyon Rd	161	6,980	7,120	14,530	2.2%	29	3,410	3,480	5,600	1.4%
Share formula: $P = T / (T_B - T_E)$										
<p><i>P</i> = The equitable share for the Proposed Project's traffic impact <i>T</i> = The vehicle trips generated by the project during the peak hour of adjacent State highway facility in vehicles per hour (veh/hr) <i>T_B</i> = The forecast traffic volume on an impacted State highway facility at the time of General Plan buildout (e.g. 20 year model or the furthest future date feasible) (veh/hr) <i>T_E</i> = The traffic volume existing on the impacted State highway facility plus other approved projects that will generate traffic that has yet to be constructed/opened (veh/hr), estimated as existing counts plus two percent (approximately one year of new development)</p>										
Source: Austin-Foust Associates, Inc., March 2005.										

Impact Analysis Without Cross Valley Connector Road

Two special scenarios have been analyzed in which the planned Cross Valley Connector is either not built or is only partially built before the occupancy of the Proposed Project. The purpose of this analysis is to determine project impacts for this interim scenario in which the Proposed Project is occupied before the completion of the Cross Valley Connector.

Scenario 1 – No Cross Valley Connector (CVC). In this scenario, Newhall Ranch Road east of Bouquet Canyon Road serves local traffic for the Riverpark project only and terminates at Riverpark's boundary. There is no connection between the terminus at the Riverpark project and the Golden Valley Road/Soledad Canyon Road flyover, which is operational, and no connection to Golden Valley road north to The Keystone project site. All remaining links in the Cross Valley Connector are operational. In this scenario, all Keystone traffic must access the site via Golden Valley Road at Plum Canon Road or via Ermine Street.

Scenario 2 – No Cross Valley Connector (CVC) Bridge. In this scenario, Newhall Ranch Road east of Bouquet Canyon Road is completed to the southward extension of Golden Valley Road, providing access to The Keystone project site. The bridge over the Santa Clara River is not completed but the Golden Valley Road/Soledad Canyon Road flyover is operational. All remaining links in the Cross Valley Connector are also operational. In this scenario, Keystone traffic has the same access opportunities as in Scenario 1, plus an additional access point via Newhall Ranch Road at Bouquet Canyon Road.

For both scenarios, it is assumed that only the first phase of the Riverpark project (Related Project No. 4) is built and occupied based on the conditions of approval for that project (500 residential units prior to the completion of the CVC over the Santa Clara River). Peak hour ICU values can be found in Table 17 which provides a comparison between Interim Year “without project” and “with project” conditions. Mitigation measures previously identified for The Keystone project are included as part of the “with project” conditions. The corresponding ICU worksheets are provided in Appendix 10.

**Table V.O-17
 ICU AND LOS SUMMARY – INTERIM YEAR WITH AND WITHOUT PROJECT
 WITHOUT CROSS VALLEY CONNECTOR AND WITHOUT CROSS VALLEY CONNECTOR BRIDGE OVER SANTA CLARA
 RIVER**

INTERSECTION	1.				2.				3.		4.				5.	
	Interim Year No Project (No CVC)				Interim Year With Project (No CVC) (Includes EIR Mitigation) ²				Increase (Column 2-1)		Interim Year With Project (No CVC Bridge Over SCR) (Includes EIR Mitigation) ²				Increase (Column 4-1)	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Freeway On/Off Ramp Intersections																
143. SR-14 NB Ramps & Placerita Cyn Rd ¹	.61	B	.46	A	.61	B	.46	A	.00	.00	.60	A	.43	A	-.01	-.03
144. Sierra Hwy & SR-14 SB Ramps ¹	.94	E	1.01	F	.82	D	.89	D	-.12	-.12	.77	C	.78	C	-.17	-.23
146. SR-14 NB Ramps & Golden Valley Rd ¹	.33	A	.75	C	.33	A	.75	C	.00	.00	.33	A	.74	C	.00	-.01
147. SR-14 SB Ramps & Golden Valley Rd ¹	.80	C	.73	C	.80	C	.73	C	.00	.00	.77	C	.70	B	-.03	-.03
Existing Intersections																
39. Dickason Dr & Newhall Ranch Rd	.72	C	.78	C	.74	C	.78	C	.02	.00	.72	C	.77	C	.00	-.01
48. McBean Pkwy & Newhall Ranch Rd	.83	D	.86	D	.84	D	.86	D	.01	.00	.85	D	.84	D	.02*	-.02
57. Valencia Blvd & Magic Mtn Pkwy	1.03	F	1.10	F	.86	D	1.00	E	-.17	-.10	.87	D	1.00	E	-.16	-.10
65. Bouquet Cyn Rd & Soledad Cyn Rd																
With Riverpark Mitigation	.90	D	1.32	F	.92	E	1.30	F	.02*	-.02	.90	D	1.35	F	.00	.03*
	.97	E	1.18	F	1.02	F	1.15	F	.05*	-.03	1.03	F	1.20	F	.06*	.02*
66. Bouquet Cyn Rd & Newhall Ranch Rd	.92	E	.99	E	.99	E	1.04	F	.07*	.05*	1.13	F	1.00	E	.21*	.01*
	.92	E	.98	E	.99	E	1.03	F	.07*	.05*	1.13	F	1.00	E	.21*	.02*

With Riverpark Mitigation																
67. Seco Cyn Rd & Bouquet Cyn Rd	.95	E	1.02	F	1.09	F	1.08	F	.14*	.06*	.92	E	.99	E	-.03	-.03
145. Sierra Hwy & Placerita Cyn Rd	1.00	E	1.02	F	1.00	F	.94	E	.00	-.08	1.01	F	.86	D	.01 ³	-.16
160. Haskell Cyn Rd & Bouquet Cyn Rd	.87	D	.71	C	1.07	F	.84	D	.20*	.13*	.85	D	.65	B	-.02	-.06
162. Sierra Hwy & Golden Valley Rd	1.13	F	.92	E	1.02	F	.83	D	-.11	-.09	1.02	F	.84	D	-.11	-.08
172. Whites Cyn Rd & Soledad Cyn Rd	.94	E	1.17	F	.94	E	1.18	F	.00	.01*	.95	E	1.21	F	.01*	.04*
174. Bouquet Cyn Rd & Plum Cyn Rd	.87	D	1.04	F	1.09	F	1.33	F	.22*	.29*	.73	C	.82	D	-.14	-.22
Future Intersections																
163. Golden Valley Rd & Via Princessa	.81	D	.84	D	.81	D	.84	D	.00	.00	.81	D	.83	D	.00	-.01
173. Santa Catarina/GVR & Plum Cyn Rd	.73	C	.68	B	1.17	F	.99	E	.44*	.31*	.56	A	.50	A	-.17	-.18
198. Valley Center & Soledad Cyn Rd	.82	D	.77	C	.86	D	.80	C	.04*	.03	.75	C	.79	C	-.07	.02
Notes: CVC = Cross Valley Connector (Study specifically addresses segment of CVC between Bouquet Canyon Road and Soledad Canyon Road) SCR = Santa Clara River *Significant Impact (Requires mitigation in addition to the mitigation measures identified in Draft EIR Traffic Study) ¹ Unsignalized, stop-sign control. ² Refers to mitigation previously identified in Draft EIR Traffic Study. ³ Increase due to background (non-project) traffic, not a project impact. Level of service ranges: .00 - .60 A .61 - .70 B .71 - .80 C .81 - .90 D .91 - 1.00 E Above 1.00 F																

When the Cross Valley Connector is not completed as analyzed in Scenario 1, eight intersections show significant impacts in comparison to no-project conditions. For Scenario 2, four intersections will show significant impacts. These intersections are as follows:

- 48. McBean Parkway & Newhall Ranch Road (Scenario 2)
- 65. Bouquet Canyon Road & Soledad Canyon Road (Scenarios 1 & 2)
- 66. Bouquet Canyon Road & Newhall Ranch Road (Scenarios 1 & 2)
- 67. Seco Canyon Road & Bouquet Canyon Road (Scenario 1)
- 160. Haskell Canyon Road & Bouquet Canyon Road (Scenario 1)
- 172. Whites Canyon Road & Soledad Canyon Road (Scenario 1 & 2)
- 173. Santa Catarina/GVR & Plum Canyon Road (Scenario 1)
- 174. Bouquet Canyon Road & Plum Canyon Road (Scenario 1)
- 198. Valley Center & Soledad Canyon Road (Scenario 1)

As noted above, the significant impacts identified in this section occur with project mitigation identified below under Project Mitigation Measures. It can therefore be concluded that the project mitigation is not sufficient for either scenario in which the Cross Valley Connector is not completed.

Intersections of particular importance to the project site for these scenarios are Bouquet Canyon Road at Plum Canyon Road and Bouquet Canyon Road at Newhall Ranch Road. The previously referenced table shows that without the Cross Valley Connector, each of these intersections show deficiencies without project traffic added. Without the relief provided by the Cross Valley Connector, even a small amount of additional traffic added to these locations will result in a significant impact.

Additional analysis has been undertaken by City staff to determine if an initial (reduced) phase of the project could be implemented with either of these scenarios without causing significant impacts at the above locations. Because of the reasons noted above, it was found that even a minimal amount of traffic from the project site results in significant impacts at the identified locations and that it would not be feasible to implement an early phase of the project without the Cross Valley Connector in place.

CUMULATIVE IMPACTS

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility

List of Related Projects

Map No.	Project Name	Project Location	Description
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	419 single-family DU, 704 multi family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

The analysis of traffic impacts considers the effects of both background growth in the region and the Related Projects listed in Section II.B of this EIR. Consequently, impacts of cumulative growth are already incorporated into the traffic model and are equivalent to those indicated for the “Future With Project” condition above. The additional cumulative traffic, without the project, would worsen conditions at eight intersections during one or both of the peak-hour periods. With the addition of the project traffic, nine intersections experience a significant impact, and eight of those intersections forecast to exceed LOS “D”. The cumulative significantly impacted intersections include:

Freeway On/Off Ramp Intersection

- 144. Sierra Highway & SR-14 SB Ramps (AM and PM)

Existing Intersections

- 57. Valencia Boulevard & Magic Mtn Parkway (AM and PM)
- 65. Bouquet Canyon Road & Soledad Canyon Road (PM)
- 66. Bouquet Canyon Road & Newhall Ranch Road

- 145. Sierra Highway & Placerita Canyon Road (AM and PM)
- 162. Sierra Highway & Golden Valley Road (AM and PM)
- 172. Whites Canyon Road & Soledad Canyon Road

Future Intersections

- 163. Golden Valley Road & Via Princessa (AM and PM)
- 166. Golden Valley Road & Newhall Ranch Road (PM)

Therefore, traffic would worsen at these intersections and the Proposed Project would contribute considerably to the cumulative impact at locations shown to be deficient, therefore cumulative impacts are significant.

The Bouquet Canyon Bridge & Thoroughfare (B & T) District has recently been updated and is considered a full improvement district. The B & T fees collected within the district have been calculated to cover all the anticipated improvements necessary to build out the arterial roadway network as outlined in the City's General Plan Circulation Element. This fee district also funds freeway interchange improvements, which are essential component of the planned freeway mainline widening projects. B& T fees fund improvements would mitigate cumulative impacts. Refer to Congestion Management Program (CMP) analysis above for greater discussion on related project impacts on CMP highway system and state highways.

MITIGATION MEASURES

Project Mitigation Measures

The following mitigation measures are required to reduce traffic impacts to less than significant levels:

On-Site Mitigation

- O-1 The Project Applicant shall construct all on-site roadways and intersections to City of Santa Clarita standards.
- O-2 The Proposed Project shall install a four-lane roadway on Golden Valley Road from the project's eastern boundary to the northern project boundary.
- O-3 The Project Applicant shall install traffic signals at the following project site intersections:
- Golden Valley Road and "I" Street North (tee int.)
 - Golden Valley Road and "I" Street South (four-way int.)
 - Golden Valley Road and Ermine Street

On Golden Valley Road, a four-way intersection with "I" Street is planned approximately 0.40 miles north of the future extension of Newhall Ranch Road. This intersection will serve both the project's residential development located west of Golden Valley Road and the YMCA and junior high school site located on the east. The second intersection with Golden Valley Road at Ermine Street will be configured as a "T" intersection and will be located approximately 0.50 miles north of the four-way intersection at "I" Street. The third intersection with Golden Valley Road (the second connection to "I" street) will be located approximately 0.10 miles north of the Ermine Street intersection.

Congestion Management Program (CMP) – Transit Services on Project Site

O-4 The Project Applicant shall coordinate with the local transit provider to identify appropriate bus/stop turnout locations on the project site roadways (Golden Valley Road and/or "I" Street).

Off-site Mitigation

Existing Intersections

O-5 (57.) Valencia Boulevard & Magic Mountain Parkway. Add second WBL turn lane. Implementation of this measure would require restriping, median modification and widening of Valencia Boulevard.

O-6 (65.) Bouquet Canyon Road and Soledad Canyon Road. Add fourth NBT lane. Implementation of this measure would require widening of Bouquet Canyon Road northbound approach.

O-7 (66.) Bouquet Canyon Road & Newhall Ranch Road.

- Add second SBL turn lane. Implementation of this measure would require restriping with potential median modification.
- Add second SBR turn lane. Implementation of this measure would require widening of Bouquet Canyon Road southbound approach.
- Add third EBT lane. Implementation of this measure would require restriping.

O-8 (145.) Sierra Highway & Placerita Canyon Road.

- Restripe one WBT lane to a WBR turn lane. Implementation of this measure would require restriping.

- Restripe one WBT lane to a shared thru/right turn lane. Implementation of this measure would require restriping.
- O-9 (162.) Sierra Highway and Golden Valley Road. Add third WBT lane. Implementation of this measure would require widening of west leg (Golden Valley Road) to accommodate three lanes.
- O-10 (177.) Whites Canyon Road and Soledad Canyon Road. Restripe separate WBR turn lane to a shared thru/right lane. Implementation of this measure would require restriping. This mitigation measure is only necessary for the “With Golden Valley Road extension to Plum Canyon Road” scenario, with or without the Ermine Street connection to Golden Valley Road.

Future Intersections

O-11 (163.) Golden Valley Road & Via Princessa. No requirements of the Project Applicant. Future intersection to be built out to achieve LOS D.

O-12 (166.) Golden Valley Road & Newhall Ranch Road.

- Install traffic signal.
- Add second WBR turn lane or construct WBR as a free-flow turn lane. This mitigation measure is only necessary for the “With Golden Valley Road extension to Plum Canyon Road” scenario, with or without the Ermine Street connection to Golden Valley Road.

Freeway On/Off Ramp Intersections

O-13 (144.) Sierra Highway & SR-14 SB Ramps.

- Add separate NBR turn lane. Implementation of this measure would require restriping.
- Add second SBL turn lane. Implementation of this measure would require restriping with potential widening of Sierra Highway.

Cumulative Mitigation Measures

Bouquet Canyon Bridge and Thoroughfare District

O-14 The project and related projects shall fund its calculated fair share of improvements to the Bouquet Canyon Bridge and Thoroughfare District to augment future improvements that are planned for the SR-14 freeway.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Proposed Project With Mitigation

Table V.O-18 summarizes the resulting ICU's and LOS with the proposed mitigation without the extension of Golden Valley Road to Plum Canyon Road, and Table V.O-19 summarizes the resulting ICU's and LOS with the proposed mitigation for the condition with the extension of Golden Valley Road to Plum Canyon Road.

Table V.O-18
ICU and LOS Summary – Interim Year With Project and Mitigation Without Golden Valley Road Extension to Plum Canyon Road

Intersection	Interim Year Without Project				Interim Year With Project ² and Mitigation				Net Change	
	AM		PM		AM		PM		AM	PM
Freeway On/Off Ramp Intersections										
144. Sierra Hwy & SR-14 SB Ramps ¹	0.94	E	1.02	F	0.83	D	0.93	E	-0.11	-0.09
Existing Intersections										
57. Valencia Blvd & Magic Mtn Pkwy	1.04	F	1.08	F	0.84	D	0.98	E	-0.20	-0.10
65. Bouquet Cyn Rd & Soledad Cyn Rd	0.76	C	0.92	E	0.77	C	0.87	D	0.01	-0.05
66. Bouquet Cyn Rd & Newhall Ranch Rd	0.94	E	1.07	F	0.92	E	0.93	E	-0.02	-0.14
145. Sierra Hwy & Placerita Cyn Rd	0.99	E	1.03	F	0.99	E	0.97	E	0.00	-0.06
162. Sierra Hwy & Golden Valley Rd	1.15	F	0.92	E	1.06	F	0.85	D	-0.09	-0.07
172. Whites Cyn Rd & Soledad Cyn Rd ¹	0.95	E	1.14	F	0.92 (0.93) ³	E	1.14	F	-0.03	0.00
Future Intersections										
163. Golden Valley Rd & Via Princessa	0.79	C	0.84	D	0.83	D	0.84	D	0.04 ⁴	0.00
¹ Unsignalized, stop-sign control ² Without Golden Valley Road extension to Plum Canyon Road, and with Ermine Street connection to Golden Valley Road, unless noted otherwise ³ ICU without Ermine Street connection to Golden Valley Road ⁴ No mitigation proposed. Intersection built out to achieve LOS "D" Level of service ranges: 0.00 – 0.60 A 0.61 – 0.70 B 0.71 – 0.80 C 0.81 – 0.90 D 0.91 – 1.00 E Above 1.00 F Source: Austin-Foust Associates, Inc., March 2005.										

Table V.O-19
ICU and LOS Summary – Interim Year With Project and Mitigation With
Golden Valley Road Extension to Plum Canyon Road

Intersection	Interim Year Without Project ²				Interim Year With Project ³ and Mitigation				Net Change	
	AM		PM		AM		PM		AM	PM
Freeway On/Off Ramp Intersections										
144. Sierra Hwy & SR-14 SB Ramps ¹	0.91	E	1.01	F	0.84	D	0.92	E	-0.07	-0.09
Existing Intersections										
48. McBean Pkwy & Newhall Ranch Rd	0.90	D	0.87	D	0.90	D	0.88	D	0.00	0.01
57. Valencia Blvd & Magic Mtn Pkwy	1.05	F	1.08	F	0.85	D	0.98	E	-0.20	-0.10
65. Bouquet Cyn Rd & Soledad Cyn Rd	0.75	C	0.96	E	0.76	C	0.91	E	0.01	-0.05
66. Bouquet Cyn Rd & Newhall Ranch Rd	0.92	E	1.10	F	0.91	E	0.99	E	-0.01	-0.11
145. Sierra Hwy & Placerita Cyn Rd	1.02	E	1.05	F	1.02	F	0.97	E	0.00	-0.08
162. Sierra Hwy & Golden Valley Rd	1.14	F	0.95	E	1.06	F	0.88	D	-0.08	-0.07
172. Whites Cyn Rd. & Soledad Cyn. Rd.	0.92	E	1.10	F	0.90	D	1.10	F	-0.02	0.00
Future Intersections										
163. Golden Valley Rd & Via Princessa	0.86	D	0.85	D	0.89	D	0.87	D	0.03 ⁵	0.02 ⁵
166. Golden Valley Rd & Newhall Ranch Rd.	0.52	A	0.73	C	0.69	B	0.79 (0.76) ⁴	C	0.17	0.06 (0.03)
¹ Unsignalized, stop-sign control ² Interim Year without project ICU value without the Golden Valley Road extension to Plum Canyon Road (assumes this roadway does not occur without construction of the Proposed Project) ³ With Golden Valley Road extension to Plum Canyon Road, and with Ermine Street connection to Golden Valley Road, unless otherwise noted ⁴ ICU without Ermine Street connection to Golden Valley Road ⁵ No mitigation proposed. Future intersection assumed to be built out to achieve LOS "D" Level of service ranges: 0.00 – 0.60 A 0.61 – 0.70 B 0.71 – 0.80 C 0.81 – 0.90 D 0.91 – 1.00 E										
Source: Austin-Foust Associates, Inc., March, 2005.										

Implementation of project mitigation measures (O-1 through O-14) would mitigate traffic impacts associated with the Proposed Project at those deficient intersections. However project mitigation is not sufficient to mitigate impacts to less than significant without the completed Cross Valley Connector roadway. Without the relief of the Cross Valley Connector Road, even small amount of additional traffic added to deficient intersections (previously identified above under Impacts Without Cross Valley Connector Roadway discussion) would result in significant and unavoidable impacts. Further, if the bridge component of the Cross Valley Connector Road is not constructed but the rest of the Cross Valley Connector Road is constructed west of the project site, impacts would remain significant and unavoidable until the bridge is constructed.

Cumulative

With implementation of mitigation measure O-14, projects and related projects would fund their fair share of B & T district, which would fund interchange improvements and the cross valley connector bridge and cumulative impacts would be less than significant. However, until the B & T district is able to fund construction of the Cross Valley Connector road and bridge to complete the Cross Valley Connector roadway, cumulative impacts are significant and unavoidable.

V. ENVIRONMENTAL IMPACT ANALYSIS
P. ENERGY CONSERVATION
1. ELECTRICITY

ENVIRONMENTAL SETTING

The Southern California Edison Company (SCE) provides electricity service to Los Angeles County, outside of the City of Los Angeles. SCE obtains power from numerous sources, including (1) the San Onofre Nuclear Generating Station (SONGS), (2) The Mohave Generating Station in Laughlin, Nevada, and (3) The Big Creek System ¹.

The State of California produces over 77% of the electricity it uses. The remaining electricity is purchased through suppliers from the Pacific Southwest and the Pacific Northwest. One-third of the State's electrical energy is generated by natural gas. Additional electricity is generated through other means, including hydro, nuclear energy, coal, oil, geothermal, waste, wind and solar sources.²

Energy consumption by new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations (CCR). The efficiency standards apply to new construction of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided that these standards meet or exceed those provided in Title 24 guidelines. Currently, no electricity is consumed onsite. There are existing power lines in the project area, but no lines run directly onto the project site.³

¹ *Southern California Edison Generating Facilities, website:*
http://www.sce.com/sc3/006_about_sce/006b_generation/default.htm (12/14/04)

² *California Energy Commission, website:* http://www.energy.ca.gov/html/calif_energy_facts.html, (12/14/04).

³ *Correspondence from the Southern California Edison Company, Joe Montoya, Customer Service Planner, January 19, 2005*

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix F to the CEQA Guidelines, CEQA “requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.” As no specific thresholds of significance are suggested in Appendix F or G to the CEQA Guidelines, the applicable thresholds of significance are derived from the Draft L.A. CEQA Thresholds Guide,⁴ which provides that the Proposed Project would result in a significant impact to electricity resources or utility systems if either of the following would result from project implementation:

- Create a need for new supply facilities, distribution infrastructure, or capacity enhancing alterations to existing facilities; or
- Conflict with adopted energy conservation plans.

Project Impacts

Development of the proposed 96 single-family homes and 883 multi-family homes, a junior high and a YMCA facility would result in a new demand for electricity at the project site. Upon full build-out, the Proposed Project is anticipated to consume approximately 17,379 kilowatt hours (kWh) per day (see Table V.P.1-1). In order to serve the Proposed Project’s electricity needs, existing electrical lines in the project area would need to be extended. The SCE has determined that the electrical loads of the Proposed Project are within the parameters of projected load growth for the area and therefore there would be an adequate power supply to serve the Proposed Project.⁵

The project developer would be responsible for paying connection costs and possibly some or all of the expansion costs. The SCE indicated that a short outage might be required to extend the existing electrical lines to the project site. The expansion of the electricity distribution system could also result in partial or full road closures while installing the lines. The road closures would be temporary and would end as soon as utility installation is complete; typically such construction requires less than a week to complete. While electrical connection of the Proposed Project would entail expansion of distribution infrastructure and capacity-enhancing alterations to existing facilities, these requirements are not expected to create significant impacts to the physical environment for the following reasons:

⁴ *City of Los Angeles, Draft L.A. CEQA Thresholds Guide, May 14, 1998.*

⁵ *Correspondence from the Southern California Edison Company, Joe Montoya, Customer Service Planner, January 19, 2005*

- (1) Any disruption of service would be of a short-term nature, typically lasting a couple of hours;
- (2) Extension of electrical lines would be within public rights-of-way; and
- (3) The full cost of the proposed connections and the fair share cost of the expansion of the electrical distribution systems would be born by the project developer.

Title 24 of the California Code of Regulations establishes energy conservation standards for new construction, including residential and non-residential buildings. The Proposed Project would comply with Title 24 energy conservation standards for insulation, glazing, lighting, shading, and water and space heating systems in all new construction. In addition, it is anticipated that the developer would participate in the California ENERGY STAR® New Homes program administered by SCE to realize further energy efficiency.

With modern energy efficient construction materials and compliance with Title 24 standards, the Proposed Project would be consistent with the State's energy conservation standards and therefore would not conflict with adopted energy conservation plans.

Table V.P.1-1
Daily Electricity Consumption
Keystone Project

Land Use ¹	Size	Generation Rate ¹	Total Daily Electricity Consumption
Proposed Project			
Single-Family Homes	96 du	5,626.50 kWh/du/yr	1,480 kWh
Multi-Family Homes	883 du	5,626.50 kWh/du/yr	13,612 kWh
Health Club (YMCA)	30,476 sq.ft.	10.50 kWh/sq.ft./yr	877 kWh
Middle School	100,000 sq. ft.	5.90 kWh/sq.ft./yr	1,616 kWh
Total Proposed Project			17,585 kWh
<i>du = dwelling unit; sq.ft. = square feet; kWh = kilowatt hour; yr = year</i>			
<i>¹= Source: SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.</i>			

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two mile radius is used as a standard for areas that

are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Development of the Proposed Project in conjunction with the 12 related projects indicated above would increase the demand for electricity. As shown in Table V.P.1-2, the estimated electricity consumption by the related projects in combination with the Proposed Project would be approximately 111,391 kWh per day. However, cumulative impacts are not expected to be significant for the reasons discussed below.

Under the County Charter, SCE has an obligation to serve the citizens of the City. Therefore, these related projects have been factored into the projected load growth electricity demands. Furthermore, all of the related projects would be required to comply with Title 24 of the California Code, which establishes energy conservation standards for new construction.

If new electricity supply facilities, distribution infrastructure, or capacity enhancing alterations would be needed with implementation of the related projects, it is expected that the SCE would connect such new electricity loads with minimum interruption to existing customers.

Therefore, the combined effects of the Proposed Project and the related projects are expected to result in a less-than-significant cumulative electricity impact.

**Table V.P.1-2
Cumulative Daily Electricity Consumption**

Proposed Land Use		Unit of Measure	Generation Factor	Total Daily Electricity Consumption
Proposed Project				
Single-Family Residence		96 du	5,626.50 kWh/du/yr	1,480 kWh
Multi-Family Residence		883 du	5,626.50 kWh/du/yr	13,612 kWh
Health Club (YMCA)		30,476 sq.ft.	10.50 kWh/sq.ft./yr	877 kWh
Middle School		100,000 sq.ft.	5.90 kWh/sq.ft./yr	1,616 kWh
Proposed Project Subtotal				17,585 kWh
Related Projects				
1	HH Seco II - Commercial Retail	40,000 sq.ft.	13.55 kWh/sq.ft./yr	1,485 kWh
2	Rice Dev – Self Storage	84,000 sq.ft.	4.35 kWh/sq.ft./yr	1,001 kWh
3	TT 062322 –Town homes	420 du	5,626.50 kWh/du/yr	6,474 kWh
4	Riverpark – Single-family	432 du	5,626.50 kWh/du/yr	6,659 kWh
	Multi Family	657 du	5,626.50 kWh/du/yr	10,128 kWh
	Commercial Retail	16,000 sq.ft.	13.55 kWh/sq.ft./yr	594 kWh
5	Aspen Investment - Industrial	109,000 sq.ft.	10.50 kWh/sq.ft./yr	3,136 kWh
6	Soledad Circle – Single-family	150 du	5,626.50 kWh/du/yr	2,312 kWh
7	TT 46018 – Single-family	1,298 du	5,626.50 kWh/du/yr	20,009 kWh
	Multi Family	1,202 du	5,626.50 kWh/du/yr	18,529 kWh
	Commercial Retail	150,000 sq.ft.	13.55 kWh/sq.ft./yr	5,568 kWh
8	TR 52763 – Single-family	11 du	5,626.50 kWh/du/yr	170 kWh
9	Plum Canyon – Single-family	498 du	5,626.50 kWh/du/yr	7,677 kWh
10	Rodgers Dev - Commercial Retail	34,000 sq.ft.	13.55 kWh/sq.ft./yr	1,262 kWh
11	TT 98046 – Single-family	91 du	5,626.50 kWh/du/yr	1,403 kWh
12	TT 47760 – Single-family	480 du	5,626.50 kWh/du/yr	7,399 kWh
Related Projects Subtotal				93,806 kWh
Cumulative Daily Electricity Consumption Total				111,391 kWh

**Table V.P.1-2
Cumulative Daily Electricity Consumption**

Proposed Land Use	Unit of Measure	Generation Factor	Total Daily Electricity Consumption
<p><i>Source: SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.</i> <i>du = dwelling unit; sq.ft. = square feet; kWh = kilowatt hour; yr = year</i></p>			

MITIGATION MEASURES

Project Mitigation Measures

Although the Proposed Project would not have a significant impact on electricity services, the following mitigation measures are recommended to reduce further the Proposed Project's impacts:

- P.1-1** In the event of full or partial road closures, the project developer shall employ flagmen during the construction of the electrical distribution system to facilitate the flow of traffic.
- P.1-2** During the design process, the project developer shall consult with the Southern California Edison's, Energy Design Resources program or SCE's Savings by Design program, regarding additional possible energy efficiency measures.

Cumulative Mitigation Measures

No cumulative mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The Proposed Project's impacts on electricity services expansion and supply would be less than significant without mitigation. However, the implementation of the recommended mitigation measures, P.1-1 and P.1-2, measures would further reduce the Proposed Project's impacts on demands for electrical power.

V. ENVIRONMENTAL IMPACT ANALYSIS
P. ENERGY CONSERVATION
2. NATURAL GAS

ENVIRONMENTAL SETTING

The Southern California Gas Company (SCG) provides natural gas to the project area through existing gas mains located under the streets and public right-of-ways. Natural gas service is provided in accordance with the SCG's policies and extension rules on file with the California Public Utilities Commission (PUC) at the time contractual agreements are made.

The State produces about 15% of the natural gas it uses. The remaining 85% is obtained from sources outside of the State, 62% from the Southwest and Rocky Mountain area, and 23% from Canada. In the last 10 years, three new interstate gas pipelines were built to serve California, expanding the over one million miles of existing pipelines.⁵ However, the availability of natural gas is based upon present conditions of gas supply and regulatory policies. As a public utility, SCG is under the jurisdiction of the PUC, but can be affected by actions of federal regulatory agencies. Should these agencies take any action, affecting natural gas supply or the conditions under which service is available, natural gas service would be provided in accordance with those revised conditions.

SCG has designed the distribution pipeline system to meet the demand of total buildout in the project vicinity, including the project site.⁶ Currently, the project site is undeveloped and does not consume any natural gas.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix F to the CEQA Guidelines, CEQA "requires that EIRs include a discussion of the potential energy impacts of Proposed Projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy." As no specific thresholds of significance are suggested in Appendix F or G to the CEQA Guidelines, the applicable thresholds of significance are derived from the Draft L.A. CEQA Thresholds Guide,⁷ which provides that the

⁵ California Energy Commission, website: http://www.energy.ca.gov/html/calif_energy_facts.html, (12/14/04).

⁶ Correspondence from the Southern California Gas Company, Jack Russo, Planning Associate, 11/8/2004.

⁷ City of Los Angeles, Draft L.A. CEQA Thresholds Guide, May 14, 1998.

Proposed Project would result in a significant impact to natural gas resources or utility systems if either of the following would result from project implementation:

- Create a need for new supply facilities, distribution infrastructure, or capacity enhancing alterations to existing facilities; or
- Would conflict with adopted energy conservation plans.

Project Impacts

Development of the proposed 96 single-family homes and 883 multi-family homes, a Middle School and a YMCA facility would result in a new demand for natural gas at the project site. Upon full build-out, the Proposed Project is anticipated to consume approximately 152,800 cubic feet of natural gas per day (see Table V.P.1-1). SCG has stated that it can accommodate the natural gas needs of the Proposed Project from existing medium pressure mains and current supply.⁸ Natural gas would likely be provided to the project site by providing service extensions from the four-inch medium pressure main in Ermine Street and an additional extension from either Newhall Ranch Road and/or Golden Valley Road. The project developer would be responsible for paying connection costs and possibly some or all of the expansion costs. The SCG has indicated that gas mains and service extensions are generally installed in a joint trench with other dry utilities (e.g., in a public right-of-way). According to SCG, the natural gas service extensions to the project site would be connected to existing lines by “hot tap” methods, with no disruption to existing customers.⁹ This installation could result in full or partial road closures. However, the road closures would be temporary and would end as soon as utility installation is complete, which typically requires less than a week. While the extension of natural gas service to the Proposed Project would include expansion of distribution infrastructure and capacity-enhancing alterations to existing facilities, these requirements are not expected to create significant impacts to the physical environment for the following reasons:

- (1) There would be no disruption in service to existing customers;
- (2) Extension of natural gas mains would be within public right-of-ways and any required road closures would be for a short period of time; and
- (3) The full cost of the proposed service extensions and the fair share costs of the expansion of the natural gas distribution systems would be borne by the project developer.

⁸ Correspondence from the Southern California Gas Company, Jack Russo, Planning Associate, 11/8/2004

⁹ *Ibid.*

Title 24 of the California Code of Regulations establishes energy conservation standards for new construction, including residential and non-residential buildings. These standards relate to increased energy conservation standards for insulation, glazing, lighting, shading, and water and space heating systems in new construction. The Proposed Project would comply with these standards in Title 24 as they relate to the conservation of natural gas. Furthermore, the Proposed Project would use modern energy-efficient construction materials and otherwise comply with the State's energy conservation standards. Therefore, the Proposed Project would not conflict with adopted energy conservation plans.

Table V.P.2-1
Natural Gas Consumption
Keystone Project

Land Use	Size	Generation Rate ¹	Total Natural Gas Consumption (cubic feet/day)
Proposed Project			
Single-Family Homes	96 du	6,665 cf/du/mo	21,328 cf/day
Multi-Family Homes	883 du	4,011.5 cf/du/mo	118,072 cf/day
Health Club (YMCA)	30,476 sq. ft.	4.8 cf/sq.ft./mo	4,876 cf/day
Middle School	100,000 sq. ft.	2.9 cf/sq.ft./mo	9,667 cf/day
Total Proposed Project			153,943 cf/day
<i>du = dwelling unit; sq.ft. = square feet; cf = cubic feet; mo = month (assumed to be 30 days)</i>			
¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.			
² =			

CUMULATIVE IMPACTS

To analyze cumulative impacts, a list of related projects was compiled by the City of Santa Clarita (Traffic and Engineering Department and Planning and Economic Development Department) consisting of all approved, proposed or potential projects located within the City of Santa Clarita within an approximate two-mile radius of the project site. A two mile radius is used as a standard for areas that are urbanizing in which projects are located within a relevant geographical area in proximity to the Proposed Project site using similar infrastructure (e.g., roadways, utilities) and public services. The following list was presented in Section III. Environmental Setting of this Draft EIR and is provided here for reference:

List of Related Projects

Map No.	Project Name	Project Location	Description
1	HH Seco II LLC Master Case 01-317	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for a new 40,000 square foot commercial shopping center
2	Rice Development Master Case 02-231	Southwest corner of Seco Cyn Rd and Copper Hill Dr	Development for an 84,000 square foot self-storage facility
3	TT 062322	North of Soledad Cyn Rd, south of Santa Clara River, approx. 1 mi. east of Bouquet Cyn Rd	420 townhomes
4	Riverpark	East of Bouquet Cyn Rd, north of Santa Clara River	432 single-family DU, 657 multi family DU, 16,000 square feet commercial
5	Aspen Investment Company Master Case 02-273	North corner of Soledad Cyn Rd and Valley Center Dr	Development for 8 new industrial buildings totaling 109,000 square feet
6	Soledad Circle Estates	Soledad and Penlon Road	150 residential units on 19.5 acres
7	TT 46018 (S&S)	East and west of Plum Cyn Rd, north of Whites Cyn Rd	1,298 single-family DU, 1,202 condominium units, 150,000 square feet commercial
8	TR 52763 (S&S)	West of Plum Cyn Rd, north of Whites Cyn Rd	11 single-family DU
9	Plum Canyon TR 31803	North and south of Golden Valley Rd, west of Plum Cyn Rd	498 single-family DU
10	Rodgers Development Master Case 02-232	Northeast corner of Bouquet Cyn Rd and Plum Cyn Rd	Development for a new 34,000 square foot commercial shopping center
11	TT 98046	North of Copper Hill Dr at terminus of Benz Rd	91 single-family DU
12	TT 47760	Copper Hill Dr at Haskell Cyn Rd	480 single-family DU

Development of the Proposed Project in conjunction with the 12 related projects, provided above, would increase the demand for natural gas. As shown in Table V.P.2-2, the estimated natural gas consumption by the related projects in combination with the Proposed Project would be approximately 1,159,409 cubic feet per day. However, cumulative impacts are not expected to be significant for the reasons discussed below.

SCG has stated that “[d]emand projections by the Gas Company have allowed for additional load/demand of this project, as well as, the cumulative impact of future proposals in this area.”¹⁰ As SCG has indicated that natural gas is available for the Proposed Project in combination with the related projects, cumulative impacts to natural gas services would be less than significant.

**Table V.P.2-2
Cumulative Daily Natural Gas Consumption**

Proposed Land Use		Unit of Measure	Generation Factor	Total Daily Natural Gas Consumption
Proposed Project				
Single-Family Residence		96 du	6,665 cf/du/mo	21,328 cf/day
Multi-Family Residence		883 du	4,011.5 cf/du/mo	118,072 cf/day
Health Club (YMCA)		30,476 sq. ft.	4.8 cf/sq. ft./mo	4,876 cf/day
Middle School		100,000 sq. ft.	2.9 cf/sq. ft./mo	9,667 cf/day
Proposed Project Subtotal				153,943 cf/day
Related Projects				
1	HH Seco II - Commercial Retail	40,000 sq. ft.	2.9 cf/sq. ft./mo	3,867 cf/day
2	Rice Dev – Self Storage	84,000 sq. ft.	2,939.6 cf/tsf/mo	8,231 cf/day
3	TT 062322 –Town homes	420 du	4,011.5 cf/du/mo	56,161 cf/day
4	Riverpark – Single-Family	432 du	6,665 cf/du/mo	95,976 cf/day
	Multi Family	657 du	4,011.5 cf/du/mo	87,852 cf/day
	Commercial Retail	16,000 sq. ft.	2.9 cf/sq. ft./mo	1,547 cf/day
5	Aspen Investment - Industrial	109,000 sq. ft.	2,939.6 cf/tsf/mo	10,681 cf/day
6	Soledad Circle – Single-Family	150 du	6,665 cf/du/mo	33,325 cf/day
7	TT 46018 – Single-Family	1,298 du	6,665 cf/du/mo	288,372 cf/day
	Multi Family	1,202 du	4,011.5 cf/du/mo	160,727 cf/day
	Commercial Retail	150,000 sq. ft.	2.9 cf/sq. ft./mo	14,500 cf/day
8	TR 52763 – Single-Family	11 du	6,665 cf/du/mo	2,444 cf/day
9	Plum Canyon – Single-Family	498 du	6,665 cf/du/mo	110,639 cf/day
10	Rodgers Dev - Commercial Retail	34,000 sq. ft.	2.9 cf/sq. ft./mo	3,287 cf/day
11	TT 98046 – Single-Family	91 du	6,665 cf/du/mo	20,217 cf/day
12	TT 47760 – Single-Family	480 du	6,665 cf/du/mo	106,640 cf/day
Related Projects Subtotal				1,004,466 cf/day
Cumulative Daily Natural Gas Consumption Total				1,159,409 cf/day

¹ - Source: SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.

¹⁰ Correspondence from the Southern California Gas Company, Jack Russo, Planning Associate, 11/8/2004.

**Table V.P.2-2
Cumulative Daily Natural Gas Consumption**

Proposed Land Use	Unit of Measure	Generation Factor	Total Daily Natural Gas Consumption
<i>du = dwelling unit; sq.ft. = square feet; cf = cubic feet; mo = month (assumed to be 30 days) tsf = thousand square feet</i>			

MITIGATION MEASURES

Project Mitigation Measures

Although the Proposed Project would not have a significant impact on natural gas services, the following mitigation measures are recommended to reduce further the Proposed Project's impacts:

- P.2-1** Prior to the start of construction, the Proposed Project's energy engineer shall consult with SCG for an energy analysis regarding efficiency and conservation measures.
- P.2-2** The project developer shall hire flagmen to facilitate traffic flow during installation of the natural gas main extensions.

Cumulative Mitigation Measures

No cumulative mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The Proposed Project's impacts on natural gas services would be less than significant without mitigation. However, the implementation of the recommended mitigation measures, P.2-1 and P.2-2, would further reduce the Proposed Project's impacts on natural gas.

VI. GENERAL IMPACT CATEGORIES

A. SUMMARY OF SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts which cannot be avoided. Specifically, Section 15126.2(b) states:

Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.

Based on the analysis contained in Section V (Environmental Impact Analysis) of this Draft EIR, the proposed project would result in significant unavoidable environmental impacts relative to aesthetics (visual character) as the project would remove and realign the site's two secondary ridgelines and provide housing and roadway improvements on the location of the secondary ridgelines. Though the project would realign the ridgelines and provide faux ridgelines that emulate the existing character, the change would be considered adverse. The proposed project would result in significant and unavoidable impacts to construction air quality and the resulting operational average daily emissions would continue exceed the thresholds of significance recommended by the SCAQMD. In addition, the noise levels associated with project-related construction activities would be reduced although they would continue to exceed City standards and cause an increase of at least 5 dBA L_{eq} at the nearby residential areas. Therefore, this impact would continue to be significant and unavoidable regarding the exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinances, or applicable standards of other agencies, and the creation of a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Finally, the project would result in significant and unavoidable impacts to solid waste as the total landfill capacity in Los Angeles County is limited, therefore any addition to the overall waste stream flowing to the County's landfills will hasten the day the County eventually runs out of landfill capacity. Therefore and any additional solid waste from any source may be considered adverse.

Alternative designs to the proposed project and their implications are discussed in Section VII (Alternatives to the Proposed Project). As indicated therein, none of the alternative designs would reduce all of the significant unavoidable impacts associated with the proposed project to a less-than-significant level (with the exception of the No Project Alternative).

B. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the CEQA Guidelines states that the “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.” Section 15126.2(c) further states that “irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.”

The types and level of development associated with the proposed project would consume limited, slowly renewable and non-renewable resources. This consumption would occur during construction of the proposed project and would continue throughout its operational lifetime. The development of the proposed project would require a commitment of resources that would include (1) building materials, (2) fuel and operational materials/resources and (3) the transportation of goods and people to and from the project site.

Construction of the proposed project would require consumption of resources that are not replenishable or which may renew slowly as to be considered non-renewable. These resources would include certain types of lumber and other forest products, aggregate materials used in concrete and asphalt (e.g., sand, gravel and stone), metals (e.g., steel, copper and lead), petrochemical construction materials (e.g., plastics) and water. Fossil fuels, such as gasoline and oil, would also be consumed in the use of construction vehicles and equipment.

Irreversible long-term environmental changes would include the proposed conversion of a primarily undeveloped area to a residential development site. These changes would consist of a significant change in the visual character of the project site associated with landform alteration, increased building height and bulk, increases in local and regional traffic with associated air pollution emissions and noise levels, increase in the volume of solid waste and wastewater generation, and an increase in water and energy consumption. Further, the proposed project would create the need for additional school space and for a variety of recreational opportunities. It is not likely that the existing environmental conditions could be restored to their original condition subsequent to project development; however, mitigation measures are proposed throughout Section V of this EIR to minimize the effects of the proposed project.

The CEQA Guidelines also require a discussion of the potential for irreversible damage caused by an environmental accident associated with the proposed project. The following discussion identifies the characteristics of the site and proposed future uses, which could be sources of potential accidents.

As discussed in Section V.G Hazards, no unique hazards or hazardous uses are found on the project site. However, the project site is located within a seismically active region and would be exposed to ground shaking in the event of a seismic event. Conformance with the regulatory provisions of the City

of Santa Clarita and the Uniform Building Code pertaining to construction standards would minimize, to the extent feasible, damage and injuries in the event of such an occurrence. Geotechnical hazards can be mitigated by stabilization, removal, or redesign, and no significant impacts on the site are expected.

Proposed commercial uses by the project would be expected to use and store chemicals and/or substances, which are typically found in such urban settings. Given the multitude of federal, state, and local regulations governing the use of such substances, the project development is not expected to involve activities that would damage the environment or pose a risk to public health.

Within the site boundaries, no Proposition 65 pesticides (insecticides, herbicides, and fungicides) would be used in the common and public areas. Humans would not be subject to either acute overexposure or chronic exposure to these substances if used and handled according to state and federal regulations.

C. GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECT

Section 15126.2(d) of the CEQA Guidelines requires a discussion of the ways in which a proposed project could induce growth. This includes ways in which a project would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Section 12126.2(d) of the CEQA Guidelines states:

Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

a. Removal of an Impediment to Growth

Growth in an area could result from the removal of physical impediments or restrictions to growth such as nonexistent or inadequate access to an area or the lack of essential public services. Approval of the proposed project would not directly remove nonexistent or inadequate access to the area, and therefore, it would not be growth inducing with respect to this criterion. The project site is generally surrounded by existing and proposed residential and commercial development and is in close proximity to existing

major roadways such that access is not a restriction, and public services (i.e., electricity, sanitary sewers, water service, natural gas, police protection, and fire protection) would be available and would require no major expansions or extensions. In this case, growth would occur as envisioned by the City's General Plan. For example, the construction of Newhall Ranch Road, a proposed major highway, is designated on the City of Santa Clarita General Plan Circulation Element Map. Any potential growth inducing impacts of the construction of the Newhall Ranch Road were addressed when the City updated its General Plan Circulation Element (December 1997). Additionally, this extension is not growth inducing, as the land nearest its terminal points on the south and west of the project are already urbanized and as discussed above it is accommodating growth already projected in the Santa Clarita General Plan.

b. Economic Growth

The proposed project could foster economic growth by increasing the number of residents at the project site who could patronize local businesses and services in the area. In addition, short-term employment opportunities would be provided during the construction phases of the proposed project. As discussed in Section V.L (Population and Housing), the proposed project would result in an increase of 2,992 single-family and multi-family homes and 1,346 people at the project site. The Junior High School is expected to have an enrollment of approximately 1,200 students and would be expected to generate 132 net new jobs. The YMCA Community / Fitness Center would be expected to generate 55 net new jobs. Given the proposed project's relatively small size in relation to the area's regional population and work force, the economic contribution of the creation of 187 jobs would not be considered significant. Additionally, the proposed project is consistent with the goals and objectives of the City of Santa Clarita General Plan, and is a component of the overall growth planned for the Santa Clarita Valley. However, the small increase in economic activity potentially generated by the proposed project would be considered growth inducing.

c. Precedent Setting Action

Approval of this project would require a General Plan Amendment, Zone Change, Vesting Tentative Tract Map, Conditional Use Permit, an Oak Tree Permit, and a Hillside Development Application including an Innovative Application. A General Plan Amendment would change the land use designation of the project site to the Residential Medium High (RMH). The Zone Change would revise the zoning from Residential Very Low (RVL) to RMH. The Planned Development Designation would encompass the entire project site. However, the zone change would not be considered precedent setting in that the pre-zoning for the site already calls for urban development for the site. Therefore, the proposed project would not be considered growth inducing.

d. Development of Open Space

Development of open space is considered growth-inducing when it occurs on the fringes of built-up areas, or if the development invades an intervening area of open space with the expectation that the intervening open space would fill in as a result of service extensions to serve that initial development. The proposed project site is situated in an area that is surrounded predominantly by existing and planned urbanized parts of the City of Santa Clarita. Further, a large intervening area of open space between the project and those uses would not be created. Urban services including water, sewer, police protection, and fire protection would require only minor and/or planned extensions, and it is unlikely that the availability of these services would create additional incentive for further development in the project area. Given that the project is neither on the urban fringe nor would it “leaps over” large tracts of open space, the proposed project would not be considered growth inducing.

D. IMPACTS CREATED BY GROWTH

Attempting to determine the environmental impacts created by non-spatial growth related to the proposed project is speculative in that the size, type, and location of future projects which may be induced by the proposed project are unknown and unforeseeable at the present time. Impacts associated with any future projects that could be influenced by development of the proposed project would be examined in depth during the environmental review process.

A cumulative analysis for each topic found in Section V. of this EIR discusses the impacts of growth associated with the buildout of the Santa Clarita Valley. The cumulative analyses identifies all known planned, approved, and active pending projects within a two mile radius of the project site.. Impacts identified in the cumulative analyses include: aesthetics (visual character), air quality, noise and public services (solid waste).

E. IMPACTS FOUND TO BE LESS THAN SIGNIFICANT

Section 15128 of the CEQA Guidelines states: “An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.”

It has been determined that there is no evidence that the proposed project would cause significant environmental effects on agricultural resources and that no further environmental review of this issue is necessary. Furthermore, the project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on maps prepared pursuant to the Farmland Mapping and

Monitoring Program of the California Department of Conservation.¹ The proposed project would not conflict with a Williamson Act Contract. The proposed project would not involve other changes to the existing environment, which, due to location or nature, could result in the conversion of existing farmland to non-agricultural use. Therefore, the proposed project would not result in any potentially significant impacts to agricultural resources and no further analysis of this issue is warranted.

¹ California Department of Conservation Division of Land Resource Protection, *Farmland Mapping and Monitoring Program, FMMP Survey Area*, http://www.consrv.ca.gov/dlrp/FMMP/overview/survey_area_map.htm, March 7, 2005.

VII. ALTERNATIVES TO THE PROPOSED PROJECT

A. INTRODUCTION TO THE ALTERNATIVES ANALYSIS

The CEQA Guidelines require that EIRs include the identification and evaluation of a reasonable range of alternatives that are designed to reduce the significant environmental impacts of the project, while still satisfying the project objectives. The CEQA Guidelines also set forth the intent and extent of alternatives analysis to be provided in an EIR.

The following discussion evaluates alternatives to the Proposed Project and examines the potential environmental impacts associated with each alternative. Through comparison of these alternatives to the Proposed Project, the relative environmental advantages and disadvantages of each are weighed and analyzed. The CEQA Guidelines require that the range of alternatives addressed in an EIR should be governed by a rule of reason. Not every conceivable alternative must be addressed, nor do infeasible alternatives need to be considered (CEQA Guidelines Section 15126.6[a]). Section 15126.6 of the CEQA Guidelines states that the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, or other plans or regulatory limitations, and jurisdictional boundaries. Section 15126.6(b) of the CEQA Guidelines states that the discussion of alternatives must focus on alternatives capable of either avoiding or substantially lessening any significant environmental effects of the project, even if the alternative would impede, to some degree, the attainment of the project objectives or would be more costly. The alternatives discussion should not consider alternatives whose implementation is remote or speculative, and the analysis need not be presented in the same level of detail as the assessment of the project.

Based on the CEQA Guidelines, several factors need to be considered in determining the range of alternatives to be analyzed in the EIR and the level of analytical detail that should be provided for each alternative. These factors include (1) the nature of the significant impacts of the Proposed Project, (2) the ability of alternatives to avoid or lessen the significant impacts associated with the project, (3) the ability of the alternatives to meet the objectives of the project, and (4) the feasibility of the alternatives. The analysis in this EIR indicates that the project would result in significant and unavoidable impacts with respect to aesthetics, air quality construction and operation, noise construction and solid waste. Thus, the alternatives examined herein represent alternatives that would minimize or avoid the significant impacts associated with implementation of the project.

B. ALTERNATIVES TO THE PROPOSED PROJECT

The alternatives to be analyzed in comparison to the Proposed Project include the following:

Alternative A: No Project Alternative

Alternative B: Current General Plan Land Use and Zoning

Alternative C: Compliance With Noise Setbacks and Preservation of Northern Secondary Ridgeline

Alternative D: Reduced Density Alternative

Alternative E: Single-Family Detached Condos Density Alternative

Alternative F: Single-Family Alternative

Alternative G: Re-Aligned Golden Valley Road Alternative

Each alternative is described in the following discussions. Also discussed are the alternatives to the Proposed Project that were considered, but rejected by the City of Santa Clarita as being infeasible.

Alternative A: No Project Alternative

As required by CEQA, a No Project Alternative was analyzed in this EIR section. Section 15126.6(e)(2) of the CEQA Guidelines states that the No Project Alternative

“... analysis shall discuss the existing conditions at the time the notice of preparation is published ... as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.”

Furthermore, Section 15126.6(e)(3)(B) of the CEQA Guidelines states:

“If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this ‘no project’ consequence should be discussed. In certain instances, the no project alternative means ‘no build’ wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project’s non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.”

Under Alternative A, the Proposed Project would not be developed and the site would remain in its current condition. The analysis of Alternative A assumes the continuation of existing conditions as well as development of the cumulative projects described in Section III. Environmental and Regulatory Setting. The project site consists of vacant land with no structures or permanent uses in place.

However, current illegal use of the site would likely continue, with illegal off-road vehicle use occurring in several portions of the site and illegal squatting and dumping taking place in the vicinity of the southeastern canyon bottom. The existing City of Los Angeles DWP right-of-way with electrical transmission lines would continue to cross the site. Please refer to Section III. Environmental and Regulatory Setting and Figure III-3, Aerial Photograph, for a view of existing uses.

Alternative A is seen as a means of deferring a development decision concerning the project site, and not as an alternative with long-term implications. Given regional growth rates, existing and proposed adjacent land uses, and the existing general plan designation and zoning on the project site, it is likely that another development proposal for the site would be advanced in the near future.

Alternative B: Current General Plan Land Use and Zoning

As shown in Figure VII-1, the Current General Plan Land Use and Zoning Alternative (Alternative B), the buildout under Alternative B would consider the potential subdivision of the project site within the Vesting Tentative Tract Map Number 60258 consistent with the current City of Santa Clarita General Plan Land Use and Zoning classification. According to the General Plan, the Proposed Project site is designated and zoned Residential Very Low (RVL) with a maximum land use intensity of 1 dwelling unit (du) per acre. Currently, approximately 242.1-acres of the project site (245.8-acres) is designated RVL and approximately 3.7-acres as Industrial Commercial (IC). Approximately 130,680 square feet of development could be developed in the IC lot. However, given that the IC lot is located within the Santa Clara River SEA and is within the floodway of the River, development would be constrained in addition to other physical conditions. Therefore, development in the IC lot would not be feasible and further the project applicant has not proposed development in this lot. Grading on the project site is subject to the standards outlined in the Ridgeline Preservation and Hillside Development Ordinance (Ordinance), Chapter 17.80 of the Unified Development Code. The maximum allowable density for slopes greater than 10 percent correspond to the mid-range density of each General Plan residential land use designation. Since the project site has slopes greater than 10 percent, the Ridgeline Preservation and Hillside Development Ordinance maximum density provisions apply.

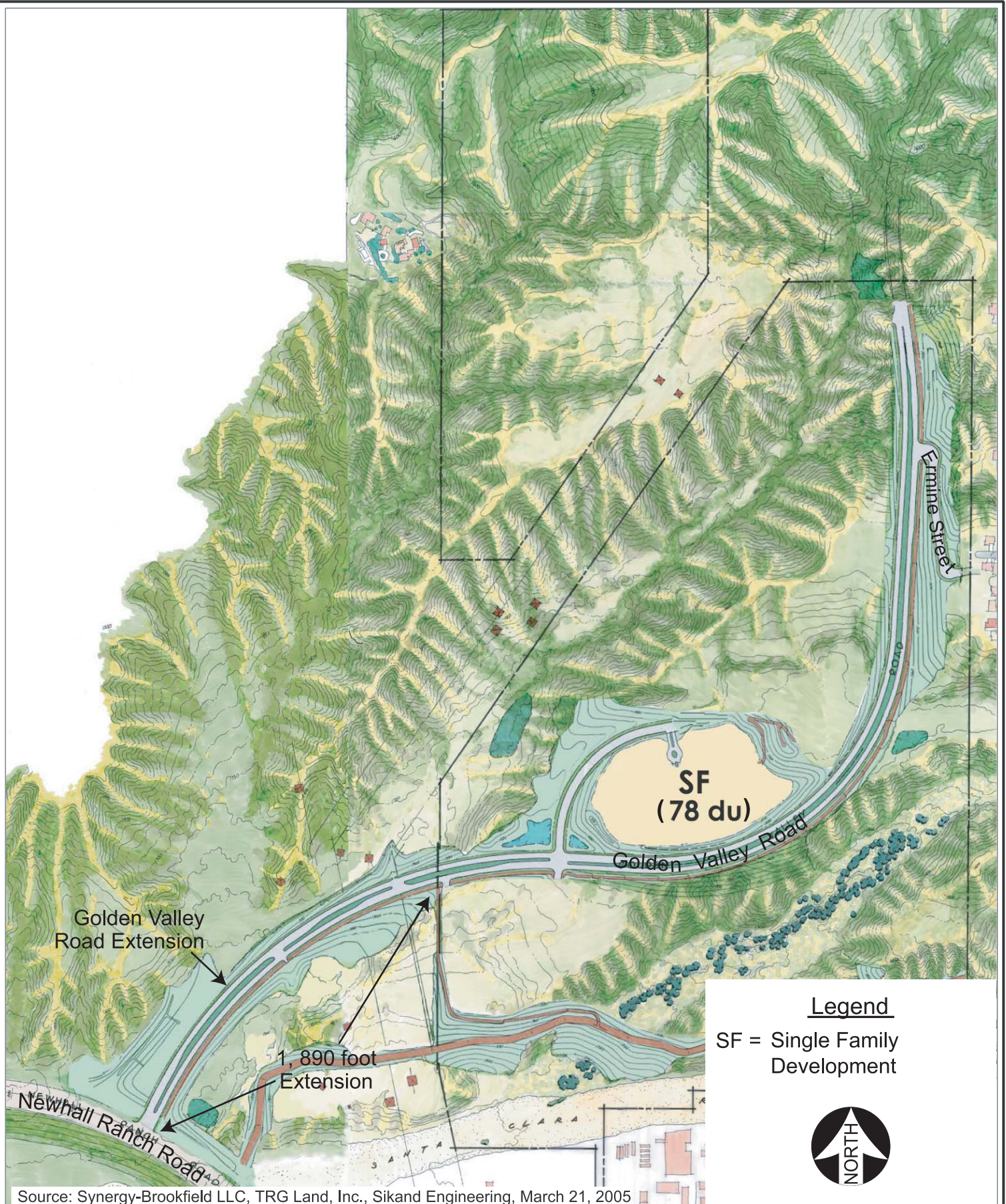
Alternative B would result in the creation of a total of 78 single-family residential units. The permitted density is in accordance to the City of Santa Clarita General Plan and the City's Ridgeline Preservation and Hillside Development Ordinance (Section 17.80.040 UDC). As with the Proposed Project, this alternative would be developed by creating a development pad for the Single-family units. The alternative would alter the existing eastern secondary ridgeline with the proposed development and roadway and re-create it with a faux ridgeline. The primary ridgeline and the western secondary ridgeline would be preserved under this alternative. (See Section V.B. Aesthetics of this EIR for greater discussion on site design). Alternative B does not include a finished development pad for the YMCA and junior high school, and these project components are not part of this alternative.

Golden Valley Road is currently under construction north of the project site from Plum Canyon to the northern project site boundary. Golden Valley Road would be constructed between the proposed Newhall Ranch Road and the terminus of the roadway north of the project site. To construct Golden Valley Road between these two points, a series of “mesas” or development pads, would be created which preserve natural open space and provide graded open space slopes in between. Figure VII-1 illustrates the conceptual site plan for Alternative B. As shown, Alternative B would include development of all 78 single-family units on the project site land east of the LA DWP right-of-way Proposed Project”. No development would occur west of the LA DWP right-of-way within the Proposed Project’s single-family home development pad area.. Grading of the western secondary ridgeline would be avoided under this alternative and like the Proposed Project the primary ridgeline would be preserved. Further, since no grading would occur south of Golden Valley Road, the canyon that runs parallel to the Santa Clara River would be preserved.

The project site access, via Golden Valley Road, would remain the same as the Proposed Project. This access would include a 1,890-foot extension of this roadway from the project western boundary to an intersection with Newhall Ranch Road. Also, Alternative B would include connection of Ermine Street to Golden Valley Road. Grading associated with Alternative B would be reduced from that associated with the Proposed Project with avoidance of the area west of the DWP right-of-way and the western secondary ridgeline as well as the southern canyon that runs parallel to the Santa Clara River.

Alternative B consists of an overall reduced project density consisting of 78 single-family residential units, which is a 19 percent decrease when compared to the 96 single-family units associated with the Proposed Project. Alternative B would eliminate the 883 multi-family townhouse/condominium units associated with the Proposed Project, representing a 100 percent decrease.

The trails (bike and multi-use) included in the Proposed Project would also be part of Alternative B, as would the open space areas. Alternative B would also extend the multi-use trail from the western project boundary to the recently approved Riverpark project boundary, east of Newhall Ranch Road. Table VII-1 provides a summary of the Alternative B project components.



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Figure VII-1
 Alternative B - Current General Plan
 Land Use and Zoning Conceptual Site Plan

**Table VII-1
Summary of Proposed Alternative B Development**

Land Use	Number of Non-residential Buildings	Number of Housing Units	Proposed Square Footage
<i>Single-Family Residential</i>			
Lots "A" through "D" (east of DWP right-of-way)	0	78	N/A
West of DWP right-of-way	N/A	N/A	N/A
<i>Subtotal</i>	0	78	N/A
<i>Educational</i>			
Public Junior High School ¹	8	N/A	100,00
Outdoor Recreational Facilities	N/A	N/A	N/A
Cross-country Loop Trail	N/A	N/A	N/A
<i>Recreational</i>			
YMCA Facility	1	N/A	30,476
Trails	N/A	N/A	N/A
<i>Total</i>	9	78	130,476

Notes:

- 1 The proposed junior high school would include 8 buildings: an administration building (includes a multi-purpose room); a gymnasium building; and 6 classroom buildings.

Alternative B Project Components

Single-Family Residential Units

The 78 single-family homes developed under this alternative (compared to the 96 homes under the Proposed Project) would be located east of the DWP right-of-way. The housing would be located on curvilinear streets with traditional lot orientation and a gross density of 1.3 dwelling units per acre. Lots would be accessed from a secondary roadway via Golden Valley Road (see Figure VII-1).

Educational

Alternative B would not include provision of a finished development pad for educational facilities like the Proposed Project.

Recreational

Alternative B would consist of the similar provision for recreational facilities, such as the multi-use trail along the Santa Clara River as described in Section III. Project Description. This alternative would not include provision of a finished pad for the YMCA building.

Grading

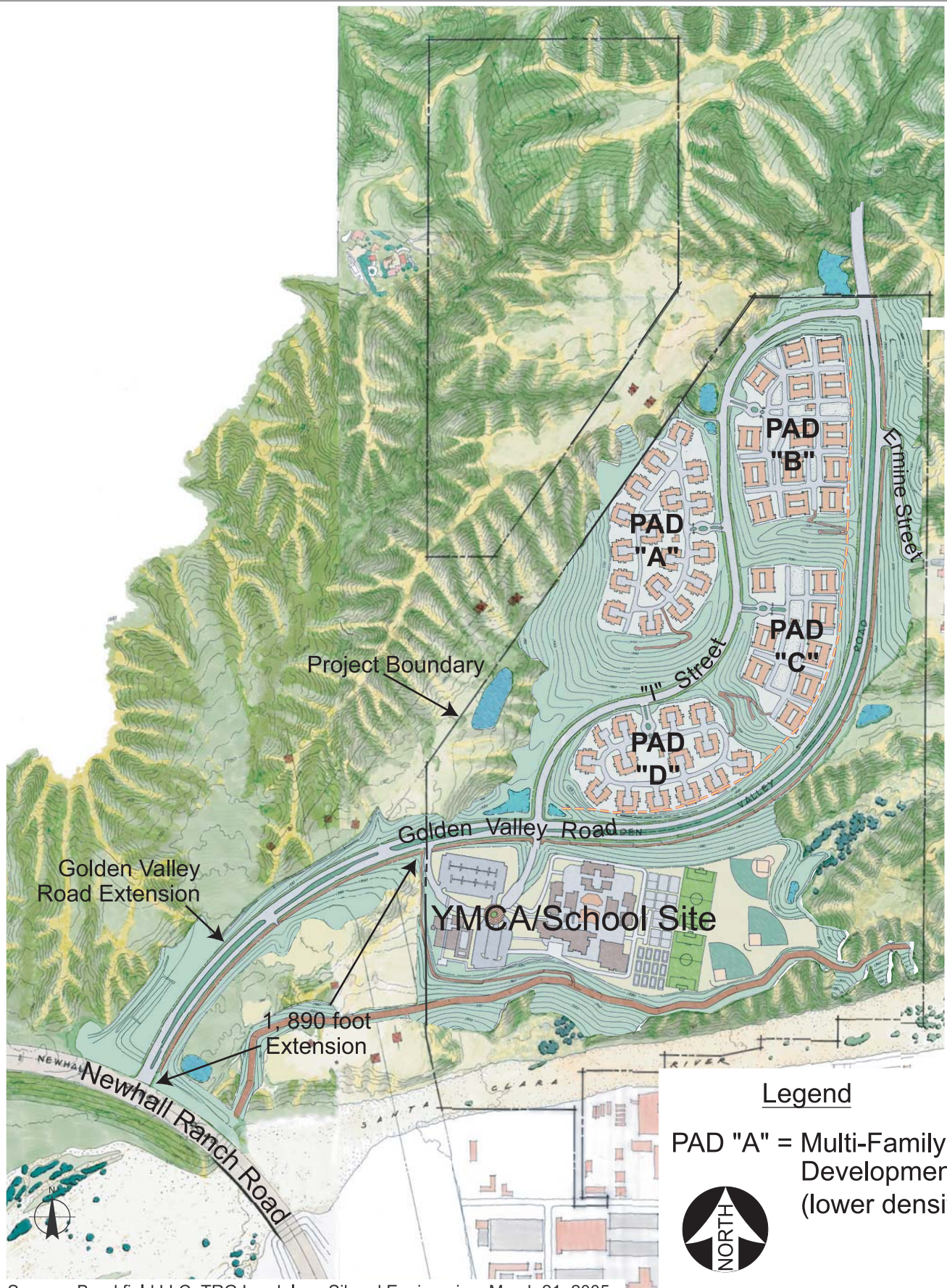
Grading for Alternative B would consist of a balance between cut and fill quantities and would be less than that associated with the Proposed Project. No grading would occur west of the DWP right-of-way and no grading of the western Secondary Ridgeline and the southern canyon would occur. The amount of open space, both graded and natural, associated with Alternative B would be increased from that associated with the Proposed Project.

Alternative C: Compliance With Noise Setbacks and Preservation of Northern Secondary Ridgeline

No single-family development west of the LA DWP right-of-way would occur under Alternative C. The area to the west of the right-of-way would remain as natural open space land. The multi-family units would be constructed on the four development pads “A” through “D” as under the Proposed Project in the area east of the LA DWP right-of-way. The Zoning and General Plan land use designation for this alternative in the area east of the LA DWP right-of-way would be the same as the Proposed Project with a request to change the land use designation to Residential Medium High (RMH) and the approximately 0.5 acre industrial lot south of the Santa Clara River would remain as IC with no development proposed. A conceptual site plan for Alternative C is shown in Figure VII-2.

Under the Proposed Project, future exterior noise levels at several of the buildings proposed along Golden Valley Road could exceed City standards. These locations would not have much topographic variation and, therefore, natural barrier attenuation from Golden Valley Road. Future residents of the project site could be exposed to exterior noise levels that exceed City standards resulting in a potentially significant noise impact. Under Alternative C, two of the pads would incorporate noise setbacks from proposed Golden Valley Road. In pad “C”, a 100-foot setback would be implemented and a 105-foot setback would be incorporated in the layout of pad “D”. Inclusion of these noise setbacks would reduce the number of multi-family units in these development pads by 18 (pad “C”) and 32 (pad “D”) units, or a total of 50 units compared with the Proposed Project. Thus, a total of 833 multi-family units would be developed under this alternative. Like the Proposed Project, approximately 76 percent (or 633 units) of the total multi-family units would be condominiums and the remaining 24 percent (or 200 units) would be apartments.

The position of the multi-family structures on the development pads would be different from the



Source: Synergy-Brookfield LLC, TRG Land, Inc., Sikand Engineering, March 21, 2005

Proposed Project, with the northern secondary ridgeline on the site being preserved under this alternative. Thus, residential structures, parking, driveways, landscaping, and outdoor recreation space (e.g., common swimming pools, etc.) would be configured to avoid the northern secondary ridgeline. An Innovative Hillside Development Application would still be required, however, to develop the southern secondary ridgeline for construction of Golden Valley Road on the site under this alternative. The site design of the project would also apply to Alternative C with the grading concept of re-creating the southern secondary ridgeline implemented as well. As with the Proposed Project, this alternative would include four multi-family residential pads that “step-up” providing flat development areas, or mesas.

This alternative would provide finished graded pads for a junior high school and YMCA facility, which would be identical to the Proposed Project. Development pads for a YMCA building and junior high school would be provided on the lowest development pad area, south of Golden Valley Road. Parking for these uses would be provided in the same location in between the uses with access from Golden Valley Road.

Golden Valley Road would be the primary access to The Keystone project under this alternative. As with the Proposed Project, Alternative C would include a 1,890-foot extension of Golden Valley Road to Newhall Ranch Road to the south. Also, Alternative C would include connection of Ermine Street to Golden Valley Road. Grading for the project would be less than the project as no movement of earth materials would be required west of the LA DWP right-of-way and no grading of the western Secondary Ridgeline would occur and like the Proposed Project the Primary Ridgeline would be preserved. Grading of the remainder of the project area would be a balance of cut and fill operations.

Alternative C consists of an overall reduced project density consisting of no single-family residential units, representing a 100 percent decrease when compared to the 96 single-family units associated with the Proposed Project. Additionally, Alternative C would reduce the number of multi-family units by 6 percent, resulting in 833 units compared to the 883 units associated with the Proposed Project.

As with the Proposed Project, the on-site school and YMCA facilities would serve the general public in addition to site residents. The trails (bike and multi-use) included in the Proposed Project would also be part of Alternative C, as would the open space areas. However, Alternative C would also feature an additional 18.6 acres of natural open space west of the DWP right-of-way. Under the Proposed Project, this area would be developed with single-family dwellings. Table VII-2 provides a summary of the Alternative C project components.

**Table VII-2
Summary of Proposed Alternative C Development**

Land Use	Number of Non-residential Buildings	Number of HUnits	Proposed Square Footage
Single-Family Residential			
Lots "A" through "D" (east of DWP right-of-way)	N/A	0	N/A
West of DWP right-of-way	N/A	0	N/A
Multi-Family Residential			
Lots "A" through "D" (east of DWP right-of-way)	N/A	833	
Subtotal	N/A	833	
Educational			
Public Junior High School ¹	8	N/A	100,00
Outdoor Recreational Facilities	N/A	N/A	N/A
Cross-country Loop Trail	N/A	N/A	N/A
Recreational			
YMCA Facility	1	N/A	30,476
Trails	0	0	N/A
Total	9	833	130,476

Notes:

- 1 The proposed junior high school would include 8 buildings: an administration building (includes a multi-purpose room); a gymnasium building; and 6 classroom buildings.

Alternative C Project Components

Multi-Family Residential

The 833 multi-family units developed under this alternative (compared to the 883 under the Proposed Project) would be located east of the DWP right-of-way on Lots "A" through "D". Three of the lots would include condominium units and one lot would contain apartments. All four lots would be in the center of the site between proposed Golden Valley Road and "I" Street, north of Newhall Ranch Road (see Figure VII-2). All four lots would be accessed via "I" Street. The apartment lot would be the southernmost lot just north of the Golden Valley Road/"I" Street intersection. The architectural style

would be Mediterranean with plaster exterior walls and Spanish style roof tiles. The lot sizes would range from 8.7 to 12.0 acres and would comprise 41 acres of the approximately 246-acre site.

Educational

The junior high school would be on a development pad graded by the project applicant and the facility would be constructed by the William S. Hart School District accommodating 1,200 to 1,600 students and 60 faculty. Parking for the school would be provided in the same location in between the proposed school site and the YMCA with access from Golden Valley Road.

Recreational

Alternative C would consist of the same provision for recreational facilities as described in Section III. Project Description. This alternative would also provide an extension of the multi-use trail from the western boundary of the project site to Riverpark project boundary, west of Newhall Ranch Road. Other trails as described in Section III. Project Description would be provided. The size of the YMCA building and would be the same as the Proposed Project with an approximately 30,476 square foot recreational facility with parking provided between this use and the proposed junior high school site. The lot would be graded by the project applicant and the facility would be built by the YMCA.

Grading

Grading for Alternative C would consist of a balance between cut and fill quantities but would involve less total earth movement than would the Proposed Project. Under Alternative C, no grading of the area to the west of the DWP right-of-way would occur and this alternative would preserve the western secondary ridgeline and like the Proposed Project the primary ridgeline would be preserved. East of the right-of-way, most of the same areas would be graded as under the Proposed Project, including the eastern secondary ridgeline. Thus, the total amount of grading east of the DWP right-of-way would be somewhat less than with the Proposed Project. The amount of open space, both graded and natural, associated with Alternative C would increase by 18.6 acres compared with the Proposed Project.

Alternative D: Reduced Density Alternative

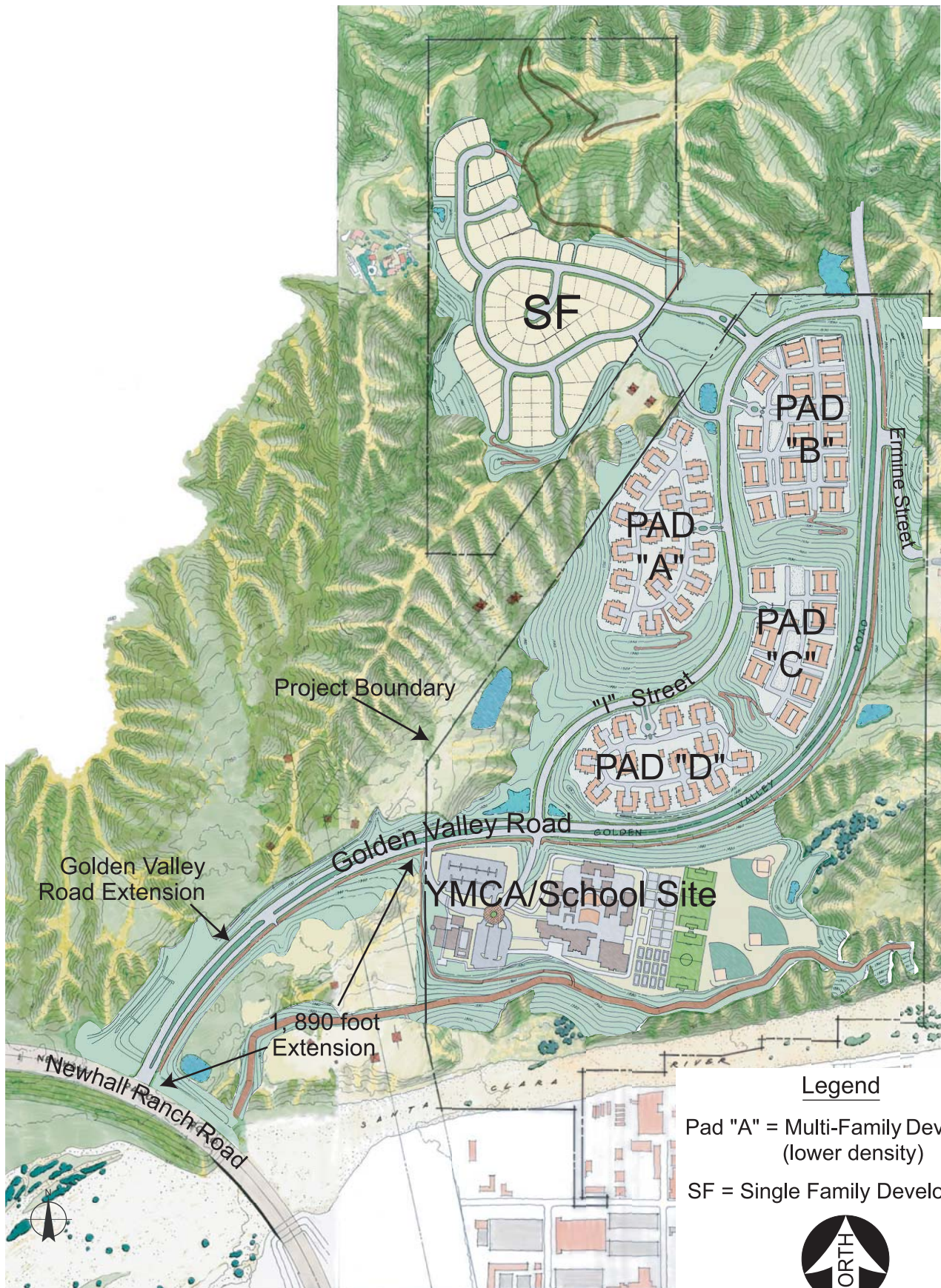
Under Alternative D, the approximate 183-acre area east of the LA DWP right-of-way would be developed with fewer multi-family residential units than the Proposed Project. Alternative D consists of an overall reduced project density consisting of 752 multi-family residential units, representing a 15 percent decrease when compared to the 883 multi-family units associated with the Proposed Project. The General Plan Amendment and Zone change requested under the Proposed Project would be the same under Alternative D with Residential Suburban (RS) for the area west of the DWP right-of-way and Residential Medium High (RMH) for the area east of the DWP right-of-way. This alternative

would allow development of the multi-family units on the same four development pads (or mesas) as under the Proposed Project, but would be built equivalent to the Residential Moderate (RM) density. The number of units permitted under Alternative D would be capped at 752 multi-family residential units and 96 single-family units. Like the Proposed Project, approximately 76 percent (or 572 units) of the total multi-family units would be condominiums and the remaining 24 percent (or 180 units) would be apartments. The approximately 0.5 acre industrial lot south of the Santa Clara River would remain as IC with no development proposed.

The overall site plan would be the same as with the Proposed Project and is shown in Figure VII-3. The other development areas would remain the same as the Proposed Project with 96 single-family homes west of the LA DWP right-of-way and the finished graded lots for the YMCA building and junior high school site south of Golden Valley Road. A total of 848 residential units would be developed on the project site under Alternative D. Finished graded lots to accommodate the construction of the same size YMCA and junior high school facilities would be provided like Proposed Project and the location would be the same with the access driveway from Golden Valley Road at the proposed "I" Street intersection.

As with the Proposed Project, the site design would apply to Alternative D with the re-creation of the Secondary Ridgelines and development pad areas (or mesas) to construct Golden Valley Road. Grading for Alternative D would involve approximately the same amount of cut and fill as the Proposed Project, which includes creation of development pads, or mesas. Golden Valley Road would be the primary access to The Keystone project under this alternative. As with the Proposed Project, Alternative D would include a 1,890-foot extension of Golden Valley Road to Newhall Ranch Road to the south. Also, Alternative D would include connection of Ermine Street to Golden Valley Road. The single-family residential, school, and YMCA facility components of Alternative D would be identical to the Proposed Project.

As with the Proposed Project, the on-site school and YMCA facilities would serve the general public in addition to site residents. The trails (bike and multi-use) included in the Proposed Project would also be part of Alternative D, as would the open space areas. This alternative would include extension of the multi-use trail from the project's western boundary to the boundary of Riverpark project, west of Newhall Ranch Road. Table VII-3 provides a summary of the Alternative D project components.



Source: Synergy-Brookfield LLC, TRG Land, Inc., Sikand Engineering, March 21, 2005



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Figure VII-3
Alternative D - Reduced Density Alternative
Conceptual Site Plan

**Table VII-3
Summary of Proposed Alternative D Development**

Land Use	Number of Non-Residential Buildings	Number of HUnits	Proposed Square Footage
<i>Single-Family Residential</i>			
Lots "A" through "D" (east of DWP right-of-way)	0	0	N/A
West of DWP right-of-way	N/A	96	N/A
<i>Multi-Family Residential</i>			
Lots "A" through "D" (east of DWP right-of-way)	N/A	752	N/A
<i>Subtotal</i>	<i>N/A</i>	<i>848</i>	<i>N/A</i>
<i>Educational</i>			
Public Junior High School ¹	8	N/A	100,00
Outdoor Recreational Facilities	0	N/A	N/A
Cross-country Loop Trail	0	N/A	N/A
<i>Recreational</i>			
YMCA Facility	1	N/A	30,476
Trails	0	N/A	N/A
<i>Total</i>	<i>9</i>	<i>848</i>	<i>130,476</i>

Notes:

1 The proposed junior high school would include 8 buildings: an administration building (includes a multi-purpose room); a gymnasium building; and 6 classroom buildings.

Alternative D Project Components

Single-Family Residential

The 96 homes developed under this alternative would be identical to those developed under the Proposed Project and located west of the DWP right-of-way.

Multi-Family Residential

The 752 multi-family units developed under this alternative (compared to the 883 under the Proposed Project) would be located east of the DWP right-of-way on Lots "A" through "D". Three of the lots would include condominium units and one lot would contain apartments. All four lots would be in the center of the site between proposed Golden Valley Road and "I" Street, north of Newhall Ranch Road. All four lots would be accessed via "I" Street. The apartment lot would be the southernmost lot just

north of the Golden Valley Road/"I" Street intersection. The architectural style would be Mediterranean with plaster exterior walls and Spanish style roof tiles. The lot sizes would range from 8.7 to 12.0 acres and would comprise 41 acres of the 246-acre site.

Educational

This alternative would also provide finished graded pads for a junior high school identical to the Proposed Project. The size of the school would be the same as the Proposed Project with an approximately 30,476 square foot recreational facility and a school accommodating 1,200 to 1,600 students and 60 faculty. Like the Proposed Project the facility would be constructed by the William S. Hart School District. Parking would be provided in the same location between the junior high school and the YMCA with access from Golden Valley Road.

Recreational

Alternative D would consist of the same provision for recreational facilities as described in Section III. Project Description which include a multi-use trail along the southern area of the site along the Santa Clara River to be provided to the western boundary of the Riverpark project. The project would provide a finished graded lot which would accommodate a YMCA building and would be the same as the Proposed Project with an approximately 30,476 square foot recreational facility with parking provided between this use and the proposed junior high school site. The lot would be graded by the project applicant and the facility would be built by the YMCA.

Grading

Grading for Alternative D would consist of a balance between cut and fill quantities and would be the same as that associated with the Proposed Project. Under Alternative D, the same areas would be graded as under the Proposed Project, totaling approximately 5.4 million cubic yards and approximately 1.8 million cubic yards of remedial grading. The amount of open space, both graded and natural, associated with Alternative D would be the same as with the Proposed Project.

Alternative E: Single-Family Detached Condos Density Alternative

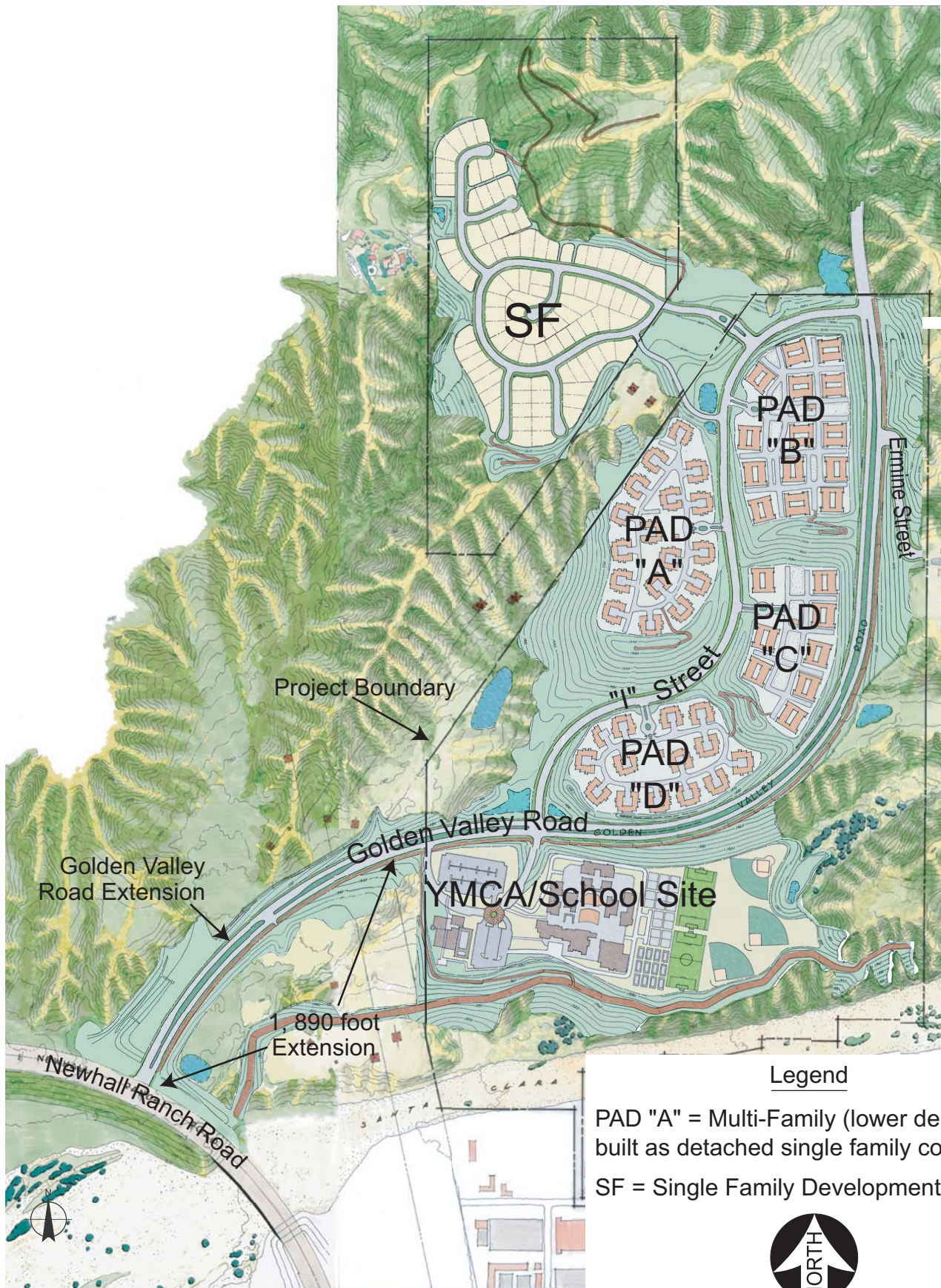
Alternative E would include the proposed 96 unit single-family development west of the DWP right-of-way. Under Alternative E, four development pads would be created north and west of Golden Valley Road to accommodate 596 multi-family units in the form of detached single-family condominiums, which represents a reduction in multi-family density by approximately 33 percent. This alternative would include a total of 692 units, which compared to the project total of 979 would be an approximate 30 percent reduction in the overall density. The General Plan Amendment and Zone change requested under the Proposed Project would be the same under Alternative E with RS for the area west of the

DWP right-of-way and RMH for the area east of the DWP right-of-way. This alternative would allow development of the multi-family units on the same four development pads (or mesas) as under the Proposed Project, but would be built equivalent to the RM density. The number of units permitted under Alternative E would be capped at 596 multi-family (single-family detached condominiums) residential units and 96 single-family units. Like the Proposed Project, approximately 76 percent (or 453 units) of the total multi-family units would be condominiums and the remaining 24 percent (or 143 units) would be apartments. The approximately 0.5 acre industrial lot south of the Santa Clara River would remain as IC with no development proposed. A conceptual site plan for Alternative E is shown in Figure VII-4.

Provision of finished graded lots for a YMCA and junior high school facilities would be the same as under the Proposed Project and located in the same area, south of Golden Valley Road. Like under the Proposed Project, the YMCA and junior high school facilities would be constructed by the YMCA and the William S. Hart School District, respectively. Parking would be provided in between the uses and would include a shared use agreement. This alternative would employ the site design techniques of the Proposed Project and would re-create the secondary ridgelines and four development pads or mesas. The overall site plan for Alternative E would be the same as under the Proposed Project as shown in Figure VII-4. The lot design for the multi-family structures would differ from the Proposed Project in that detached condominiums would be built in place of attached apartment and condominium units.

As with the Proposed Project, the site design would apply to Alternative E with the re-creation of the Secondary Ridgelines and development pad areas (or mesas). Grading for Alternative E would involve approximately the same amount of cut and fill as the Proposed Project, which includes creation of development pads, or mesas. Golden Valley Road would be the primary access road with Ermine Street as a secondary access to the east. In addition, Alternative E would also require the 1,890-foot extension of Golden Valley Road to Newhall Ranch Road to the south.

The size and location of the school and YMCA facility components of Alternative E would be identical to the Proposed Project with the provision of finished graded lots to accommodate these uses. As with the Proposed Project, the on-site school and YMCA facilities would serve the general public in addition to site residents. The trails (bike and multi-use) included in the Proposed Project would also be part of Alternative E, as would the open space areas. This alternative would also include extension of the multi-use trail from the project western boundary to Newhall Ranch Road. The project monument/water feature would also be included in this alternative. Table VII-4 provides a summary of the Alternative E project components.



Source: Synergy-Brookfield LLC, TRG Land, Inc., Sikand Engineering, March 21, 2005



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Figure VII-4
Alternative E - Single-Family Detached
Condominiums Conceptual Site Plan

**Table VII-4
Summary of Proposed Alternative E Development**

Land Use	Number of Non-Residential Buildings	Number of HUnits	Proposed Square Footage
Single-Family Residential			
Lots "A" through "D" (east of DWP right-of-way)	N/A	0	N/A
West of DWP right-of-way	N/A	96	N/A
Multi-Family Residential			
Lots "A" through "D" (east of DWP right-of-way)	N/A	596	N/A
Subtotal	N/A	692	N/A
Educational			
Public Junior High School ¹	8	0	100,000
Outdoor Recreational Facilities	N/A	N/A	N/A
Cross-country Loop Trail	N/A	N/A	N/A
Recreational			
YMCA Facility	1	N/A	30,476
Trails	N/A	N/A	N/A
Total	9	692	130,476

Notes:

1 The proposed junior high school would include 8 buildings: an administration building (includes a multi-purpose room); a gymnasium building; and 6 classroom buildings.

Alternative E Project Components

Single-Family Residential

The 96 single-family homes developed under this alternative would be located west of the LA DWP right-of-way and would be identical to those of the Proposed Project. The housing would be located on curvilinear streets with traditional lot orientation and a gross density of 3.8 dwelling units per acre west of the right-of-way. The lots would be accessible from a loop roadway proposed as Streets "A" and "B" which both intersect "I" Street.

Multi-Family Residential

The 596 multi-family units developed under this alternative (compared to the 883 under the Proposed Project) would be located east of the DWP right-of-way on Lots "A" through "D". Each of the lots would contain detached single-family condominium units. The overall density would be lower than the Proposed Project. Each lot would be accessed via "I" Street. The architectural style would be Mediterranean with plaster exterior walls and Spanish style roof tiles. The lot sizes would range from 8.7 to 12.0 acres and would comprise 41 acres of the 246-acre site.

Educational

Alternative E would consist of the provision of the same educational facilities as described in Section III. Project Description. This alternative would also provide finished graded pads for a junior high school identical to the Proposed Project. The size of the school would be the same as the Proposed Project with an approximately 30,476 square foot recreational facility and a school accommodating 1,200 to 1,600 students and 60 faculty. Like the Proposed Project the facility would be constructed by the William S. Hart School District. Parking would be provided in the same location between the junior high school and the YMCA with access from Golden Valley Road

Recreational

Alternative E would consist of the provision of the same recreational facilities as described in Section III. Project Description. A multi-use trail would be provided along the southern area of the site along the Santa Clara River to the western boundary of the Riverpark project. The project would provide a finished graded lot which would accommodate a YMCA building and would be the same as the Proposed Project with an approximately 30,476 square foot recreational facility with parking provided between this use and the proposed junior high school site. The lot would be graded by the project applicant and the facility would be built by the YMCA.

Grading

Grading for Alternative E would consist of a balance between cut and fill quantities and would be approximately the same as that associated with the Proposed Project. Under Alternative E, the same areas would be graded as under the Proposed Project, totaling approximately 5.4 million cubic yards and 1.8 million cubic yards of remedial grading. The amount of open space, both graded and natural, associated with Alternative E would be the same as with the Proposed Project.

Alternative F: Single-Family Alternative

This alternative would substitute the Proposed Project's 883 multi-family units on four development pads with 287 single-family units. The 96 single-family units proposed west of the DWP right-of-way would be included under this alternative, resulting in a total of 383 single-family units. Compared to the Proposed Project, this alternative would reduce project density by approximately 39 percent. The General Plan Amendment and Zone change requested under the Proposed Project would be the same under Alternative F with RS for the area west of the DWP right-of-way and RMH for the area east of the DWP right-of-way. This alternative would allow development of the 287 single-family units on the Proposed Project's four multi-family development pads (or mesas), but would be built equivalent to the RS density. The number of units permitted under Alternative F would be capped at 383 single-family units (96 units west of the DWP right-of-way and 287 units east of the right-of-way). The approximately 0.5 acre industrial lot south of the Santa Clara River would remain as IC with no development proposed. A conceptual site plan for Alternative F is shown in Figure VII-5.

Provision of finished graded lots for a YMCA and junior high school facilities would be the same as under the Proposed Project and located in the same area, south of Golden Valley Road. Like under the Proposed Project, the YMCA and junior high school facilities would be constructed by the YMCA and the William S. Hart School District, respectively. Parking would be provided in between the uses and would include a shared use agreement. This alternative would employ the site design techniques of the Proposed Project and would re-create the secondary ridgelines and four development pads or mesas in order to construct Golden Valley Road. The overall site plan for Alternative F would be the same as under the Proposed Project, but the four super development pads proposed to accommodate multi-family development under the Proposed Project would accommodate single-family home development under this Alternative. The lot design for the multi-family structures would differ from the Proposed Project in that single-family units would be built in place of multi-family attached apartment and condominium units.

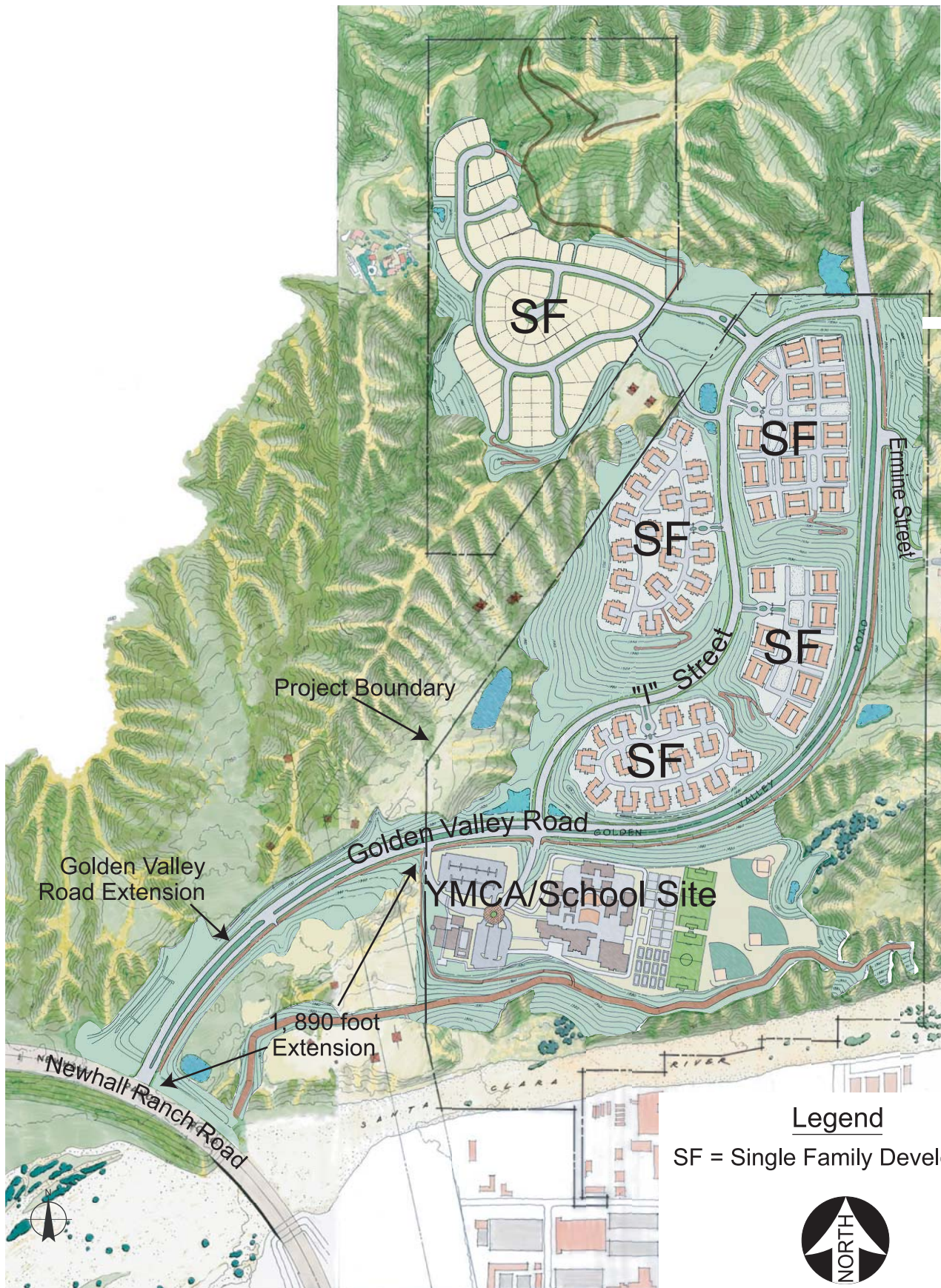
As with the Proposed Project, the on-site school and YMCA facilities would serve the general public in addition to site residents. The trails (bike and multi-use) included in the Proposed Project would also be part of Alternative E, as would the open space areas. This alternative would also include extension of the multi-use trail along the Santa Clara River to the western boundary of the Riverpark project. The project monument/water feature would also be included in this alternative. Table VII-5 provides a summary of the Alternative E project components.

**Table VII-5
Summary of Proposed Alternative F Development**

Land Use	Number of Non-Residential Buildings	Number of HUnits	Proposed Square Footage
<i>Single-Family Residential</i>			
Lots "A" through "D" (east of DWP right-of-way)	N/A	287	N/A
West of DWP right-of-way	N/A	96	N/A
<i>Multi-Family Residential</i>			
Lots "A" through "D" (east of DWP right-of-way)	N/A	0	N/A
<i>Subtotal</i>	<i>N/A</i>	<i>383</i>	<i>N/A</i>
<i>Educational</i>			
Public Junior High School	8	0	100,000
Outdoor Recreational Facilities	N/A	N/A	N/A
Cross-country Loop Trail	N/A	N/A	N/A
<i>Recreational</i>			
YMCA Facility	1	N/A	30,476
Trails	N/A	N/A	N/A
<i>Total</i>	<i>9</i>	<i>383</i>	<i>130,476</i>

Notes:

1 The proposed junior high school would include 8 buildings: an administration building (includes a multi-purpose room); a gymnasium building; and 6 classroom buildings.



Source: Synergy-Brookfield LLC, TRG Land, Inc., Sikand Engineering, March 21, 2005

Alternative F Project Components

Single-Family Residential

The 96 single-family homes developed under this alternative would be located west of the LA DWP right-of-way and would be identical to those proposed as part of the Proposed Project. In addition, 287 single-family housing units would be constructed east of the LA DWP right-of-way on the four residential development lots that are proposed for multi-family development under the Proposed Project.

Multi-Family Residential

There would be no multi-family residential development under Alternative F.

Educational

Alternative E would consist of the provision of the same educational facilities as described in Section III. Project Description. This alternative would also provide finished graded pads for a junior high school identical to the Proposed Project. The size of the school would be the same as the Proposed Project with an approximately 30,476 square foot recreational facility and a school accommodating 1,200 to 1,600 students and 60 faculty. Like the Proposed Project the facility would be constructed by the William S. Hart School District. Parking would be provided in the same location between the junior high school and the YMCA with access from Golden Valley Road.

Recreational

Alternative F would consist of the provision of the same recreational facilities as described in Section III. Project Description. A multi-use trail would be provided along the southern area of the site along the Santa Clara River to the western boundary of the Riverpark project. The project would provide a finished graded lot which would accommodate a YMCA building and would be the same as the Proposed Project with an approximately 30,476 square foot recreational facility with parking provided between this use and the proposed junior high school site. The lot would be graded by the project applicant and the facility would be built by the YMCA.

Grading

Grading for Alternative F would consist of a balance between cut and fill quantities and would be approximately the same as that associated with the Proposed Project. Under Alternative F, the same areas would be graded as under the Proposed Project, totaling approximately 5.4 million cubic yards

and 1.8 million cubic yards of remedial grading. The amount of open space, both graded and natural, associated with Alternative F would be the same as with the Proposed Project.

Alternative G: Re-Aligned Golden Valley Road Alternative

Development of 96 single-family homes, 667 multi-family condominiums, and 216 multi-family apartments would occur under Alternative G, same as under the Proposed Project. However, Golden Valley Road would be re-aligned to follow a straighter southwest to northeast line with the main portion of this road segment located further north than under the Proposed Project design. In addition, the multi-family units would be constructed on five super development pads (pads "A" through "E") rather than on four super development pads (pads "A" through "D") as under the Proposed Project. Further, three of these development pads would be constructed south of the proposed re-aligned Golden Valley Road. The Zoning and General Plan land use designation for this alternative would be the same as the Proposed Project. A conceptual site plan for Alternative G is shown in Figure VII-6.

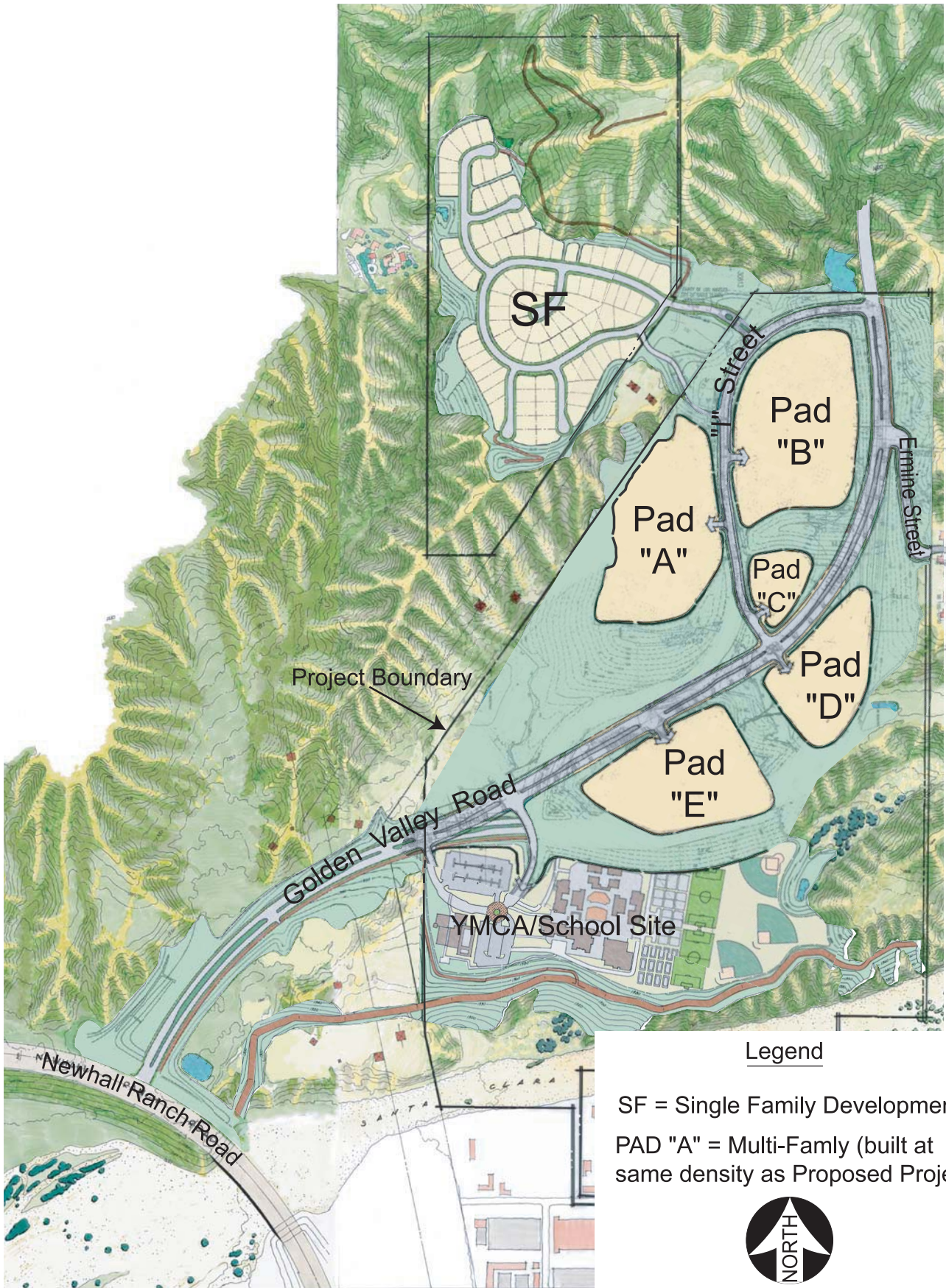
The site design of the Proposed Project would also apply to Alternative G with the grading concept of re-creating the southern secondary ridgeline implemented as well. As with the Proposed Project, this alternative would include multi-family residential pads (or super development pads) that "step-up" providing flat development areas, or mesas.

This alternative would provide finished graded pads for a junior high school and YMCA facility, which would be identical to the Proposed Project. Development pads for a YMCA building and junior high school would be provided on the lowest development pad area, also south of the proposed re-aligned Golden Valley Road. Parking for these uses would be provided in the same location in between the uses with access from Golden Valley Road.

Golden Valley Road would continue to be the primary access to The Keystone project under this alternative. As with the Proposed Project, Alternative G would include a 1,890-foot extension of Golden Valley Road to Newhall Ranch Road to the south. Also, Alternative G would include connection of Ermine Street to Golden Valley Road. Grading for the project would be the same as the Proposed Project.

Alternative G consists of an overall similar project density consisting of the same combination and numbers of single-family and multi-family residential units as under the Proposed Project.

As with the Proposed Project, the on-site school and YMCA facilities would serve the general public in addition to site residents. The trails (bike and multi-use) included in the Proposed Project would also be part of Alternative G, as would the open space areas. Table VII-6 provides a summary of the Alternative G project components.



Source: Synergy-Brookfield LLC, TRG Land, Inc., Sikand Engineering, March 21, 2005



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Environmental Planning and Research

Figure VII-6
Alternative G - Re-Aligned Golden Valley Road
Conceptual Site Plan

**Table VII-6
Summary of Proposed Alternative G Development**

Land Use	Number of Non-residential Buildings	Number of HUnits	Proposed Square Footage
Single-Family Residential			
Lots "A" through "D" (east of DWP right-of-way)	N/A	0	N/A
West of DWP right-of-way	N/A	96	N/A
Multi-Family Residential			
Lots "A" through "E" (east of DWP right-of-way)	N/A	883	
Subtotal	N/A	979	
Educational			
Public Junior High School ¹	8	N/A	100,00
Outdoor Recreational Facilities	N/A	N/A	N/A
Cross-country Loop Trail	N/A	N/A	N/A
Recreational			
YMCA Facility	1	N/A	30,476
Trails	0	0	N/A
Total	9	979	130,476

Notes:

- 1 The proposed junior high school would include 8 buildings: an administration building (includes a multi-purpose room); a gymnasium building; and 6 classroom buildings.

Alternative G Project Components

Multi-Family Residential

The 883 multi-family units developed under this alternative (same as under the Proposed Project) would be located east of the DWP right-of-way on Lots "A" through "E". These five lots would include a mixture of 667 condominium units and 216 apartments. Three of the lots would be in the center of the site between proposed re-aligned Golden Valley Road and the DWP right-of-way, and two of the lots would be located south of the proposed re-aligned Golden Valley Road (see Figure VII-6). The three central lots would be accessed via "I" Street, while the two southern lots would be accessed via the

proposed re-aligned Golden Valley Road. The architectural style would be Mediterranean with plaster exterior walls and Spanish style roof tiles. The lot sizes would range from 8.7 to 12.0 acres and would comprise 41 acres of the approximately 246-acre site.

Educational

The junior high school would be on a development pad graded by the project applicant and the facility would be constructed by the William S. Hart School District accommodating 1,200 to 1,600 students and 60 faculty. Parking for the school would be provided in the same location in between the proposed school site and the YMCA with access from Golden Valley Road.

Recreational

Alternative G would consist of the same provision for recreational facilities as described in Section III. Project Description. Trails, as described in Section III. Project Description would be provided. The size of the YMCA building and would be the same as the Proposed Project with an approximately 30,476 square foot recreational facility with parking provided between this use and the proposed junior high school site. The lot would be graded by the project applicant and the facility would be built by the YMCA.

Grading

Grading for Alternative G would consist of a balance between cut and fill quantities and would involve similar total earth movement as under the Proposed Project. Thus, the total amount of grading would be similar to the Proposed Project. The amount of open space, both graded and natural, associated with Alternative G would be the same as under the Proposed Project.

Alternatives Rejected as Being Infeasible

As described previously in this EIR section, Section 15126.6(c) of the CEQA Guidelines requires EIRs to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and briefly explain the reasons underlying the lead agency's determination.

In addition to the A thru G alternatives listed above, other alternatives were considered and rejected by the City of Santa Clarita. These alternatives are described briefly below, along with the factors that led to their dismissal from further consideration.

Elimination of Ermine Street Connection

This alternative would have consisted of the project as proposed except without the public street connection between Golden Valley Road and Ermine Street. Two possible scenarios could have been

examined; one with the physical street connection but with a gate blocking through traffic with emergency access only; and the other with no physical connection. Under the first scenario, City Ordinance 96-14, Section 2 M.1, prohibits the closure of public street rights-of-way. Therefore this scenario was dismissed as being infeasible.

The second scenario would have included the project site developed as the Proposed Project but without the physical connection between Ermine Street and Golden Valley Road. Currently, the Ermine Street neighborhood, the area between the project site to the east and Whites Canyon, has two direct access points to Whites Canyon Road: Ashboro Drive and Steinway Street. A third access to the neighborhood is Aldbury Street via Camp Plenty, which provides access to both Whites Canyon Road and Soledad Canyon Road. The Traffic Study prepared for The Keystone project examined traffic circulation under the both scenarios of with and without a physical connection between Ermine Street and Golden Valley Road. The Traffic Study identified approximately 2,000 vehicles per day under the interim year (2015) analysis that would use the Ermine Street connection. Of the 2,000 vehicles per day, approximately 1,800 of those vehicles would be generated from the Ermine Street neighborhood, which would travel west on Ermine Street to Golden Valley Road, while approximately 200 vehicles would travel east on Ermine Street from Golden Valley Road.¹ If there is no physical connection on Ermine Street to Golden Valley Road, these approximately 1,800 existing daily vehicles would continue to utilize Ashboro Drive, Steinway Street and Aldbury (via Camp Plenty) for circulation to major roadways in the area.² From a traffic circulation perspective, the Ermine Street connection would potentially improve access by providing a fourth point of access and alleviate traffic conditions by approximately 1,800 daily vehicles at the three existing access points.

The project applicant has proposed to provide a finished graded lot for development of a junior high school by the William S. Hart School District as part of the project. The junior high school would serve the project site residents, as well as the Ermine Street neighborhood in addition to other areas in the vicinity. In addition, The Keystone project residents would be in the attendance boundary of Skyblue Mesa Elementary School, located at 28040 Hardesty Street, which is located near Ermine Street in the Ermine Street neighborhood, as previously described. The Skyblue Mesa Elementary School is part of the Saugus Unified School District. For circulation purposes, a connection from Ermine Street to Golden Valley Road would better serve the students and parents for both the junior high school and elementary school for both The Keystone project and Ermine Street neighborhood

¹ *Traffic Impact Analysis, The Keystone, Austin-Foust Associates, Inc., June 2005 and communication, Daryl Zerfus, June 2005.*

² *Ibid.*

residents.³ From both the William S. Hart School District and the Saugus Unified School District perspective, the connection of Ermine Street to Golden Valley Road is important for circulation purposes to transport students between the two neighborhoods and schools. For these reasons, this alternative with the no physical connection of Ermine Street to Golden Valley Road was dismissed as not practical for traffic circulation purposes.

Alternative Site

This alternative would seek to develop a different site with the same land uses and densities as the Proposed Project. The Proposed Project is being proposed to meet the projected demand for increased housing opportunities in the Santa Clarita Valley area of northern Los Angeles County. Individual alternative sites to the project site could be found and developed in order to meet expected demands for growth, or this amount of demand could instead be met by developing many smaller parcels of land that area spread out over the area. Consequently, there could be hundreds of land parcels that could be developed in place of the Proposed Project. However, given the population growth expected both regionally and statewide, a need may exist to develop all available parcels suitable for housing, including the project site and all other “alternative” sites. Thus, eventually, these other sites may not be truly “alternative” sites at all.

Within or directly adjacent to the City of Santa Clarita, alternative sites do not exist or are the subject of other development proposals. The Proposed Project would involve buildout of an area that is characterized by existing and pending urban development and associated infrastructure improvements. The City’s General Plan currently designates the project site for Residential Very Low development. Potential alternative project sites in the local vicinity which are similar in acreage and are close to existing or planned infrastructure improvements are also currently proposed for development. Other alternative sites located beyond existing urbanized areas would induce growth in these non-urban areas, thereby expanding the existing urban growth boundary. For all of these reasons, no alternative sites were evaluated in this EIR.

C. ALTERNATIVES ANALYSIS

Assumptions and Methodology

The anticipated means for implementation of the alternatives can influence the assessment and/or probability of impacts for those alternatives. For example, a project may have the potential to generate

³ William S. Hart School District, Lorna Baril, Senior Administrative Analyst, communication June 2005, and Saugus Unified School District, Harold Pierre, P.E., Director of Facilities, communication June 2005.

impacts, but considerations in project design may also afford the opportunity to mitigate or minimize those impacts. It would be unreasonable to consider an alternative, and not also consider that certain levels of standard mitigation would be applied at a minimum. Therefore, each alternative analysis generally assumes that a similar level and type of cumulative projects will occur as is evaluated with the Proposed Project.

The following alternatives analysis discusses each alternative's impacts relative to each environmental issue, consistent with those addressed in the project analysis. Although the assessment is more general, similar methodologies and assumptions for analysis were employed. Each alternative is evaluated more schematically than the Proposed Project, and the potential development assumptions for the alternatives are hypothetical. However, specific conclusions can be drawn for comparative purposes from the detailed analyses of the Proposed Project. The analysis also evaluates the relationship of each alternative to the objectives of the Proposed Project.

Aesthetics

Impacts of the Proposed Project

The Proposed Project would transform the project site from its current, vacant condition to a mix of residential and institutional uses. In the process, approximately 173 acres of complex topography of prominent ridgelines, relatively flat mesas, and steep-sided V-shaped canyons would be transformed to a simplified series of large horizontal planes, manufactured slopes, and recreated ridgelines accommodating the proposed development. The project would be more or less visible from public viewing locations along Soledad Canyon Road, Canyon View Drive, and Golden Valley Road (south of Soledad Canyon Road). The Proposed Project would introduce a mixed-use residential development into the scenic vistas of the Santa Clarita Valley. However, the Proposed Project would provide an innovative and effective strategy for reducing the visual effects of the development and impacts to scenic vistas would be less than significant. The Proposed Project would not impact the Primary Ridgeline on the site but would alter the appearance of the two Secondary Ridgelines, transforming them from their more rugged existing appearance into a series of manufactured slopes while at the same time re-creating their existing height and orientation. This latter function is expected to aid in shielding the development areas from general public viewpoints offsite. The eastern Secondary Ridgeline has been previously disturbed by past usage (e.g., portions of it used for agriculture production, mineral extraction and off-road vehicle activity). Removal of the ridgeline would be considered significant, however, project site design and grading techniques result in re-creation of the ridgeline in the approximate location and height of the existing ridgeline and would include undulating slopes emulating existing topography. The project site design and grading mitigates the impact to scenic resources to less than significant. In addition, the project would affect the private views from residences adjacent to the site. The character of the site would change substantially from a vacant undeveloped property with

open space to a more urban environment. This change is materially significant and cannot be mitigated; consequently the impact is significant and unavoidable. Project development would also result in the introduction of several sources of lighting resulting in increased nighttime illumination, but with mitigation, impacts would be less than significant. Project impacts with respect to daytime glare would be less-than-significant. As discussed in Section V.B, Aesthetics, the Proposed Project has been designed to minimize aesthetics impacts.

Impacts of Alternative A

Under Alternative A, views toward the project site would not be altered from the current condition. Therefore, no impacts to scenic vistas, scenic resources, visual character, and the surrounding community would occur under this alternative. Alternative A also would not introduce any new sources of light and glare.

Impacts of Alternative B

Alternative B consists of an overall reduced project density consisting of 78 single-family residential dwellings, the junior high school with appurtenant facilities, and the YMCA facility. The portion of the site to be developed under this alternative would be less than under the Proposed Project, with no development occurring west of the DWP right-of-way and no grading of the western Secondary Ridgeline. Further, no development would occur south of Golden Valley Road and the southern canyon would remain in its current condition as undeveloped open space. The density of development would be considerably less under Alternative B. Thus, the overall appearance would be of a less developed site due to the fewer number of homes constructed which would be contained on one development pad. Consequently, site development would occur in a smaller area of the site compared to the Proposed Project. As a result, impacts to scenic vistas and scenic resources, would be less than the Proposed Project's less than significant impacts. With respect to visual character, this alternative would provide 78 single-family homes on one development pad which would cover substantially less area compared to the Proposed Project. The overall landform alterations would not be as significant as the material change in the visual effects of the site would not be as substantial compared to the Proposed Project. Views from the immediate surrounding existing residential neighborhoods would not change substantially from existing conditions, though there would be some views of the 78 homes from portions of the Ermine Street neighborhood. However, the overall views would be mostly of undeveloped landscape like existing conditions. Therefore, this alternative would substantially lessen the project's significant and unavoidable impacts and impacts would be less than significant with respect to visual character. Potential impacts associated with light and glare would be substantially less than with the Proposed Project and, with mitigation, impacts would remain less-than-significant under this alternative. The overall impacts would be less than those of the Proposed Project due to the decrease in overall project density and the extent of site disturbance.

Impacts of Alternative C

Alternative C would eliminate all development west of the DWP right-of-way and would preserve the western Secondary Ridgeline on the project site while incorporating noise setbacks into the multi-family developments. The spatial extent of development east of the right-of-way would be approximately the same as with the Proposed Project, although fewer multi-family units would be constructed due to the noise setbacks and no grading of the northern secondary ridgeline would take place. The junior high school and YMCA facility would be the same as with the Proposed Project. The elimination of development west of the DWP right-of-way would lessen the overall impact of the project on scenic vistas, scenic resources, visual character, and the surrounding community compared with the Proposed Project. With elimination of the single-family residential development, this alternative would further lessen the Proposed Project's less than significant impacts to scenic vistas. Also, implementation of this alternative would not impede upon the western Secondary Ridgeline and it would remain undeveloped and in its natural, current condition. Though the alternative would still alter the eastern Secondary Ridgeline, the site design and grading techniques employed for the Proposed Project would be applied under this alternative and thus, impacts would be mitigated by site design and grading to less than significant like the Proposed Project. The significant and unavoidable project impact with regards to visual character would be reduced under this alternative since the area west of the DWP right-of-way would remain in its current vacant condition. Views of this area from the adjacent residential community to the northwest would not be altered, though impacts would remain significant for the Ermine Street neighborhood. The area east of the DWP right-of-way would be constructed with urban densities, though not as great as the Proposed Project. Nevertheless, the four residential development pads would still be constructed, as would the pads for the YMCA and school site would be graded and prepared for development by those entities. Therefore, the site east of the DWP right-of-way would change significantly and impacts would remain significant and unavoidable. Potential impacts associated with light and glare would be less-than-significant with mitigation and less than those of the Proposed Project.

Impacts of Alternative D

Alternative D would reduce the density of the multi-family residential component of the Proposed Project to the east of the DWP right-of-way. Development west of the right-of-way would remain the same as the Proposed Project. This alternative would result in a decrease in the visual density of development in the area east of the right-of-way as the total number of buildings erected in this portion of the site would be reduced in accordance with the reduction in the total number of multi-family units. Therefore, the Proposed Project's less than significant impacts to scenic vistas would be further reduced. Scenic resources are defined for this project as the Primary and Secondary Ridgelines, which would be impacted in a similar fashion as the Proposed Project. Under this alternative, the site would be graded in a similar design as the Proposed Project to accommodate the single-family development,

multi-family development on four pads, the YMCA and school site pad and construction of Golden Valley Road. Impacts to the Secondary Ridgelines would still occur to the same level of intensity as the Proposed Project. Impacts would be less than significant with regards to visual resources as the impacts would be the same as the Proposed Project due to similar grading and site design requirements. Impacts with respect to visual character would be similar as the Proposed Project as the site would still be transformed from a vacant, undeveloped site, to one converted to urban uses. The character of the site would still be altered significantly and such impacts would remain significant and unavoidable under this project alternative. Potential impacts associated with light and glare would continue to be less-than-significant with mitigation under Alternative D and only marginally less than those of the Proposed Project as the physical area of development on the site would be the same.

Impacts of Alternative E

Alternative E would replace the attached apartment and condominium units proposed under the project with detached condominium single-family units east of the DWP right-of-way. The 96 single-family units would still be built in the area to the west of the right-of-way. The area south of Golden Valley Road would still provide finished graded pads to be developed with the YMCA and school facilities by the YMCA and William S. Hart District. Potential impacts to scenic vistas would be similar to the Proposed Project as the site would cover the similar amount of project site area and the projects less than significant impacts would remain under this alternative. This alternative would involve development affecting both of the Secondary Ridgelines like the Proposed Project; however, the impacts to these ridgelines would be less than significant. As with the Proposed Project, this alternative would employ the same grading and site design techniques, which would include recreation of the ridgelines in the similar location and height of the existing eastern and western Secondary Ridgelines and due to site, design and grading techniques, impacts are mitigated to less than significant. Alternative E would also materially change the landform of the site and views of the site would change significantly from undeveloped open space to urban development. Like the Proposed Project, this alternative would also result in significant and unavoidable impacts with regards to visual character though it would be marginally less than with the Proposed Project due to the detached nature of the multi-family residential units, which would be characterized by less height and bulk and more integrated landscaping when viewed from public vantage points to the south of the site. Impacts associated with night lighting would be less-than-significant with mitigation and would be somewhat greater than under the Proposed Project due to the additional building exterior space associated with detached multi-family units.

Impacts of Alternative F

Alternative F would develop 96 single-family homes west of the DWP right-of-way (as under the Proposed Project) and 287 single-family homes east of the DWP right-of-way (rather than the 883

multi-family homes under the Proposed Project). The spatial extent of development east of the right-of-way would be approximately the same as with the Proposed Project, although fewer total units would be constructed and all the units would consist of single-family detached homes rather than multi-family homes. The junior high school and YMCA facility would be the same as with the Proposed Project. The substitution of multi-family for single-family development as well as the overall reduction in density by approximately 39 percent would lessen the overall impact of the project on scenic vistas, scenic resources, visual character, and the surrounding community compared with the Proposed Project. This alternative would further lessen the Proposed Project's less than significant impacts to scenic vistas with the re-creation of secondary ridgelines and four development pads or mesas in order to construct Golden Valley Road. Though the alternative would still alter the eastern Secondary Ridgeline, the site design and grading techniques employed for the Proposed Project would be applied under this alternative, and, thus, impacts would be mitigated by site design and grading to less than significant like the Proposed Project. The significant and unavoidable project impact with regards to visual character would remain under this alternative since the area west of the DWP right-of-way would still be developed. Views of this area from the adjacent residential community to the northwest would be altered, and impacts would remain significant for the Ermine Street neighborhood. The area east of the DWP right-of-way would be constructed with urban densities, though not as great as the Proposed Project. Nevertheless, the four residential development pads would still be constructed, as would the pads for the YMCA and school site would be graded and prepared for development by those entities. Therefore, the site east of the DWP right-of-way would change significantly and impacts would remain significant and unavoidable. Potential impacts associated with light and glare would be less-than-significant with mitigation and less than those of the Proposed Project.

Impacts of Alternative G

Similar to the Proposed Project, Alternative G would transform the project site from its current, vacant condition to a mix of residential and institutional uses. This alternative would also result in the transformation of approximately 173 acres of complex topography of prominent ridgelines, relatively flat mesas, and steep-sided V-shaped canyons to a simplified series of large horizontal planes, manufactured slopes, and recreated ridgelines. Development under this alternative would be more or less visible from public viewing locations along Soledad Canyon Road, Canyon View Drive, and Golden Valley Road (south of Soledad Canyon Road). The Proposed Project would introduce a mixed-use residential development into the scenic vistas of the Santa Clarita Valley. However, Alternative G would utilize the same design techniques as the Proposed Project to reduce the visual effects of the development, and impacts to scenic vistas would, therefore, be considered less than significant. Development under this alternative would not impact the Primary Ridgeline on the site but would alter the appearance of the two Secondary Ridgelines, transforming them from their more rugged existing appearance into a series of manufactured slopes while at the same time re-creating their existing height

and orientation. This latter function is expected to aid in shielding the development areas from general public viewpoints offsite. The eastern Secondary Ridgeline has been previously disturbed by past usage (e.g., portions of it used for agriculture production, mineral extraction and off-road vehicle activity). Removal of the ridgeline would be considered potentially significant, however, project site design and grading techniques would result in the re-creation of the ridgeline in the approximate location and height of the existing ridgeline and would include undulating slopes emulating existing topography. This alternative's site design and grading would, therefore, mitigate the impact on scenic resources to less than significant. In addition, development under this alternative would affect private views from residences adjacent to the site, but to a slightly lesser extent than under the Proposed Project as the proposed development pads would be set back slightly farther from these adjacent residences. As under the Proposed Project, the character of the site would change substantially from a vacant undeveloped property with open space to a more urban environment. This change is materially significant and cannot be mitigated; consequently the impact associated with visual character is significant and unavoidable. Development under Alternative G would also result in the introduction of several sources of lighting resulting in increased nighttime illumination, but with incorporation of mitigation identified in Section V.B, Aesthetics, impacts related to nighttime lighting would be reduced to a less than significant level. Project impacts with respect to daytime glare would be less-than-significant as under the Proposed Project. Aesthetics impacts associated with development under Alternative G would be similar to impacts identified for the Proposed Project in that aesthetic impacts would be mitigated to less than significant levels except those impacts related to visual character, which would remain significant and unavoidable.

Air Quality

Impacts of the Proposed Project

Implementation of the Proposed Project would not impair implementation of the 2003 Air Quality Management Plan (AQMP). Construction related daily emissions would exceed thresholds of significance recommended by the South Coast Air Quality Management District (SCAQMD) during the site grading phase (for NO_x); the school, YMCA, and first/second residential construction phase (for VOC and NO_x); and the third residential construction phase (for NO_x). This would be a significant impact regarding a substantial contribution to an existing or projected air quality violation. When completed and operational, the Proposed Project would generate daily emissions that exceed the thresholds of significance recommended by the SCAQMD during the summertime (for VOC, NO_x, and CO) and wintertime (for VOC, NO_x, and CO). This is a significant impact regarding a substantial contribution to an existing or projected air quality violation. The Proposed Project and cumulative development would not expose any sensitive receptors located in close proximity to local intersections to substantial pollutant concentrations and would thus have a less-than-significant impact. Toxic or carcinogenic air pollutants are not expected to occur in any meaningful amounts in conjunction with

operation of the proposed land uses within the project site. Implementation of the Proposed Project is also not expected to create objectionable odors affecting a substantial number of people.

Impacts of Alternative A

Under Alternative A, no grading or construction would occur at the site. Thus, this alternative would not generate any fugitive dust or other pollutant emissions associated with construction activities at the site. This would eliminate the short-term, significant and unavoidable air quality impacts resulting from construction activities associated with the Proposed Project. Under Alternative A, no development would occur on the site in the short-term and no new traffic trips would be generated. As such, Alternative A would not generate any pollutant emissions associated with long-term operation of a residential community and would eliminate the significant operational air quality impacts associated with the Proposed Project.

Impacts of Alternative B

Peak daily construction activities under Alternative B would be similar to those associated with the Proposed Project. As such, they would be expected to exceed the thresholds of significance recommended by the SCAQMD. This would continue to be a significant air quality impact. However, the emissions generated over the entire construction phases would be reduced with Alternatives B due to the reduced amount of site development and the smaller amount of grading.

When completed and operational, Alternatives B would each generate fewer average daily traffic trips than those generated by the Proposed Project. Motor vehicle trips are the primary source of daily operational emissions associated with the Proposed Project. four Because this alternative would generate fewer vehicle trips than the Proposed Project, it would also generate fewer average daily emissions.

The fewer motor vehicle trips would also generate less localized pollutant concentrations near local intersections. Because the land uses proposed for this alternative is the same as the Proposed Project, this alternative would generate similar levels and types of toxic air contaminants and airborne odors to the Proposed Project.

Impacts of Alternative C

Impacts for Alternative C are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternative D

Impacts for Alternative D are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternative E

Impacts for Alternative E are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternative F

Impacts for Alternative F are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternative G

Impacts for Alternative G are the same as the Proposed Project. See Impacts of the Proposed Project for discussion.

Biological Resources***Impacts of the Proposed Project***

The principal direct impact of implementation of the Proposed Project is to convert approximately 178.33 acres of the project site (71 percent) from an undeveloped to a developed condition. Specifically, development of the Proposed Project would impact:

- 2.44 acres (or 78.9%) of southern cottonwood-willow riparian forest
- 10.81 acres (or 58.7%) of Non-Native Grassland
- 85.3 acres (or 85.2%) of coastal sage scrub
- 53.13 acres (or 62.4%) of chaparral
- 26.64 acres (or 78.1%) of residential/urban/exotic non-habitat vegetation
- 0.01 acre (or 9%) of individual oak trees

The impacts to these native and non-native plant communities would be less than significant with mitigation.

Because of the relatively common nature of wildlife species that would be displaced or lost as a result of construction activities and the introduction of less-desirable non-natural vegetation, project implementation is not expected to cause a current fish or wildlife population on or adjacent to the project site to drop below self-sustaining levels. Therefore, no significant impacts on common wildlife reptile, amphibian, or mammal species are expected to occur. However, the Proposed Project includes removal of mature trees from the property. Construction-related activities could result in the direct loss of active nests or the abandonment of active nests by adult birds during that year's nesting season. Depending on the number and extent of bird nests on the site that may be disturbed or removed, the loss of active bird nests would be

a potentially significant impact. However, no significant impacts would occur to nesting bird species. No significant impact to special-status plants or special-status wildlife species would be associated with the project. One on-site and two off-site oak trees would be removed to accommodate construction of the Proposed Project and extension of Golden Valley Road from the project western boundary to Newhall Ranch Road. Because of the sensitivity status of oak trees in the City of Santa Clarita and the risk associated with their relocation, the removal of oak trees, the relocation, and encroachment into the protected zone would be considered a significant impact of the project. With mitigation, however, these impacts would be reduced to a less-than-significant level.

Construction of the Proposed Project would result in direct impacts to 1.23 acres of Waters of the United States. This impact, with mitigation, would be reduced to a less-than-significant level. Grading for the Proposed Project would also impact 4.71 acres of CDFG jurisdictional streambeds. This impact, with mitigation, would be reduced to a less-than-significant level. Impacts to native habitat within the Santa Clara River riparian area would be reduced to a less-than-significant level with mitigation.

Implementation of the Proposed Project would also increase human and domestic animal presence in the area. Increased recreational and other human activity around these habitats could: (1) displace a number of wildlife species, (2) increase the amount of trash and pollutants in the area, (3) compact soils, and (4) trample ground-dwelling plants. This potential indirect impact can be mitigated to a less than significant level. An increase in the population of certain non-native vegetative species common to urban/residential areas could also result from implementation of the Proposed Project. With appropriate mitigation, this impact would be reduced to a less-than-significant level.

The entire Keystone site is located within Critical Habitat Unit 13 for the federally listed threatened coastal California gnatcatcher, which was not identified on the site during focused protocol surveys. As noted above, critical habitat only receives protection when there is a federal action associated with a project. In this case, the project will require a Section 404 Permit from the U.S. Army Corps of Engineers, providing the “nexus” that would bring the project impacts under review by the Corps and U.S. Fish and Wildlife Service. Specifically, the 86.0 acres of CSS and 57.85 acres of chaparral on the site, totaling approximately 138.43 acres, are considered to comprise Primary Constituent Elements (PCEs) that could potentially provide for breeding, foraging and dispersal for this species. As noted under plant communities above, the loss of CSS and chaparral, totaling 138.43 acres combined, within Critical Habitat Unit 13 would be a significant impact in accordance with the CEQA Guidelines and impacts would be less than significant with mitigation.

Because of the potential disruption to breeding and foraging behavior of wildlife species remaining on, adjacent to, and in proximity to the project site, increased nighttime lighting and glare is considered a potentially significant impact of the Proposed Project. With appropriate mitigation, including

development of a lighting plan that reduces light spillage into open space areas, impacts associated with light and glare would be reduced to less-than-significant.

An increase in the quantity and decrease in the quality of stormwater runoff from the project site is expected to occur with development of the Proposed Project. However, with appropriate mitigation in the form of a water quality program and runoff management plan to address potential impacts associated with stormwater runoff and urban low flows, potential impacts associated with water quality and storm runoff would be reduced to less-than-significant.

Impacts of Alternative A

Alternative A would not involve any grading or disturb any biological resources on the project site. No native trees or vegetation communities would be impacted under Alternative A and would there be no elimination of wildlife and encroachments on wildlife movement corridors. No impacts to jurisdictional waters would occur under this alternative. Therefore, this alternative would eliminate the impacts to biological resources associated with the Proposed Project.

Impacts of Alternative B

Alternative B would reduce the amount of grading and land disturbance by preserving the portion of the site west of the DWP right-of-way as natural open space as well as the northern secondary ridgeline. Elimination of development in the area west of the right-of-way would preserve 0.27 acre of ephemeral drainage that would be removed under the Proposed Project. Due to the location of the on-site and off-site oak trees, the three project impacted oaks would also be effected due to Alternative B as development would occur in the location of these impacted oaks. Impacts to other biological resources would be reduced corresponding to the reduction in onsite acreage to be developed but would otherwise remain largely the same as under the Proposed Project. With mitigation, however, these impacts would be reduced to less-than-significant levels.

Impacts of Alternative C

Alternative C would reduce the amount of grading and land disturbance by preserving the portion of the site west of the DWP right-of-way as natural open space. Impacts to biological resources on the portion of the site east of the right-of-way would be the same as with the Proposed Project. Elimination of development in the area west of the right-of-way would preserve 0.27 acre of ephemeral drainage that would be removed under the Proposed Project. Due to the location of the on-site and off-site oak trees, the three project impacted oaks would also be effected due to Alternative B as development would occur in the location of these impacted oaks. Impacts to other biological resources would be reduced corresponding to the reduction in onsite acreage to be developed but would otherwise remain

largely the same as under the Proposed Project. With mitigation, however, these impacts would be reduced to less-than-significant levels.

Impacts of Alternative D

Alternative D would require the same amount of grading as the Proposed Project. Impacts to biological resources from the development of Alternative D would be virtually the same as those associated with the Proposed Project. With mitigation, however, these impacts would be reduced to less-than-significant levels.

Impacts of Alternative E

Impacts for Alternative E are the same as Alternative D. See Alternative D for impact discussion.

Impacts of Alternative F

Impacts for Alternative F are the same as Alternative D. See Alternative D for impact discussion.

Impacts of Alternative G

Impacts for Alternative G are the same as the Proposed Project. See Impacts of the Proposed Project for discussion.

Cultural Resources

Impacts of the Proposed Project

No known existing structures are located on the project site, and therefore, implementation of the project would not result in any significant impacts related to physical (built) structures or architectural resources. However, seven historical archaeological sites have been recorded within a one-mile radius of the project site. No such sites have been recorded on the project site. According to the Cultural Resources Phase I that was prepared for the project, although no evidence of historical or archaeological resources was found on the project site, the project site is moderately sensitive for historical and archaeological resources and unknown resources could be uncovered during project construction. If proper care is not taken during grading and excavation activities, these unknown resources could be damaged or destroyed. Therefore, project impacts on unknown historical and archaeological resources would be significant.

No evidence has been uncovered that the project would disturb any human remains. Contact with the Native American Heritage Commission resulted in no written comments and no specific concerns with respect to potential resources on the site. However, it is possible during the project's construction

phase that human remains could be uncovered. Therefore, project impacts on unknown human remains would be significant.

Some of the geologic units found on the project site have a moderate to high paleontologic-sensitivity. Paleontologic resources within these units could be adversely affected by earth-moving activities associated with development of the project site. Direct impacts would result primarily from earth-moving activities (particularly grading) in previously undisturbed strata, but also would result from any earth-moving activity that buried previously undisturbed strata, making the strata and their paleontological resources unavailable for future scientific investigation. Although earth-moving activities would be relatively short term, some fossil remains, unrecorded fossil sites, associated specimen data, and corresponding geologic and geographic site data, and the fossil-bearing strata could be lost. Further, easier access to fresh exposures of fossiliferous strata and the associated potential for unauthorized fossil collecting by construction personnel, rock hounds, and amateur and commercial fossil collectors could result in the loss of some additional fossil remains, unrecorded fossil sites, and associated specimen data and corresponding geologic and geographic site data. The potential loss of these paleontological resources would be significant. Therefore, project impacts on paleontological resources would be significant.

With incorporation of mitigation, impacts to cultural resources within the project site would be less than significant.

Impacts of Alternative A

Alternative A would not involve any grading or disturb any unknown cultural resources on the Project Site.

Impacts of Alternatives B

Only one development pad would be created under Alternative B. Thus implementation of this alternative would significantly reduce the potential for currently undiscovered cultural resources at the Project site to be disturbed during site grading due to a decrease in grading. However, it is still possible to uncover historical, archaeological or paleontological resources during grading of that one development pad and of Golden Valley Road. The resulting impact would continue to be potentially significant and mitigation would be applied to minimize this impact.

Impacts of Alternative C

Implementation of Alternative C would preserve the land west of the DWP right-of-way and therefore reduce impacts to cultural resources in this area of the Project site. However, the site west of the DWP right-of-way would be developed with four multi-family pads and the YMCA/school site pad plus

Golden Valley Road would be constructed in the same location as the Proposed Project. Thus Alternative C would potentially significantly impact cultural resources in this area of the project site and mitigation would be applied to minimize this impact.

Impacts of Alternative D

Alternative D would result in the same amount of grading as the Proposed Project. Therefore Alternative D would have the same potential to disturb currently undiscovered cultural resources at the project site during grading operations and mitigation would still be required to minimize the significant impacts..

Impacts of Alternative E

Impacts for Alternative E are the same as Alternative D. See Alternative D for impact discussion.

Impacts of Alternative F

Impacts for Alternative F are the same as Alternative D. See Alternative D for impact discussion.

Impacts of Alternative G

Impacts for Alternative G are the same as the Proposed Project. See Impacts of the Proposed Project for discussion.

Geology and Soils

Impacts of the Proposed Project

The Proposed Project would not be expected to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, and project impacts with respect to fault rupture would be less than significant. Three landslides have been mapped on the southeast portion of the site however, they do not encroach into the development area of the site, but are located above the multi-use trail at this location; development within these areas of the site would result in a significant impact unless mitigated. Similarly, debris flow hazards exist on south-facing slopes in the southern and central portions of the site. With mitigation, however, impacts would be reduced to a less-than-significant level.

Impacts from potential liquefaction and ground failure on the site would be reduced to a less-than-significant level with mitigation, as would impacts in transition zones on the site. Perched groundwater has been encountered on the site; however, with proposed mitigation, impacts from groundwater and soil moisture would be reduced to a less-than-significant level. Similarly, moderately corrosive soils

are present on the site. However, with proposed mitigation, impacts would be reduced to a less-than-significant level.

Impacts from wind and water erosion during construction would be less-than-significant with mitigation. Operational erosion impacts would be less-than-significant. With mitigation, impacts resulting from unstable earth conditions on site and earth movement greater than 10,000 cubic yards of fill would also be reduced to a less-than-significant level. No significant impacts would result from changes in topography or ground surface relief on the site or development on slopes greater than 10 percent natural grade.

Impacts of Alternative A

Since no grading or development would take place under Alternative A, none of the potentially significant impacts associated with the Proposed Project would occur.

Impacts of Alternatives B

Development activities under Alternatives B, would expose significantly fewer people and properties to the geotechnical conditions as the Proposed Project. Alternative B would have less potential for soil erosion during grading and construction and would expose fewer structures to potentially unstable and expansive soils than would the Proposed Project since it involve less site grading. All of the potential risks could be reduced to less than significant levels through the same building practices and mitigation measures as the Proposed Project.

Impacts of Alternative C

Alternative C would preserve the area west of the DWP right-of-way and thus no impacts would be generated for this area of the project site. However, grading of the site east of the DWP easement would be the same as the Proposed Project and, therefore, impacts for Alternative C would be the same as the Proposed Project for this area of the project site and the same building practices and mitigation measures as the Proposed Project would be required to reduce potential risks to people and properties.

Impacts of Alternative D

Alternatives D would disturb the same area as the Proposed Project. All of the potential risks could be reduced to less than significant levels through the same building practices and mitigation measures as the Proposed Project.

Impacts of Alternative E

Impacts for Alternative E are the same as Alternative D. See Alternative D for impact discussion.

Impacts of Alternative F

Impacts for Alternative F are the same as Alternative D. See Alternative D for impact discussion.

Impacts of Alternative G

Impacts for Alternative G are the same as the Proposed Project. See Impacts of the Proposed Project for discussion.

Hazards***Impacts of the Proposed Project***

Hazardous materials impacts during project construction relative to exposure to hazardous substances during disposal would be less than significant with mitigation. Operation of the Proposed Project is not expected to result in any accidental releases of hazardous materials to the environment. One oil well was located on or near the southwestern corner of the project site. The well was abandoned and mitigation was provided to further document the location and re-abandonment mitigation has been provided; thus impacts would be less than significant. The project would not expose people, animal, or plant life populations to known health hazards from SCE transmission lines. No significant impacts from past or future pesticide use on the project site are anticipated.

Impacts of Alternative A

Since no grading or development would take place under Alternative A, none of the impacts associated with the Proposed Project would occur.

Impacts of Alternative B

Development activities under Alternative B would expose fewer people and properties to the same level of hazardous materials impacts as the Proposed Project. All of the potential risks could be reduced to less than significant levels through the same building practices and mitigation measures as the Proposed Project.

Impacts of Alternative C

Impacts for Alternative C are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternative D

Impacts for Alternative D are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternative E

Impacts for Alternative E are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternative F

Impacts for Alternative F are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternative G

Impacts for Alternative G are the same as the Proposed Project. See Impacts of the Proposed Project for discussion.

Hydrology and Water Quality***Impacts of the Proposed Project***

The project site is located within an unnamed approximately 677-acre tributary watershed of the 1,624 square mile Santa Clara River basin. The Santa Clara River traverses the southern portion of the site. The project will be located outside the floodplain of the Santa Clara River and will require no bank stabilization. Therefore, the project would result in no significant impacts to the Santa Clara River.

Site clearing and grading operations have the potential to discharge sediment downstream during storm events. Temporary erosion control measures in disturbed areas of the site during the construction phase of the project are proposed to reduce this potential impact to a less-than-significant level.

Following completion of the Proposed Project, the total debris volume from the approximately 677 acre tributary watershed would decrease from 15,948 cy to 8,401 cy, a 47 percent decrease. Burned and bulked flows would also decrease from 1,731 cfs to 1,628 cfs, a 14 percent decrease. Two-year storm flows from both drainage areas would increase from 470 cfs to 496 cfs. Two detention basins would be provided on site to offset this increase. This reduction in sedimentation and debris production is a result of reduced erosion of the site due to coverage of much of the development area with pavement, roofs, vegetation, and other non-erosive surfaces. The County and City-defined criteria for design of flood control systems establish the more severe hydrologic conditions (e.g., burned and bulked) as the basis of impact evaluation. It is also a result of the proposed debris basins that would capture sediment and debris in upstream runoff. With these improvements in place, the project would reduce post-construction impacts on- and off-site erosion, downstream sedimentation, and debris production and transport and, therefore, a less than significant impact. With mitigation, no significant project or cumulative project flooding, erosion, or sedimentation-related impacts are expected to occur.

The Proposed Project includes a mix of uses all having the potential to directly and indirectly impact water quality through point and non-point sources given their proximity to the Santa Clara River. In addition, short-term construction activities also have the potential to cause a variety of water quality impacts. Although the project proposes a wide range of design features to minimize its water quality impacts and must comply with regulations designed to prevent water quality degradation, nevertheless, the potential for the Proposed Project to violate a water quality standards or waste discharge requirement remains. Therefore, project impacts are considered potentially significant and mitigation is required. With mitigation, no significant project or cumulative project water quality-related impacts are expected to occur.

Impacts of Alternative A

Alternative A would not involve any grading and would not alter any drainage patterns on the project site. No change in the water quality pollutant loading and delivery characteristics of the site would occur under Alternative A. Therefore, this alternative would eliminate the impacts to hydrology and water quality associated with the Proposed Project.

Impacts of Alternatives B

Alternatives B would each reduce the amount of grading and land disturbance by preserving the portion of the site west of the DWP right-of-way as natural open space as well as the northern secondary ridgeline on the site. Impacts to hydrology and water quality on the portion of the site east of the right-of-way would be the less than under the Proposed Project. Elimination of development in the area west of the right-of-way would preserve the existing drainage patterns and water quality characteristics of this portion of the site. Overall impacts on site runoff volume and debris flows as well as water quality would be reduced corresponding to the reduction in onsite acreage to be developed but would otherwise remain largely the same as under the Proposed Project. With mitigation, however, these impacts would be reduced to less-than-significant levels.

Impacts of Alternatives C

Impacts for Alternative C are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternative D

Alternative D would require the same amount of grading as the Proposed Project. Impacts to surface drainage and water quality from the development of Alternative D would be virtually the same as those associated with the Proposed Project. With mitigation, however, these impacts would be reduced to less-than-significant levels.

Impacts of Alternative E

Impacts for Alternative E are the same as Alternative D. See Alternative D for impact discussion. .

Impacts of Alternative F

Impacts for Alternative F are the same as Alternative D. See Alternative D for impact discussion.

Impacts of Alternative G

Impacts for Alternative G are the same as the Proposed Project. See Impacts for the Proposed Project for discussion.

Land Use***Impacts of the Proposed Project***

The project site is located between Bouquet Canyon Road, Plum Canyon Road and Soledad Canyon Road. Topographically, the site consists of two steep canyons, two ridgelines and a series of mesas. The site drains to the south and discharges into the Santa Clara River. The most southeasterly canyon drains portions of the site as well as some off-site development to the east. This canyon is steep sided and supports riparian vegetation. The other canyon is the location of the Department of Water and Power right-of-way with transmission lines. This canyon is less steep and supports a coastal sage scrub plant community. The project site is vacant of known buildings. The site is not in pristine condition as portions have been subject to mining activities in the past. In addition, the site exhibits scars from illegal off-road activity, mostly associated with motorcycles and Quad-runners. Also, the site includes trash, construction debris, abandoned automobile parts and numerous 55-gallon drums. The project site is situated immediately west of an existing single-family residential neighborhood. Properties to the north include existing and new subdivisions (Sun Cal), some of which are currently under development. To the west, the recently approved Riverpark project has been proposed with residential and commercial uses. South of the site, new commercial and industrial parks are being developed south of the Santa Clara River. Farther south, new single-family and multi-family residential neighborhoods have been recently developed. The Proposed Project would not physically divide any established communities or uses and impacts would be less than significant.

The Proposed Project would require a General Plan Amendment to change the land use designation of the project site to Residential Suburban (RS) and Residential Medium High (RMH). A Zone Change would be required to revise the site zoning to Residential Suburban (RS) and Residential Medium High (RMH). Approval of the Vesting Tentative Tract Map is required to subdivide the site into 132 lots which would include: 96 single-family lots, four multi-family lots (for 883 multi-family units) and one

lot for industrial (no proposed development), a finished graded lot for a junior high school, and a recreation use (YMCA facility), and remaining lots for trails, utilities, roadways and open space. The Proposed Project also requires approval of a Conditional Use Permit for approval of the Innovative Application for development on ridgelines; gate guarded residential entries; height of project entry monument accessory structure; YMCA use and height of structure; and height of multi-family structures. A hillside development review is also necessary for the Proposed Project as it would include development on slopes with an average cross slope of greater than 10 percent and ridgelines classified as secondary. Lastly, an Oak Tree Permit is required for the removal of two off-site oak trees for the construction of the off-site extension of Golden Valley Road to Newhall Ranch Road. In addition, one on-site oak tree would require removal for grading of a slope on Lot 115. With approval of these discretionary measures, the Proposed Project would not conflict with any City land use plans, policies, or regulations.

The Proposed Project boundary includes portions of the Santa Clara River which is designated as a Significant Ecological Area (SEA)(No. 23). The project applicant does not propose development within the SEA. Further, there are no habitat conservation plans or natural community conservation plans that are applicable to the Proposed Project. Thus, the project would not conflict with any habitat conservation plan or community conservation plan and impacts would be less than significant.

Impacts of Alternative A

Under Alternative A, the project site would remain undeveloped and would not conflict with any land use planning designations for the site.

Impacts of Alternative B

Alternative B would not require a General Plan Amendment or Zone Change as it would develop the site consistent with existing City of Santa Clarita General Plan Land Use and Zoning classifications. According to the General Plan, the Proposed Project site is designated and zoned Residential Very Low (RVL) with a maximum land use intensity of 1 dwelling unit (du) per acre. Grading on the project site is subject to the standards outlined in the Ridgeline Preservation and Hillside Development Ordinance (Ordinance), Chapter 17.80 of the Unified Development Code. The maximum allowable density for slopes greater than 10 percent correspond to the mid-range density of each General Plan residential land use designation. Since the project site has slopes greater than 10 percent, the Ridgeline Preservation and Hillside Development Ordinance maximum density provisions apply. Alternative B would result in the creation of a total of 78 single-family residential units. The other discretionary approvals required to implement the Proposed Project would also be required to implement Alternative B. Therefore, the potential land use impacts associated with Alternative B would be less than those associated with the Proposed Project.

Impacts of Alternative C

No single-family development west of the LA DWP right-of-way would occur under Alternative C. The area to the west of the right-of-way would remain as natural open space land. The multi-family units would be constructed on the four development pads “A” through “D” as under the Proposed Project in the area east of the LA DWP right-of-way. The Zoning and General Plan land use designation for this alternative in the area east of the LA DWP right-of-way would be the same as the Proposed Project with a request to change the land use designation to Residential Medium High (RMH) and the approximately 0.5 acre industrial lot south of the Santa Clara River would remain as Industrial Commercial (IC) with no development proposed. Because the single-family residential component of the Proposed Project would not be included in Alternative C, no Residential Suburban (RS) land use designation or zone change would be necessary. The other discretionary approvals required to implement the Proposed Project would also be required to implement Alternative C. Therefore, the potential land use impacts associated with Alternative C would be only slightly less than those associated with the Proposed Project.

Impacts of Alternative D

The General Plan Amendment and Zone change requested under the Proposed Project would be the same under Alternative D with Residential Suburban (RS) for the area west of the DWP right-of-way and Residential Medium High (RMH) for the area east of the DWP right-of-way. This alternative would allow development of the multi-family units on the same four development pads (or mesas) as under the Proposed Project, but would be built equivalent to the Residential Moderate (RM) density. The number of units permitted under Alternative D would be capped at 752 multi-family residential units and 96 single-family units. The approximately 0.5 acre industrial lot south of the Santa Clara River would remain as IC with no development proposed. The other discretionary approvals required to implement the Proposed Project would also be required to implement Alternative D. Therefore, the potential land use impacts associated with Alternative D would be only slightly less than those associated with the Proposed Project.

Impacts of Alternatives E

The General Plan Amendment and Zone change requested under the Proposed Project would be the same under Alternative E with RS for the area west of the DWP right-of-way and RMH for the area east of the DWP right-of-way. This alternative would allow development of the multi-family units on the same four development pads (or mesas) as under the Proposed Project, but would be built equivalent to the RM density. The number of units permitted under Alternative E would be capped at 596 multi-family (single-family detached condominiums) residential units and 96 single-family units.

The approximately 0.5 acre industrial lot south of the Santa Clara River would remain as IC with no development proposed.

Impacts of Alternatives F

The General Plan Amendment and Zone change requested under the Proposed Project would be the same under Alternative F with RS for the area west of the DWP right-of-way and RMH for the area east of the DWP right-of-way. This alternative would allow development of the 287 single-family units on the Proposed Project's four multi-family development pads (or mesas), but would be built equivalent to the RS density. The number of units permitted under Alternative F would be capped at 383 single-family units (96 units west of the DWP right-of-way and 287 units east of the right-of-way). The approximately 0.5 acre industrial lot south of the Santa Clara River would remain as IC with no development.

Impacts of Alternatives G

Alternative G, similar to the Proposed Project, would require a General Plan Amendment to change the land use designation of the project site to RS and RMH, and a Zone Change would be required to revise the site zoning to RS and RMH. The other discretionary approvals required to implement the Proposed Project would also be required to implement Alternative G. Therefore, the potential land use impacts associated with Alternative G would be the same as those associated with the Proposed Project.

Mineral Resources

Impacts of the Proposed Project

A small portion of the project site adjacent to the southern site margin is contained within a Mineral Resources Zone-2 (MRZ-2) classification, which is defined as an area "... where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists." This area of the site is not proposed for development. Given that no development is proposed within the project site land classified as MRZ-2, implementation of the project would not preclude or impede mineral resource extraction from MRZ-2 classified land. Therefore, construction of The Keystone project would not 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. Thus, there would be no impact to the availability of known mineral resources. Though project implementation would convert the majority of the site from non-urbanized to urbanized uses, the project site land classified as MRZ-3 would not be considered as part of the existing 11,929 million tons of PCC-aggregate resource and reserve as identified by the DMG. Therefore, conversion of the majority of the project site to urban uses would not result in a loss of availability of a known mineral resource that would be of value to the

region and the residents of the state. Thus, impacts would be less than significant with regard to the availability of known mineral resources with project implementation.

The Land Use Policy Map of the City's General Plan does not provide a MOCA overlay on the project site's land use designations. Though a small portion of the site (approximately 15.5-acres) is within a mineral resource classification of MRZ-2, the City's General Plan does not envision the site suitable as conservation for resource recovery. Therefore, project implementation would not result in the loss of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan; thus, no impact would occur. The project does not contain existing activities in which nonrenewable resources are extracted. Therefore, implementation of the project would not be wasteful or inefficient in the recovery of such resources and impacts would be less than significant.

Impacts of Alternative A

Under Alternative A, the project site would remain undeveloped and would not conflict with any mineral resource extraction options that may be considered in the future for the site.

Impacts of Alternatives B

Development activities under Alternative B would result in less overall disturbance to the project site and, thus, would result in fewer impacts to mineral resources. As with the Proposed Project, these impacts would be less than significant.

Impacts of Alternatives C

Alternative C would preserve the area west of the DWP right-of-way and thus would not have any significant impacts to Mineral Resources in this area of the project site. The area west of the DWP right-of-way would be graded to the same extent as the Proposed Project and thus, impacts to Mineral Resources in this area of the project site would be the same as the Proposed Project which are less than significant.

Impacts of Alternatives D

Development activities under Alternative D would result in the same level of overall disturbance to the project site as the Proposed Project and, thus, would result in a similar level of impact to mineral resources. As with the Proposed Project, these impacts would be less than significant.

Impacts of Alternatives E

Impacts for Alternative E are the same as Alternative D. See Alternative D for impact discussion.

Impacts of Alternatives F

Impacts for Alternative F are the same as Alternative D. See Alternative D for impact discussion.

Impacts of Alternatives G

Impacts for Alternative G are the same as the Proposed Project. See Impacts of the Proposed Project for discussion.

Noise***Impacts of the Proposed Project***

Project development would require the use of heavy equipment for ground clearing, site grading, roadway construction, and building construction. Development activities would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of development, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of the activity. Construction activities would primarily affect the existing residences located immediately east and northwest of the Proposed Project site. The noise levels at the residences near the eastern end of Millridge Drive would be substantially lower than at the other residential locations since a prominent ridge would act as a large noise barrier between the construction activities and the homes at this location. The other residential locations would have direct lines of sight to the construction activities. Assuming that average daytime noise levels average around 45 dBA L_{eq} at these homes (based on the noise levels monitored at the project site), the noise levels during project construction would represent a substantial periodic increase in ambient noise levels in the project vicinity above levels existing without the project and would constitute a significant impact. . With successful implementation of mitigation measures recommended in this EIR, construction noise levels would be reduced although they would continue to exceed City standards and/or cause an increase of at least 10 dBA l_{eq} at the nearby residential areas and the impact would continue to remain significant and unavoidable.

Site clearing and grading activities would occur within 50 feet of the existing residences located at the western end of Ermine Street. These homes could be exposed to groundborne vibration levels that exceed the 80 VdB threshold for residences and buildings where people normally sleep. With the limitations on the timing of construction activities identified in Section V.K, Noise, the magnitude of this impact would be reduced to a less-than-significant level. Site clearing and grading activities would occur no closer than 90 feet from the other existing residential neighborhoods located near the project site. As such, groundborne vibration levels would not approach the 80 VdB threshold at these residences. This would be a less-than-significant impact regarding the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Future noise levels within the proposed site would be dominated by vehicular traffic on the new extension of Golden Valley Road and "I" Street. Other sources of noise would include new stationary sources (such as outdoor ventilation and air conditioning equipment) and increased activity throughout the site. Future exterior noise levels at most of the proposed land use locations, as well as interior noise levels throughout the project area would not exceed City standards. However, the future exterior noise levels at several of the residential buildings proposed along Golden Valley Road could exceed City standards. These locations would not have much topographic variation and, therefore, natural barrier attenuation from Golden Valley Road. The noise levels would primarily affect the porches and balconies of these buildings, but outdoor activity areas where the residents would actually spend time outdoors are not proposed at these locations. Interior noise levels would meet City standards at these buildings. Future residents of the project site could be exposed to exterior noise levels that exceed City standards. This would be a potentially significant noise impact regarding exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinances, or applicable standards of other agencies.

Locations in the vicinity of the Proposed Project site could experience slight changes in noise levels as a result of an increase in the on-site population and resulting increase in motor vehicle trips. The Proposed Project would increase local noise levels by a maximum of 0.2 dBA CNEL, which is inaudible/imperceptible to most people and would not exceed the identified thresholds of significance. This would be a less-than-significant noise impact regarding a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Therefore, development of the Proposed Project would not cause a substantial permanent increase in noise levels at this location.

Impacts of Alternative A

Because Alternative A would not involve any grading of the project site and no construction of the proposed uses, this alternative would eliminate project's significant and unavoidable and less than significant impacts related to construction noise. Alternative A would also eliminate the less-than-significant impacts associated with long-term operation of the project.

Impacts of Alternative B

Peak daily construction activities under Alternative B would be similar to those associated with the Proposed Project. As such, they would be expected to cause a substantial temporary increase in ambient noise levels in the project vicinity above levels existing without the project. Under Alternative B, only one residential development pad would be constructed, which would be greater than 100 feet from the nearest residence in the neighborhood to the east (Ermine Street neighborhood). As discussed under Proposed Project impacts, there would be no barrier such as a ridgeline to lessen the construction noise impacts from these residences. Consequently, impacts would be significant and even with

implementation of construction noise measures, impacts would be significant and unavoidable. Like the Proposed Project, some of these residences to the east would have a line of sight of the construction activity of the single-family development as shown on Figure VII-1. In addition, construction of the Ermine Road extension would be in the same alignment as the Proposed Project, which would significantly impact the Ermine Street residential neighborhood to the east. Consequently, like the Proposed Project, even with recommended measures, impacts relating to construction noise would remain significant and unavoidable under Alternative B. However, the number of days that noise levels are generated over the entire construction phases would be substantially reduced with Alternative B due to the reduced amount of development. The greatest decreases would be associated with this Alternative B.

Similarly, groundborne vibration velocity levels generated during the construction of this Alternative would be similar to those generated by construction of the Proposed Project. As such, it would not exceed the threshold of significance for residences and buildings where people normally sleep and would be limited to daytime hours in accordance with City policies. Therefore, it would not cause a significant impact. As with the construction noise levels, the number of days that groundborne vibration is generated over the entire construction phases would be reduced with Alternative B due to the reduced amount of development. The greatest decreases would be associated with Alternative B.

When completed and operational, Alternative B would increase the amount of mechanical and human activity at the Project site. As such, the unavoidable noise levels from the on-site activities could result in temporary or periodic increases in noise levels that are similar to those associated with the Proposed Project. These impacts would be at a less-than-significant level.

Alternative B would eliminate the significant roadway noise level impacts to the future multi-family residential units within the project site. This alternative would include only 78 single-family units which would employ setbacks to ensure that the residences would not be affected by roadway noise from Golden Valley Road. Therefore, impacts would be less than significant.

Alternative B, would generate fewer average daily traffic trips than those generated by the Proposed Project. Therefore, it would generate a smaller increase in off-site traffic noise levels than those associated with the Proposed Project, which is less than significant.

The operational background vibration levels associated with this alternative would be expected to be low and less than significant to on- or off-site uses, although the number of motor vehicles that would generate the groundborne vibration levels would be reduced under this alternative when compared to the Proposed Project.

Impacts of Alternatives C

Alternative C mitigates the Proposed Project impacts with regards to exterior noise levels at several of the buildings proposed along Golden Valley Road that exceed City standards. The proposed conceptual site plan sets the buildings back to avoid significant impacts for these buildings. By setting the buildings back from Golden Valley Road to avoid the significant impact, the number of feasible units to construct is reduced from the Proposed Project and results in approximately 50 fewer units than the Proposed Project. Implementation of this alternative would still have construction related noise impacts that would exceed City standards and these impacts would remain significant and unavoidable. Other impacts for Alternative C are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternatives D

Alternative D is a reduced density of the Proposed Project and would include approximately 752 units on the four multi-family development pads, which is 131 fewer units than the Proposed Project. Consequently, the multi-family buildings would have setbacks that mitigate the impacts of the Proposed Project buildings along Golden Valley Road. Impacts for Alternative D are the same as Alternative C. Implementation of this alternative would still have construction related noise impacts that would exceed City standards and these impacts would remain significant and unavoidable. Other impacts for Alternative D are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternatives E

Alternative E provides 596 multi-family units, which is approximately 287 units fewer than the Proposed Project. Since this alternative reduces then project site density, it is assumed that the multi-family units (single-family detached condominium units) would have setbacks similar to those under Alternative C in which the units would not be affected by roadway noise from Golden Valley Road. Therefore, this alternative with its reduced density would mitigate the Proposed Project's significant impact. Implementation of this alternative would still have construction related noise impacts that would exceed City standards and these impacts would remain significant and unavoidable. Other impacts for Alternative E are the same as Alternative B. See Alternative B for impact discussion.

Impacts of Alternatives F

Alternative F provides 287 single-family units. Compared to the Proposed Project's total of 979 units, this alternative reduces the overall site's density by 692 units. As shown in Figure VII-5, these units would all be constructed on the same development pads as under the Proposed Project. It is assumed that the single-family units that would be built east of the DWP right-of-way would have setbacks similar to those under Alternatives B and C in which the units would not be affected by roadway noise from Golden Valley Road. Therefore, this alternative with its reduced density would mitigate the

Proposed Project's significant impact. Implementation of this alternative would still have construction related noise impacts that would exceed City standards and these impacts would remain significant and unavoidable. Other impacts for Alternative F are the same as Alternative B. See Alternatives B for impact discussion.

Impacts of Alternatives G

Impacts for Alternative G are the same as Alternative C. See Alternative C for impact discussion.

Population and Housing

Impacts of the Proposed Project

The Proposed Project includes construction of 96 single-family and 883 multi-family homes on currently undeveloped land and would generate a resident population of 2,992 persons. As the project site is currently undeveloped, this increase in residential population represents a 100% population and housing increase on the project site. This population growth and the addition of dwelling units to the City's housing inventory are not anticipated to be substantial compared to citywide growth projections. The 1.6% population growth would not be considered to constitute substantial growth or concentration of population compared to the citywide growth projections for 2010.

The Proposed Project would add 96 single-family and 883 multi-family residences to the City's housing inventory. This increase represents 1.6% of projected housing units within the City for 2010 (61,101 units) and 16.7% of the new housing units projected to be added for the period between 2000 and 2010 (10,214 new units). Further, the addition of 979 dwelling units to the City's housing inventory would not exceed the projected growth rates for the City. Therefore, the Proposed Project's population growth is not substantial and the additional dwelling units would be consistent with Citywide housing projections. As a result, development of the Proposed Project would not directly induce substantial population growth and impacts relating to population and housing would be less than significant.

Since construction workers would not likely relocate to the area, such workers would not increase population or housing beyond forecasts. No permanent population growth or job creation would occur associated with construction of the Proposed Project. Upon operation, the Proposed Project would generate a total of 187 new jobs. This increase represents 0.33% of projected jobs within the City for 2010 (57,248 jobs) and 2.45% of the new jobs projected to be added for the period between 2000 and 2010 (7,636 new jobs). The jobs/housing ratio for the City of Santa Clarita in 2000 was .975:1, while the projected jobs/housing ratio for the City in the year 2010 would be .93:1, indicating that the City will become more housing rich. Assuming that 45% of the Proposed Project's population would be employed, 1,346 employed people would reside on site.

The Proposed Project itself is housing rich, however it would provide 187 new jobs toward the SCAG jobs/housing goal of 1.30:1 for the North Los Angeles County Region. Because the Proposed Project would represent only a 0.33% increase in employment opportunities within the City, this increase is not considered to be substantial in terms of employment growth. As a result, development of the Proposed Project would not indirectly induce substantial population growth and impacts relating to population and housing would be less than significant.

The Proposed Project site is currently undeveloped and does not contain any housing or people. Therefore, implementation of the Proposed Project would not displace substantial numbers of existing housing or substantial numbers of people necessitating the construction of replacement housing or replacement of affordable housing. No significant impacts to housing or population displacement would occur.

Impacts of Alternative A

Because Alternative A would not involve any development of the project site, this alternative would eliminate the project's less-than-significant impacts related to population and housing. However, this alternative would not contribute toward fulfillment of the SCAG's projected housing need goals for the region.

Impacts of Alternative B

Alternative B would increase the residential population of the project site by approximately 238 persons, a 92 percent decrease from the Proposed Project. Thus, the impact of Alternative B on population would be less-than-significant and less than that of the Proposed Project. Alternative B would not generate permanent jobs like the Proposed Project since there would not be a development pad provided for the YMCA and junior high school site. By developing a smaller number of housing units on the site, this alternative would contribute to the fulfillment of the SCAG's projected housing need goals for the region to a lesser degree than would the Proposed Project.

Impacts of Alternative C

Alternative C would increase the residential population of the project site by approximately 2,546 persons, a 15 percent decrease from the Proposed Project. Thus, the impact of Alternative C on population would be less-than-significant and less than that of the Proposed Project. Alternative C would generate the same number of permanent jobs as the Proposed Project as there would be a finished development pad for the YMCA and junior high school facilities. By developing a smaller number of housing units on the site, this alternative would contribute to the fulfillment of the Southern California Association of Governments' projected housing need goals for the region to a lesser degree than would the Proposed Project.

Impacts of Alternative D

Alternative D would increase the residential population of the project site by approximately 2,591 persons, a 13 percent decrease from the Proposed Project. Thus, the impact of Alternative D on population would be less-than-significant and less than that of the Proposed Project. Alternative D would generate fewer permanent jobs as the Proposed Project as there would be a finished development pad for the YMCA and junior high school facilities. By developing a smaller number of housing units on the site, this alternative would contribute to the fulfillment of the SCAG's projected housing need goals for the region to a lesser degree than would the Proposed Project.

Impacts of Alternative E

Alternative E would increase the residential population of the project site by approximately 1,821 persons, a 39 percent decrease from the Proposed Project. Thus, the impact of Alternative E on population would be less-than-significant and less than that of the Proposed Project. Alternative E would generate the same number of permanent jobs as the Proposed Project as there would be a finished development pad for the YMCA and junior high school facilities. By developing a smaller number of housing units on the site, this alternative would contribute to the fulfillment of the SCAG's projected housing need goals for the region to a lesser degree than would the Proposed Project.

Impacts of Alternative F

Alternative E would increase the residential population of the project site by approximately 1,170 persons, a 61 percent decrease from the Proposed Project. Thus, the impact of Alternative E on population would be less-than-significant and less than that of the Proposed Project. Alternative E would generate the same number of permanent jobs as the Proposed Project as there would be a finished development pad for the YMCA and junior high school facilities. By developing a smaller number of housing units on the site, this alternative would contribute to the fulfillment of the SCAG's projected housing need goals for the region to a lesser degree than would the Proposed Project.

Impacts of Alternative G

Alternative G would increase the residential population of the project site by approximately 2,992 persons, same as under the Proposed Project. Thus, the impact of Alternative G on population would be less-than-significant and similar to that of the Proposed Project. Alternative G would also generate the same number of permanent jobs as the Proposed Project as there would be a finished development pad for the YMCA and junior high school facilities. By developing the same number of housing units on the site, this alternative would contribute to the fulfillment of the SCAG's projected housing need goals for the region to the same degree as the Proposed Project.

Public Services

Impacts of the Proposed Project

Police Protection

During the construction phase, additional Los Angeles County Sheriff Department's (LACSD) services would be required in the project area, as the project site would increase the number of people on-site (i.e., construction workers, and the presence of buildings and equipment on the project site). With implementation of the mitigation measures, short-term construction impacts are expected to be less than significant.

Upon completion of the project, in order to maintain an adequate level of protection and service, it is expected that additional LACSD patrol officers may be required, which would require additional equipment. It is expected that the existing station could accommodate the additional personnel. For this reason, the Proposed Project would not result in a substantial adverse impact associated with the provision or need for a new or expanded sheriff station and impacts on sheriff services would be less than significant. Although the project would increase demands for Sheriff's services, these service demands can be met through the allocation of revenues collected from the project using existing sources; therefore, impacts would be less than significant.

Given the availability of alternative evacuation routes, it is not anticipated that the design of the project would preclude implementation of an evacuation plan, which would provide for the safe movement of future residents. Consequently, impacts are expected to be less than significant with regard to emergency evacuation of the project site or its surroundings.

Fire Protection

Construction of the Proposed Project would increase the potential for accidental wildfires from such sources as the operation of mechanical equipment in close proximity to fire-prone vegetation, use of flammable construction materials, and from carelessly discarded cigarettes. Construction activities also have the potential to affect fire protection services, such as emergency vehicle response times, by adding construction traffic to the street network and by partial lane closures during street improvements and utility installations. However, these traffic-related construction impacts, while potentially adverse, are considered to be less than significant as they are temporary in nature and do not cause lasting effects and because partial lane closures would not greatly affect emergency vehicles. With the payment of the developer fee, the construction-related fire protection services impact would be less than significant.

The Los Angeles County Fire Department (LACFD) has stated that no fire station is required for development mitigation for this specific project. Nonetheless, based on a preliminary review of the

Proposed Project, the LACFD has determined that additional manpower, equipment, and facilities would be needed to serve the Proposed Project in order to maintain adequate staffing and response times. Therefore, without appropriate mitigation measures a potentially significant impact would occur. Although plans for upgrading fire protection in the project area have been developed, the LACFD is not able to implement them without adequate funding. Therefore, as mitigation, the developer would be required to pay a developer fee, with the funds directed towards the construction or expansion of fire protection facilities, which would serve the project site. Currently, the developer fee is a set amount per square foot of building space and is adjusted annually. With payment of the developer fee, the operational impact of the Proposed Project upon fire protection services would be less than significant.

Schools

The development of the Proposed Project would bring new students into the Saugus Unified School District (SUSD) and the William S. Hart Unified School District (HUSD), as 979 new dwelling units would be built. As such, approximately 319 total students (167 elementary, 61 middle and 91 high school students) would be generated by the development of the Proposed Project. To alleviate any school impacts associated with the Proposed Project, the development proposes to reserve approximately 21 acres of the approximately 246-acre site for a school facility located on Golden Valley Road, north of proposed intersection with "I" Street. The school site would be sold to the HUSD for a junior high school which the HUSD would be responsible for construction of the facility. Project participation in the School Facilities Funding Agreements with the SUSD and HUSD fully mitigates project specific impacts on these districts. These agreements provide 'Fair Share' funding of the costs to construct new schools necessary to house the additional students generated by the project.

Libraries

Implementation of the Proposed Project would increase demand for County of Los Angeles Public Library services. A need for an additional 1,496 square feet of library facilities and 8,228 additional collection items would be generated by the Proposed Project. Payment of the library mitigation fee as required by Los Angeles County and the City of Santa Clarita would reduce the impacts of the Proposed Project on the County Library to a less-than-significant level.

Parks and Recreation

Development of the Proposed Project would increase demand for local and regional park and recreational facilities. The Proposed Project would include a trail system, provision of a graded lot for construction of a health fitness facility (YMCA), provision of a lot for the construction of a junior high school with associated recreational facilities, and open space. In addition, each of the four multi-family

residential communities would contain an active recreation area to include a swimming pool, spa, children's' play area, and family picnic area, among other amenities. The Quimby parkland dedication requirements for the Proposed Project are estimated at 8.97 acres. Facilities to be developed as part of the Proposed Project would be eligible for Quimby in-lieu credit with City approval up to 30% of the originally determined amount. Subsequent payment of the remaining required Quimby fees would then satisfy the need for any new or physically altered parks or recreational facilities in order to maintain current service ratios. Therefore, project impacts on parks and recreational facilities would be less than significant. Similarly, project impacts on regional, state, and federal parklands would be less than significant.

Impacts of Alternative A

Alternative A would not result in an increase in the demand for fire protection, police protection, public school, library, or parks and recreation services since no housing or other buildings would be developed on the Project Site.

Impacts of Alternative B

Implementation of Alternative B would increase the demand for fire protection and police protection services as with the Proposed Project. However, this alternative would result in a fewer number of residences developed across the site and would reduce the population of the site by 92 percent compared to the Proposed Project. Emergency vehicle access to the project site would be provided from local roadways (to be built under the Proposed Project) under this alternative and no significant impacts would occur. Since this alternative would result in fewer residences, it would result in less of a demand for fire protection and police protection services. Impacts to fire protection and police protection services would be less than significant under this alternative, but due to the decrease of development area, the resulting demand for services would be less than those associated with the Proposed Project.

As shown in Table VII-7, Alternative B would generate an estimated 37 elementary, 13 middle school, and 19 high school students (total of 69 students), which is 251 students less than the number generated by the Proposed Project. The resulting impact to public schools would continue to be less than significant.

**Table VII-7
Alternative B Project Student Generation**

Land Use	Size	Elementary School Students	Middle School Students	High School Students	Total
Single-Family Residences ^a	78 units	37	13	19	69
Totals		37	13	19	69
<p><i>Note: Numbers rounded to nearest whole number.</i></p> <p>^a <i>Student generation rates are as follows for single-family residential uses: 0.479 elementary, 0.1713 middle and 0.2466 high school students per dwelling unit.</i></p> <p><i>Source: Saugus Union School District School Facilities Needs Analysis, February 10, 2005 and William S. Hart Union High School District School Facilities Needs Analysis, February 10, 2005.</i></p>					

Alternative B would generate a need for an additional 119.2 square feet of library facility space and 656 additional collection items, a substantially smaller impact than that of the Proposed Project. The resulting impact to the County Library would continue to be less than significant. Alternative B would also generate a need for an additional 0.71 acres of parkland dedication, substantially less than under the Proposed Project. However, implementation of this alternative would be required to pay Quimby fees to offset impacts to parks and recreational facilities. The resulting impact to local, regional, State, and federal parks and recreational facilities would continue to be less than significant with mitigation.

Impacts of Alternative C

Implementation of Alternative C would increase the demand for fire protection and police protection services as with the Proposed Project. However, this alternative would result in a fewer number of residences developed across the site and would reduce the population of the site by 15 percent compared to the Proposed Project. Emergency vehicle access to the project site would be provided from local roadways (to be built under the Proposed Project) under this alternative and no significant impacts would occur. Since this alternative would result in fewer residences, it would result in less of a demand for fire protection and police protection services. Impacts to fire protection and police protection services would be less than significant under this alternative, but due to the decrease of development area, the resulting demand for services would be less than those associated with the Proposed Project.

As shown in Table VII-8, Alternative C would generate an estimated 31 elementary, 43 middle school, and 64 high school students (total of 138 students), which is 181 students less than the number generated by the Proposed Project. The resulting impact to public schools would continue to be less than significant with payment of school impact fees.

**Table VII-8
Alternative C Project Student Generation**

Land Use	Size	Elementary School Students	Middle School Students	High School Students	Total
Multi-Family Apartments ^a	200 units	22	7	15	44
Multi-Family Condominiums ^b		9	36	49	94
Totals		31	43	64	138
<i>Note: Numbers rounded to nearest whole number.</i>					
^a Student generation rates are as follows for multi-family apartments: 0.112 elementary, 0.0345 middle and 0.0745 high school students per dwelling unit.					
^b Student generation rates are as follows for condominium units: 0.1455 elementary, 0.0571 middle and 0.0770 high school students per dwelling unit.					
Source: Saugus Union School District School Facilities Needs Analysis, February 10, 2005 and William S. Hart Union High School District School Facilities Needs Analysis, February 10, 2005.					

Alternative C would generate a need for an additional 1,273 square feet of library facility space and 7,002 additional collection items, a smaller impact than that of the Proposed Project. The resulting impact to the County Library would continue to be less than significant. Alternative C would also generate a need for an additional 7.64 acres of parkland dedication, less than under the Proposed Project. However, implementation of this alternative would be required to pay Quimby fees to offset impacts to parks and recreational facilities. The resulting impact to local, regional, State, and federal parks and recreational facilities would continue to be less than significant with mitigation.

Impacts of Alternative D

Implementation of Alternative D would increase the demand for fire protection and police protection services as with the Proposed Project. However, this alternative would result in a fewer number of residences developed across the site and would reduce the population of the site by 13 percent compared to the Proposed Project. Emergency vehicle access to the project site would be provided from local roadways (to be built under the Proposed Project) under this alternative and no significant impacts would occur. Since this alternative would result in fewer residences, it would result in less of a demand for fire protection and police protection services. Impacts to fire protection and police protection services would be less than significant under this alternative, but due to the decrease of development area, the resulting demand for services would be less than those associated with the Proposed Project.

As shown in Table VII-9, Alternative D would generate an estimated 149 elementary, 55 middle school, and 81 high school students (total of 285 students), which is 34 students less than the number

generated by the Proposed Project. The resulting impact to public schools would continue to be less than significant.

**Table VII-9
Alternative D Project Student Generation**

Land Use	Size	Elementary School Students	Middle School Students	High School Students	Total
Single-Family Residences ^a	96 units	46	16	24	86
Multi-Family Apartments ^b	180 units	20	6	13	39
Multi-Family Condominiums ^c	572 units	83	33	44	160
Totals		149	55	81	285
<p><i>Note: Numbers rounded to nearest whole number.</i></p> <p>^a Student generation rates are as follows for single-family residential uses: 0.4790 elementary, 0.1713 middle and 0.2466 high school students per dwelling unit.</p> <p>^b Student generation rates are as follows for multi-family apartments: 0.112 elementary, 0.0345 middle and 0.0745 high school students per dwelling unit.</p> <p>^c Student generation rates are as follows for condominium units: 0.1455 elementary, 0.0571 middle and 0.0770 high school students per dwelling unit.</p> <p>Source: Saugus Union School District School Facilities Needs Analysis, February 10, 2005 and William S. Hart Union High School District School Facilities Needs Analysis, February 10, 2005.</p>					

Alternative D would generate a need for an additional 1,296 square feet of library facility space and 7,125 additional collection items, a smaller impact than that of the Proposed Project. The resulting impact to the County Library would continue to be less than significant. Alternative D would also generate a need for an additional 7.77 acres of parkland dedication, less than under the Proposed Project. However, implementation of this alternative would be required to pay Quimby fees to offset impacts to parks and recreational facilities. The resulting impact to local, regional, State, and federal parks and recreational facilities would continue to be less than significant with mitigation.

Impacts of Alternative E

Implementation of Alternative E would increase the demand for fire protection and police protection services as with the Proposed Project. However, this alternative would result in a fewer number of residences developed across the site and would reduce the population of the site by 39 percent compared to the Proposed Project. Emergency vehicle access to the project site would be provided from local roadways (to be built under the Project) under this alternative and no significant impacts would occur. Since this alternative would result in fewer residences, it would result in less of a demand for fire protection and police protection services. Impacts to fire protection and police

protection services would be less than significant under this alternative, but due to the decrease of development area, the resulting demand for services would be less than those associated with the Proposed Project.

As shown in Table VII-10, Alternative E would generate an estimated 128 elementary, 47 middle school, and 70 high school students (total of 245 students), which is 74 students less than the number generated by the Proposed Project. The resulting impact to public schools would continue to be less than significant.

**Table VII-10
Alternative E Project Student Generation**

Land Use	Size	Elementary School Students	Middle School Students	High School Students	Total
Single-Family Residences ^a	96 units	46	16	24	86
Multi-Family Apartments ^b	143 units	16	5	11	32
Multi-Family Condominiums ^c	453 units	66	26	35	127
Totals		128	47	70	245
<p><i>Note: Numbers rounded to nearest whole number.</i></p> <p>^a Student generation rates are as follows for single-family residential uses: 0.4790 elementary, 0.1713 middle and 0.2466 high school students per dwelling unit.</p> <p>^b Student generation rates are as follows for multi-family apartments: 0.112 elementary, 0.0345 middle and 0.0745 high school students per dwelling unit.</p> <p>^c Student generation rates are as follows for condominium units: 0.1455 elementary, 0.0571 middle and 0.0770 high school students per dwelling unit.</p> <p>Source: Saugus Union School District School Facilities Needs Analysis, February 10, 2005 and William S. Hart Union High School District School Facilities Needs Analysis, February 10, 2005.</p>					

Alternative E would generate a need for an additional 911 square feet of library facility space and 5,008 additional collection items, a smaller impact than that of the Proposed Project Project. The resulting impact to the County Library would continue to be less than significant. Alternative E would also generate a need for an additional 5.46 acres of parkland dedication, less than under the Proposed Project. However, implementation of this alternative would be required to pay Quimby fees to offset impacts to parks and recreational facilities. The resulting impact to local, regional, State, and federal parks and recreational facilities would continue to be less than significant with mitigation.

Impacts of Alternative F

Implementation of Alternative F would increase the demand for fire protection and police protection services as with the Proposed Project. However, this alternative would result in a fewer number of residences developed across the site and would reduce the population of the site by 61 percent compared to the Proposed Project. Emergency vehicle access to the project site would be provided from local roadways (to be built as part of the Proposed Project) under this alternative, and no significant impacts would occur. Since this alternative would result in fewer residences, it would result in less of a demand for fire protection and police protection services. Impacts to fire protection and police protection services would be less than significant under this alternative, but due to the decrease in the total number of housing units, the resulting demand for services would be less than those associated with the Proposed Project.

As shown in Table VII-11, Alternative F would generate an estimated 183 elementary, 66 middle school, and 94 high school students (total of 343 students), which is 24 students more than the number generated by the Proposed Project. However, with incorporation of mitigation that entails compliance with SB 50 provisions and payment of “Fair Share” fees to the SUSD and the HUSD, the resulting impact to public schools would continue to be less than significant.

**Table VII-11
Alternative F Project Student Generation**

Land Use	Size	Elementary School Students	Middle School Students	High School Students	Total
Single-Family Residences ^a	383 units	183	66	94	343

Note: Numbers rounded to nearest whole number.

^a Student generation rates are as follows for single-family residential uses: 0.4790 elementary, 0.1713 middle and 0.2466 high school students per dwelling unit.

Source: Saugus Union School District School Facilities Needs Analysis, February 10, 2005 and William S. Hart Union High School District School Facilities Needs Analysis, February 10, 2005.

Alternative F would generate a need for an additional 585 square feet of library facility space and 3,218 additional collection items, a smaller impact than that of the Proposed Project. The resulting impact to the County Library would continue to be less than significant. Alternative E would also generate a need for an additional 3.51 acres of parkland dedication, less than under the Proposed Project. However, implementation of this alternative would be required to pay Quimby fees to offset impacts to parks and recreational facilities. The resulting impact to local, regional, State, and federal parks and recreational facilities would continue to be less than significant with mitigation.

Impacts of Alternative G

Implementation of Alternative G would increase the demand for fire protection and police protection services as with the Proposed Project. However, this alternative would result in the same number of residences developed across the site and would result in the same population of the site as the Proposed Project. Emergency vehicle access to the Project site would be provided from local roadways (to be built as part of the Proposed Project) under this alternative and no significant impacts would occur. Impacts to fire protection and police protection services would be less than significant under this alternative, similar to the Proposed Project.

As shown in Table VII-12, Alternative G would generate an estimated 167 elementary, 61 middle school, and 91 high school students (total of 319 students), which is the same number of students generated by the Proposed Project. Thus, the resulting impact to public schools would also be less than significant.

**Table VII-12
Alternative G Project Student Generation**

Land Use	Size	Elementary School Students	Middle School Students	High School Students	Total
Single-Family Residences ^a	96 units	46	16	24	86
Multi-Family Apartments ^b	216 units	24	7	16	47
Townhouse Units ^c	667 units	97	38	51	186
Totals		167	61	91	319
<p><i>Note: Numbers rounded to nearest whole number.</i></p> <p><i>^a Student generation rates are as follows for single-family residential uses: 0.4790 elementary, 0.1713 middle and 0.2466 high school students per dwelling unit.</i></p> <p><i>^b Student generation rates are as follows for multi-family apartments: 0.1120 elementary, 0.0345 middle and 0.0745 high school students per dwelling unit.</i></p>					

**Table VII-12
Alternative G Project Student Generation**

Land Use	Size	Elementary School Students	Middle School Students	High School Students	Total
<i>^c Student generation rates are as follows for townhouse units: 0.1455 elementary, 0.0571 middle and 0.0770 high school students per dwelling unit.</i>					
<i>Source: Saugus Union School District School Facilities Needs Analysis, February 10, 2005 and William S. Hart Union High School District School Facilities Needs Analysis, February 10, 2005.</i>					

Alternative G would generate a need for an additional 1,496 square feet of library facility space and 8,228 additional collection items, a similar impact to that of the Proposed Project. The resulting impact to the County Library would continue to be less than significant. Alternative G would also generate a need for an additional 8.97 acres of parkland dedication, less than under the Proposed Project. However, implementation of this alternative would be required to pay Quimby fees to offset impacts to parks and recreational facilities. The resulting impact to local, regional, State, and federal parks and recreational facilities would continue to be less than significant with mitigation.

Utilities

Impacts of the Proposed Project

Water

The Proposed Project would generate a demand for approximately 620 acre-feet of water per year. Based on a preliminary assessment by the project engineer, the proposed water infrastructure would be sufficient to accommodate the fire flow requirements of the County of Los Angeles Fire Department. Furthermore, the Water Supply Assessment that was conducted for the Proposed Project- determined that there would be sufficient water supplies to accommodate the County of Los Angeles Fire Department’s fire flow requirements. In its Water Supply Assessment, the CLWA concluded that the water demand generated by the Proposed Project falls within the available and projected water supplies for normal, single-dry, and multiple-dry years through 2020, and within the 20-year water demand growth projected in CLWA’s Urban Water Management Plan 2000. As a result, the CLWA found that it would be able to meet the water demand of the Proposed Project, in addition to existing and planned future demands of the water system. Therefore, no new or expanded water supplies would be needed for the Proposed Project and impacts would be less-than-significant.

Sewer

The amount of construction-related wastewater that would be generated would not have a significant impact on local disposal or treatment facilities due to the expected low volume of waste. Upon completion, the Proposed Project would generate approximately 235,431 gallons of sewage per day. Project generated wastewater treatment has been calculated at 0.24 mgd. The available treatment capacity of the SCVJSS, not accounting the 9 mgd expansion that will be completed in early 2005, is 0.70 mgd, which is more than adequate to accommodate project wastewater generation to be treated. As shown, project implementation would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause a significant environmental effect. Further, the SCVJSS indicated that there would be adequate capacity to serve the project in addition to its existing commitments. Therefore, impacts with relation to wastewater treatment facilities would be less than significant. The project would not require construction of new or expansion of existing conveyance lines maintained by the District, thus, impacts with relation to the District's trunk sewer line would be less than significant.

Solid Waste

Site preparation (removal of existing vegetation and grading activities) and construction activities would generate a variety of scraps and waste, with the majority of recyclables being wood waste, drywall, metal, paper and cardboard. Construction of the Proposed Project would be expected to generate approximately 7,668 tons of waste over project build-out. Recycling of construction-related waste materials in compliance with AB 939, assuming a 50% diversion rate, means that approximately 3,438 tons of solid waste would be sent to landfills over the entire project build-out period. In addition, the construction phase of the Proposed Project would be spread out over several years, which would further reduce the impact to local and regional landfills. However, the total landfill capacity in Los Angeles County is limited, therefore any addition to the overall waste stream flowing to the County's landfills will hasten the day the County runs out of landfill capacity and any additional solid waste from any source may be considered adverse. Because an adequate amount of landfill space has not been ensured to accommodate long-term solid waste disposal at current generation rates, even with mitigation, the Proposed Project's construction-related solid waste impacts would be considered significant and unavoidable.

Over the long term the project's 979 residences, Junior High School and YMCA Facility would generate approximately 10,839 pounds of solid waste per day, or 1,979 tons per year. Per AB 939 there is a requirement to reduce the solid waste stream by 50%, which means that approximately 5,420 pounds of the Proposed Project's total waste stream (989 tons per year) would be diverted elsewhere than to a landfill (e.g. recycled) on a daily basis. Therefore, the Proposed Project is anticipated to produce approximately 5,420 pounds per day of solid waste (2.7 tons). Total landfill capacity in the County is limited and any addition to the overall waste stream would reduce the County's overall landfill capacity. The Chiquita Canyon Landfill, the Antelope Valley Public Landfill I and II and the

Lancaster Landfill and Recycling Center have sufficient capacity for their currently projected solid waste intake and the Proposed Project's intake for the short-term. However, because local landfills will eventually reach capacity, the Proposed Project's long-term impact on solid waste facilities would be considered significant and unavoidable.

Impacts of Alternative A

Alternative A would not include any new development. As a result, Alternative A would not result in an increase in the demand for potable water supplies or the generation of additional wastewater or solid waste.

Impacts of Alternative B

As shown in Table VII-13, water consumption under Alternative B would be 62 acre-feet per year, or a reduction of 90 percent from the Proposed Project. The estimated water consumption is expected to be accommodated by the existing water infrastructure serving the project area and, thus, service would be provided in accordance with the CLWA's Rules and Regulations. Water impacts from this alternative would be less than significant and less than those associated with the Proposed Project.

**Table VII-13
Alternative B Water Demand**

Land Use	Size	Rate	Water Demand (af per year)
Single-Family Residences	78 units	0.80 af / unit	62
Total	--	--	62
<i>Note:</i> <i>af = acre-feet</i>			
^a <i>Source: Castaic Lake Water Agency Santa Clarita Water Division, SB 610 Water Supply Assessment for The Keystone Project, March 2005, page 5; and Christopher A. Joseph & Associates, 2005.</i>			

Sewage generation under this alternative would be 20,280 gallons per day, as shown in Table VII-14. This is 91 percent less than the amount generated by the Proposed Project. Under Proposed Project conditions, the SCVJSS has indicated that there would be adequate capacity to serve the project in addition to its existing commitments and impacts with relation to wastewater treatment facilities would be less than significant. Further, the project would not require construction of new or expansion of existing conveyance lines maintained by the District as the trunk sewer line serving the area has capacity to accommodate the project. Alternative B would generate less wastewater than the Proposed

Project and, thus, impacts with relation to SCVJSS and the District's trunk sewer line would be less than the Proposed Project's less-than-significant impacts..

**Table VII-14
Alternative B Wastewater Generation**

Land Use	Size/Unit Count	Generation Factor	Wastewater Generation (gal/day)
Single-Family Residences	78 units	260 gal/day/unit	20,280
Total Wastewater Generation			20,280
<i>Source: County Sanitation Districts of Los Angeles Loading and Unit Rates, October 2004</i>			
gpd = gallons per day; du = Dwelling unit; sq.ft. = square feet			

Alternative B would also result in the generation of approximately 889 pounds of solid waste per day, as shown in Table VII-15. This is 92 percent less than the amount generated by the Proposed Project. Impacts under this alternative would be less than those associated with the Proposed Project. However, because local landfills will eventually reach capacity, the Proposed Project's construction-related and long-term impacts on solid waste facilities would continue to be considered significant and unavoidable under this alternative.

**Table VII-15
Alternative B Solid Waste Generation**

Land Use	Size	Generation Rate	Total Waste Generation (lbs/day)
Single-Family Residences	78 units	11.40 lb/du ¹	889
Total			889
<i>du = dwelling unit; sq.ft. = square feet</i>			
¹ - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Residential Developments</i> , website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Residential.htm , May 13, 2005			
<i>Note: These factors do not reflect any recycling activities.</i>			

Impacts of Alternative C

As shown in Table VII-16, water consumption under Alternative C would be 267 acre-feet per year, or a reduction of 57 percent from the Proposed Project. The estimated water consumption is expected to be accommodated by the existing water infrastructure serving the project area and, thus, service would be provided in accordance with the CLWA's Rules and Regulations. Water impacts from this alternative would be less than significant and less than those associated with the Proposed Project.

**Table VII-16
Alternative C Water Demand**

Land Use	Size	Rate	Water Demand (af per year)
Multi-Family Residences	833 units	0.23 af / unit ^a	192
Junior High School	21 acres	3 af / acre	63
YMCA Facility ^a	4 acres	3 af / acre	12
Water Feature ^b	16 feet high	N/A	N/A
Total	--	--	267

Note:
af = acre-feet

^a The proposed YMCA Facility is categorized as "Parks" in Table 1 of the Water Supply Assessment.

^b The water feature would be supplied with 2,500 gallons of water when it is first constructed. Then, the water would be re-circulated through a looped water system.

^b Source: Castaic Lake Water Agency Santa Clarita Water Division, SB 610 Water Supply Assessment for The Keystone Project, March 2005, page 5; and Christopher A. Joseph & Associates, 2005.

Sewage generation under this alternative would be 200,721 gallons per day, as shown in Table VII-17. This is 15 percent less than the amount generated by the Proposed Project. Under Proposed Project conditions, the SCVJSS has indicated that there would be adequate capacity to serve the project in addition to its existing commitments and impacts with relation to wastewater treatment facilities would be less than significant. Further, the project would not require construction of new or expansion of existing conveyance lines maintained by the District as the trunk sewer line serving the area has capacity to accommodate the project. Alternative C would generate less wastewater than the Proposed Project and, thus, impacts with relation to SCVJSS and the District's trunk sewer line would be less than the Proposed Project's less-than-significant impacts..

**Table VII-17
Alternative C Wastewater Generation**

Land Use	Size/Unit Count	Generation Factor	Wastewater Generation (gal/day)
Multi-Family Residences	833 units	195 gal/day/unit	162,435
Health Club w/ Showers	30,476 sq.ft.	600 gpd/1,000 sq ft	18,286
Middle School	100,000 sq.ft.	200 gpd/1,000 sq.ft.	20,000
Total Wastewater Generation			200,721

Source: County Sanitation Districts of Los Angeles Loading and Unit Rates, October 2004

gpd = gallons per day; du = Dwelling unit; sq.ft. = square feet

Alternative C would also result in the generation of approximately 9,315 pounds of solid waste per day, as shown in Table VII-18. This is 14 percent less than the amount generated by the Proposed Project. Impacts under this alternative would be less than those associated with the Proposed Project. However, because local landfills will eventually reach capacity, the Proposed Project's long-term impact on solid waste facilities would continue to be considered significant and unavoidable under this alternative.

**Table VII-18
Alternative C Solid Waste Generation**

Land Use	Size	Generation Rate	Total Waste Generation (lbs/day)
Multi-Family Residences	833 units	8.60 lb/du ¹	7,164
Junior High School	1,200 students	1 lb/student ²	1,200
YMCA Facility	30,476 sq. ft.	3.12 lb/100 sq ft ³	951
Total			9,315
<i>du = dwelling unit; sq.ft. = square feet</i> ¹ - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Residential Developments</i> , website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Residential.htm , May 13, 2005 ² - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Institutions</i> , website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Institution.htm , May 13, 2005 ³ - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Service Establishments</i> , website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Service.htm , May 13, 2005 <i>Note: These factors do not reflect any recycling activities.</i>			

Impacts of Alternative D

As shown in Table VII-19, water consumption under Alternative D would be 325 acre-feet per year, or a decrease of 48 percent from the Proposed Project. The estimated water consumption is expected to be accommodated by the existing water infrastructure serving the project area and, thus, service would be provided in accordance with the CLWA's Rules and Regulations. Water impacts from this alternative would be less than those associated with the Proposed Project's less than significant impacts.

**Table VII-19
Alternative D Water Demand**

Land Use	Size	Rate	Water Demand (af per year)
Single-Family Residences	96 units	0.80 af / unit	77
Multi-Family Residences	752 units	0.23 af / unit	173

Table VII-19
Alternative D Water Demand

Land Use	Size	Rate	Water Demand (af per year)
Junior High School	21 acres	3af / acre	63
YMCA Facility ^a	4 acres	3 af / acre	12
Water Feature ^b	16 feet high	N/A	N/A
Total	--	--	325
<p>Note: af = acre-feet</p> <p>^a The proposed YMCA Facility is categorized as "Parks" in Table 1 of the Water Supply Assessment.</p> <p>^b The water feature would be supplied with 2,500 gallons of water when it is first constructed. Then, the water would be re-circulated through a looped water system.</p> <p>Source: Castaic Lake Water Agency Santa Clarita Water Division, SB 610 Water Supply Assessment for The Keystone Project, March 2005, page 5; and Christopher A. Joseph & Associates, 2005.</p>			

Sewage generation under this alternative would be 209,886 gallons per day, as shown in Table VII-20. This is 11 percent less than the amount generated by the Proposed Project. Under Proposed Project conditions, the SCVJSS has indicated that there would be adequate capacity to serve the project in addition to its existing commitments and impacts with relation to wastewater treatment facilities would be less than significant. Further, the project would not require construction of new or expansion of existing conveyance lines maintained by the District as the trunk sewer line serving the area has capacity to accommodate the project. Alternative D would generate less wastewater than the Proposed Project and, thus, impacts with relation to SCVJSS and the District's trunk sewer line would be less than the Proposed Project's less-than-significant impacts.

Table VII-20
Alternative D Wastewater Generation

Land Use	Size/Unit Count	Generation Factor	Wastewater Generation (gal/day)
Single-Family Residences	96 units	260 gal/day/unit	24,960
Multi-Family Residences	752 units	195 gpd/du	146,640
Health Club w/ Showers	30,476 sq.ft.	600 gpd/1,000 sq ft	18,286
Middle School	100,000 sq.ft.	200 gpd/1,000 sq.ft.	20,000
Total Wastewater Generation			209,886
<p>Source: County Sanitation Districts of Los Angeles Loading and Unit Rates, October 2004</p> <p>gpd = gallons per day; du = Dwelling unit; sq.ft. = square feet</p>			

Alternative D would also result in the generation of approximately 9,691 pounds of solid waste per day, as shown in Table VII-21. Impacts under this alternative would be 10 percent less than those associated with the Proposed Project. However, because local landfills will eventually reach capacity, the Proposed Project's long-term impact on solid waste facilities would continue to be considered significant and unavoidable under this alternative.

**Table VII-21
Alternative D Solid Waste Generation**

Land Use	Size	Generation Rate	Total Waste Generation (lbs/day)
Single-Family Residences	96 units	11.40 lb/du ¹	1,073
Multi-Family Residences	752 units	8.60 lb/du ¹	6,467
Junior High School	1,200 students	1 lb/student ²	1,200
YMCA Facility	30,476 sq. ft.	3.12 lb/100 sq ft ³	951
Total			9,691
<i>du = dwelling unit; sq.ft. = square feet</i> ¹ - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Residential Developments</i> , website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Residential.htm , May 13, 2005 ² - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Institutions</i> , website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Institution.htm , May 13, 2005 ³ - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Service Establishments</i> , website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Service.htm , May 13, 2005 <i>Note: These factors do not reflect any recycling activities.</i>			

Impacts of Alternative E

As shown in Table VII-22, water consumption under Alternative E would be 295 acre-feet per year, or a reduction of 52 percent from the Proposed Project. The estimated water consumption is expected to be accommodated by the existing water infrastructure serving the project area and, thus, service would be provided in accordance with the CLWA's Rules and Regulations. Water impacts from this alternative would be less than significant and less than those associated with the Proposed Project.

**Table VII-22
Alternative E Water Demand**

Land Use	Size	Rate	Water Demand (af per year)
Single-Family Residences	96 units	0.80 af / unit	77
Multi-Family Condominiums	596 units	0.24 af / unit ^a	143
Junior High School	21 acres	3 af / acre	63
YMCA Facility ^a	4 acres	3 af / acre	12
Water Feature ^b	16 feet high	N/A	N/A
Total	--	--	295
<p>Notes: af = acre-feet</p> <p>^a The proposed YMCA Facility is categorized as "Parks" in Table 1 of the Water Supply Assessment.</p> <p>^b The water feature would be supplied with 2,500 gallons of water when it is first constructed. Then, the water would be re-circulated through a looped water system.</p> <p>Source: Castaic Lake Water Agency Santa Clarita Water Division, SB 610 Water Supply Assessment for The Keystone Project, March 2005, page 5; and Christopher A. Joseph & Associates, 2005.</p>			

Sewage generation under this alternative would be 179,466 gallons per day, as shown in Table VII-23. This is 24 percent less than the amount generated by the Proposed Project. Under Proposed Project conditions, the SCVJSS has indicated that there would be adequate capacity to serve the project in addition to its existing commitments and impacts with relation to wastewater treatment facilities would be less than significant. Further, the project would not require construction of new or expansion of existing conveyance lines maintained by the District as the trunk sewer line serving the area has capacity to accommodate the project. Alternative E would generate less wastewater than the Proposed Project and, thus, impacts with relation to SCVJSS and the District's trunk sewer line would be less than the Proposed Project's less-than-significant impacts.

**Table VII-23
Alternative E Wastewater Generation**

Land Use	Size/Unit Count	Generation Factor	Wastewater Generation (gal/day)
Single-Family Residences	96 units	260 gal/day/unit	24,960
Multi-Family Residences	596 units	195 gal/day/unit	116,220
Health Club w/ Showers	30,476 sq.ft.	600 gpd/1,000 sq ft	18,286
Middle School	100,000 sq.ft.	200 gpd/1,000 sq.ft.	20,000
Total Wastewater Generation			179,466

**Table VII-23
Alternative E Wastewater Generation**

Land Use	Size/Unit Count	Generation Factor	Wastewater Generation (gal/day)
<i>Source: County Sanitation Districts of Los Angeles Loading and Unit Rates, October 2004</i>			
gpd = gallons per day; du = Dwelling unit; sq.ft. = square feet			

Alternative E would also result in the generation of approximately 8,350 pounds of solid waste per day, as shown in Table VII-24. Impacts under this alternative would be 23 percent less than those associated with the Proposed Project. However, because local landfills will eventually reach capacity, the Proposed Project's long-term impact on solid waste facilities would continue to be considered significant and unavoidable under this alternative.

**Table VII-24
Alternative E Solid Waste Generation**

Land Use	Size	Generation Rate	Total Waste Generation (lbs/day)
Single-Family Residences	96 units	11.40 lb/du ¹	1,073
Multi-Family Residences	596 units	8.60 lb/du ¹	5,126
Junior High School	1,200 students	1 lb/student ²	1,200
YMCA Facility	30,476 sq. ft.	3.12 lb/100 sq ft ³	951
Total			8,350
<i>du = dwelling unit; sq.ft. = square feet</i> ¹ - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Residential Developments</i> , website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Residential.htm , May 13, 2005 ² - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Institutions</i> , website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Institution.htm , May 13, 2005 ³ - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Service Establishments</i> , website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Service.htm , May 13, 2005 <i>Note: These factors do not reflect any recycling activities.</i>			

Impacts of Alternative F

As shown in Table VII-25, water consumption under Alternative F would be 381 acre-feet per year, or a reduction of 39 percent from the Proposed Project. The estimated water consumption is expected to be accommodated by the existing water infrastructure serving the project area and, thus, service would be provided in accordance with the CLWA's Rules and Regulations. Water impacts from this alternative would be less than significant and less than those associated with the Proposed Project.

**Table VII-25
Alternative F Water Demand**

Land Use	Size	Rate	Water Demand (af per year)
Single-Family Residences	383 units	0.80 af / unit	306
Junior High School	21 acres	3 af / acre	63
YMCA Facility ^a	4 acres	3 af / acre	12
Water Feature ^b	16 feet high	N/A	N/A
Total	--	--	381
<p><i>Notes:</i> <i>af = acre-feet</i></p> <p>^a The proposed YMCA Facility is categorized as "Parks" in Table 1 of the Water Supply Assessment. ^b The water feature would be supplied with 2,500 gallons of water when it is first constructed. Then, the water would be re-circulated through a looped water system.</p> <p>Source: Castaic Lake Water Agency Santa Clarita Water Division, SB 610 Water Supply Assessment for The Keystone Project, March 2005, page 5; and Christopher A. Joseph & Associates, 2005.</p>			

Sewage generation under this alternative would be 137,886 gallons per day, as shown in Table VII-26. This is 41 percent less than the amount generated by the Proposed Project. Under Proposed Project conditions, the SCVJSS has indicated that there would be adequate capacity to serve the project in addition to its existing commitments and impacts with relation to wastewater treatment facilities would be less than significant. Further, the project would not require construction of new or expansion of existing conveyance lines maintained by the District as the trunk sewer line serving the area has capacity to accommodate the project. Alternative F would generate less wastewater than the Proposed Project and, thus, impacts with relation to SCVJSS and the District's trunk sewer line would be less than the Proposed Project's less-than-significant impacts.

Table VII-26
Alternative F Wastewater Generation

Land Use	Size/Unit Count	Generation Factor	Wastewater Generation (gal/day)
Single-Family Residences	383 units	260 gal/day/unit	99,580
Health Club w/ Showers	30,476 sq.ft.	600 gpd/1,000 sq ft	18,286
Middle School	100,000 sq.ft.	200 gpd/1,000 sq.ft.	20,000
Total Wastewater Generation			137,866

Source: County Sanitation Districts of Los Angeles Loading and Unit Rates, October 2004
gpd = gallons per day; du = Dwelling unit; sq.ft. = square feet

Alternative F would also result in the generation of approximately 6,517 pounds of solid waste per day, as shown in Table VII-27. Impacts under this alternative would be 40 percent less than those associated with the Proposed Project. However, because local landfills will eventually reach capacity, the Proposed Project's long-term impact on solid waste facilities would continue to be considered significant and unavoidable under this alternative.

Table VII-27
Alternative F Solid Waste Generation

Land Use	Size	Generation Rate	Total Waste Generation (lbs/day)
Single-Family Residences	383 units	11.40 lb/du ¹	4,366
Junior High School	1,200 students	1 lb/student ²	1,200
YMCA Facility	30,476 sq. ft.	3.12 lb/100 sq ft ³	951
Total			6,517

du = dwelling unit; sq.ft. = square feet
¹ - California Integrated Waste Management Board, Estimated Solid Waste Generation Rates for Residential Developments, website:
<http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Residential.htm>, May 13, 2005
² - California Integrated Waste Management Board, Estimated Solid Waste Generation Rates for Institutions, website:
<http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Institution.htm>, May 13, 2005
³ - California Integrated Waste Management Board, Estimated Solid Waste Generation Rates for Service Establishments, website:
<http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Service.htm>, May 13, 2005
Note: These factors do not reflect any recycling activities.

Impacts of Alternative G

As shown in Table VII-28, water consumption under Alternative G would be 620 acre-feet per year, the same as under the Proposed Project. The estimated water consumption is expected to be accommodated by the existing water infrastructure serving the project area and, thus, service would be provided in accordance with the CLWA's Rules and Regulations. Water impacts from this alternative would be less than significant and similar to those associated with the Proposed Project.

**Table VII-28
Alternative G Water Demand**

Land Use	Size	Rate	Water Demand (af per year)
Single-Family Residences	96 units	0.80 af / unit	77
Multi-Family Condominiums	667 units	0.24 af / unit ^a	160
Multi-Family Apartments	216 units	0.23 af / unit	50
Junior High School	21 acres	3 af / acre	63
YMCA Facility ^a	4 acres	3 af / acre	12
Manufactured Slopes	86 acres	3 af / acre	258
Water Feature ^b	16 feet high	N/A	N/A
Total	--	--	620

Notes:
af = acre-feet

^a The proposed YMCA Facility is categorized as "Parks" in Table 1 of the Water Supply Assessment.

^b The water feature would be supplied with 2,500 gallons of water when it is first constructed. Then, the water would be re-circulated through a looped water system.

Source: Castaic Lake Water Agency Santa Clarita Water Division, SB 610 Water Supply Assessment for The Keystone Project, March 2005, page 5; and Christopher A. Joseph & Associates, 2005.

Sewage generation under this alternative would be 235,431 gallons per day, as shown in Table VII-29. This is the same amount generated by the Proposed Project. Under Proposed Project conditions, the SCVJSS has indicated that there would be adequate capacity to serve the project in addition to its existing commitments and impacts with relation to wastewater treatment facilities would be less than significant. Further, the project would not require construction of new or expansion of existing conveyance lines maintained by the District as the trunk sewer line serving the area has capacity to accommodate the project. Alternative G would generate the same wastewater as the Proposed Project

and, thus, impacts with relation to SCVJSS and the District's trunk sewer line would be less than significant like the Proposed Project.

**Table VII-29
Alternative G Wastewater Generation**

Land Use	Size/Unit Count	Generation Factor	Wastewater Generation (gal/day)
Single-Family Residences	96 units	260 gal/day/unit	24,960
Multi-Family Residences	883 units	195 gal/day/unit	172,185
Health Club w/ Showers	30,476 sq.ft.	600 gpd/1,000 sq ft	18,286
Middle School	100,000 sq.ft.	200 gpd/1,000 sq.ft.	20,000
Total Wastewater Generation			235,431

Source: County Sanitation Districts of Los Angeles Loading and Unit Rates, October 2004
gpd = gallons per day; du = Dwelling unit; sq.ft. = square feet

Alternative G would also result in the generation of approximately 10,839 pounds of solid waste per day, as shown in Table VII-30. Impacts under this alternative would be the same as those associated with the Proposed Project. Because local landfills will eventually reach capacity, the Proposed Project's long-term impact on solid waste facilities would continue to be considered significant and unavoidable under this alternative.

**Table VII-30
Alternative G Solid Waste Generation**

Land Use	Size	Generation Rate	Total Waste Generation (lbs/day)
Single-Family Residences	96 units	11.40 lb/du ¹	1,094
Multi-Family Residences	883 units	8.60 lb/du ¹	7,594
Junior High School	1,200 students	1 lb/student ²	1,200
YMCA Facility	30,476 sq. ft.	3.12 lb/100 sq ft ³	951
Total			10,839

**Table VII-30
Alternative G Solid Waste Generation**

Land Use	Size	Generation Rate	Total Waste Generation (lbs/day)
<p><i>du = dwelling unit; sq.ft. = square feet</i></p> <p>¹ - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Residential Developments</i>, website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Residential.htm, May 13, 2005</p> <p>² - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Institutions</i>, website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Institution.htm, May 13, 2005</p> <p>³ - California Integrated Waste Management Board, <i>Estimated Solid Waste Generation Rates for Service Establishments</i>, website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Service.htm, May 13, 2005</p> <p><i>Note: These factors do not reflect any recycling activities.</i></p>			

Transportation

Impacts of the Proposed Project

Construction workers are anticipated at the project site during construction activities and are likely to work in a single shift. In general, the majority of the construction workers are expected to arrive and depart the project site during off-peak hours. The construction work force would likely be generated from all parts of the Los Angeles and Ventura County areas and, thereby, are assumed to arrive from all directions. In addition, it is anticipated that construction workers would park onsite. Since construction worker trips would occur outside of the AM and PM peak hours, construction impacts from construction activity are anticipated to be less than significant.

The Proposed Project is estimated to generate approximately 11,005 total ADTs with approximately 1,468 occurring in the AM peak hour and approximately 1,009 occurring in the PM peak hour. These values represent the total volume of traffic entering and exiting each component of the project site. The Proposed Project would generate approximately 10,477 total off-site ADTs. Approximately 1,328 and 973 off-site trips would occur in the AM and PM peak hours, respectively. These are the off-site estimates that are used to represent the project's impacts on the analysis area circulation system.

A total of eight intersections would experience a significant impact due to the project-generated traffic and seven of those intersections are forecast to exceed LOS "D". The following intersections are those significantly impacted:

- 144. Sierra Highway & SR-14 SB Ramps
- 57. Valencia Boulevard & Magic Mtn Parkway

- 65. Bouquet Canyon Road & Soledad Canyon Road
- 66. Bouquet Canyon Road & Newhall Ranch Road
- 145. Sierra Highway & Placerita Canyon Road
- 162. Sierra Highway & Golden Valley Road
- 172. Whites Canyon Road & Soledad Canyon Road
- 163. Golden Valley Road & Via Princessa

When compared to the future no project scenario, nine intersections experience a significant impact due to the project-generated traffic and eight of those intersections forecast to exceed LOS “D”. The following intersections are those significantly impacted:

- 144. Sierra Highway & SR-14 SB Ramps
- 57. Valencia Boulevard & Magic Mtn Parkway
- 65. Bouquet Canyon Road & Soledad Canyon Road
- 66. Bouquet Canyon Road & Newhall Ranch Road
- 145. Sierra Highway & Placerita Canyon Road
- 162. Sierra Highway & Golden Valley Road
- 172. Whites Canyon Road & Soledad Canyon Road
- 163. Golden Valley Road & Via Princessa
- 166. Golden Valley Road & Newhall Ranch Road

The volumes show that based on CMP methodology, the project increment is less than two percent of capacity. Therefore, the project does not have a CMP significant impact. CMP methodology states that a significant project impact occurs when the Proposed Project increases traffic demand at a CMP monitoring location by two percent of capacity, causing or worsening LOS “F”. With incorporation of the identified mitigation, the Proposed Project would have no significant transportation and traffic impacts, since the Proposed Project results in an improvement over future no-project conditions.

With the implementation of the following mitigation measures, transportation and traffic impacts associated with the Proposed Project would be less than significant:

- Install traffic signals at the intersections of Golden Valley Road and I Street (both North and South) as well as Ermine Street and Golden Valley Road.
- Install a four-lane roadway on Golden Valley Road from the project’s eastern boundary to the project’s northern boundary.
- Provide off-site mitigation measures as described on pages V.O.-53 and 54 of Section V.O, Transportation.

- Construct all on-site roadways and intersections to City of Santa Clarita standards and coordinate with the local transit provider to identify appropriate bus/stop turnout location on the project site roadways.

Impact Analysis Without Cross Valley Connector Road

Two special scenarios have been analyzed in which the planned Cross Valley Connector is either not built or is only partially built before the occupancy of the Proposed Project. The purpose of this analysis is to determine project impacts for this interim scenario in which the Proposed Project is occupied before the completion of the Cross Valley Connector. The two scenarios included: 1) No Cross Valley Connector (CVC); and (2) No Cross Valley Connector Bridge.

When the Cross Valley Connector is not completed as analyzed in Scenario 1, eight intersections show significant impacts in comparison to no-project conditions. For Scenario 2, four intersections will show significant impacts. These intersections are as follows:

- 48. McBean Parkway & Newhall Ranch Road (Scenario 2)
- 65. Bouquet Canyon Road & Soledad Canyon Road (Scenarios 1 & 2)
- 66. Bouquet Canyon Road & Newhall Ranch Road (Scenarios 1 & 2)
- 67. Seco Canyon Road & Bouquet Canyon Road (Scenario 1)
- 160. Haskell Canyon Road & Bouquet Canyon Road (Scenario 1)
- 172. Whites Canyon Road & Soledad Canyon Road (Scenario 1 & 2)
- 173. Santa Catarina/GVR & Plum Canyon Road (Scenario 1)
- 174. Bouquet Canyon Road & Plum Canyon Road (Scenario 1)
- 198. Valley Center & Soledad Canyon Road (Scenario 1)

The significant impacts identified occur with project mitigation identified under Project Mitigation Measures. It can therefore be concluded that the project mitigation is not sufficient for either scenario in which the Cross Valley Connector is not completed.

Implementation of project mitigation measures would mitigate traffic impacts associated with the Proposed Project at those deficient intersections. . However project mitigation is not sufficient to mitigate impacts to less than significant without the completed Cross Valley Connector roadway. Without the relief of the Cross Valley Connector Road, even small amount of additional traffic added to deficient intersections would result in significant and unavoidable impacts. Further, if the bridge component of the Cross Valley Connector Road is not constructed but the rest of the Cross Valley Connector Road is constructed west of the project site, impacts would remain significant and unavoidable until the bridge is constructed.

Impacts of Alternative A

Under Alternative A the project site would not be developed as proposed. Alternative A would not result in any new project-related vehicle trips, because no new development would occur at the project site under this alternative. From a traffic standpoint, without the Proposed Project and its mitigation measures, intersection operating conditions in the project vicinity would continue to deteriorate in the future due to regional traffic growth and other proposed related projects in the immediate vicinity. In any event, no transportation/traffic impacts associated with the Proposed Project would occur under this alternative. Further, regional circulation conditions may not improve as Golden Valley Road would terminate at the Proposed Project's northern boundary and there would be no connection between Newhall Ranch Road and Plum Canyon Road.

Impacts of Alternative B

Construction worker traffic under Alternative B would be similar to that of the Proposed Project and not significant.

Traffic generation for Alternative B was estimated based on the trip generation rates utilized for the Proposed Project. A summary of the trip generation forecast for Alternative B is presented in Table VII-31. As shown, Alternative B is expected to generate 958 vehicle trips (510 inbound trips and 448 outbound trips) during the AM peak hour and 370 vehicle trips (193 inbound trips and 177 outbound trips) during the PM peak hour. Over a 24-hour period, Alternative B is forecast to generate 4,047 daily trip ends during a typical weekday, compared to the 11,005 daily trips generated by the Proposed Project. Thus, as fewer peak hour and fewer overall daily traffic trip volumes would be generated under this alternative, traffic impacts would be less than those associated with the Proposed Project.

**Table VII-31
Alternative B Trip Generation**

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Total Project Trip Generation								
Single-Family Residential	78 DU	15	44	59	50	29	79	746
<i>Subtotal Residential</i>	<i>78 DU</i>	<i>15</i>	<i>44</i>	<i>59</i>	<i>50</i>	<i>29</i>	<i>79</i>	<i>746</i>
Middle School	1,600 STU	464	384	848	128	112	240	2,592
YMCA	31 TSF	31	20	51	15	36	51	709
TOTAL		510	448	958	193	177	370	4,047
Trip Rates								
Single-Family Residential ¹	DU	0.19	0.56	0.75	0.64	0.37	1.01	9.57
Townhome ²	DU	0.10	0.48	0.58	0.47	0.26	0.73	8.00
Apartment ³	DU	0.10	0.41	0.51	0.40	0.22	0.62	6.72
Middle School ⁴	STU	0.29	0.24	0.53	0.08	0.07	0.15	1.62
YMCA ⁵	TSF	0.99	0.63	1.62	0.48	1.16	1.64	22.88

**Table VII-31
Alternative B Trip Generation**

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Notes:								
Trip rates correspond to the peak hour of adjacent street traffic.								
<u>Trip Rate Sources</u>								
¹ ITE Category 210 (Single-Family Residential)								
² Los Angeles County Department of Public Works special rate for Residential Condominium/Townhouse								
³ ITE Category 220 (Apartment)								
⁴ ITE Category 522 (Middle School/Junior High School)								
⁵ ITE Category 495 (Recreational Community Center)								
<u>Abbreviations</u>								
DU = Dwelling Units, STU = Student, TSF = Thousand Square Feet								
Source: Austin-Foust Associates, Inc., February 2004.								

Without the relief of the Cross Valley Connector Road and bridge, even small amount of additional traffic added to deficient intersections would result in significant and unavoidable impacts. Though this alternative would generate fewer peak hour and fewer overall daily traffic trip volumes than the Proposed Project, impacts would remain significant and unavoidable until the Cross Valley Connector Road and bridge are constructed.

Impacts of Alternative C

Construction worker traffic under Alternative C would be similar to that of the Proposed Project and not significant.

Traffic generation for Alternative C was estimated based on the trip generation rates utilized for the Proposed Project. A summary of the trip generation forecast for Alternative C is presented in Table VII-32. As shown, Alternative C is expected to generate 1,324 vehicle trips (578 inbound trips and 746 outbound trips) during the AM peak hour and 807 vehicle trips (476 inbound trips and 331 outbound trips) during the PM peak hour. Over a 24-hour period, Alternative C is forecast to generate 8,899 daily trip ends during a typical weekday, compared to the 11,005 daily trips generated by the Proposed Project. Thus, as fewer peak hour and fewer overall daily traffic trip volumes would be generated under this alternative, traffic impacts would be less than those associated with the Proposed Project.

**Table VII-32
Alternative C Trip Generation**

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Total Project Trip Generation								
Apartment	833 DU	83	342	425	333	183	516	5,598
<i>Subtotal Residential</i>	<i>833 DU</i>	<i>83</i>	<i>342</i>	<i>425</i>	<i>333</i>	<i>183</i>	<i>516</i>	<i>5,598</i>
Middle School	1,600 STU	464	384	848	128	112	240	2,592
YMCA	31 TSF	31	20	51	15	36	51	709
TOTAL		578	746	1,324	476	331	807	8,899
Trip Rates								
Single-Family Residential ¹	DU	0.19	0.56	0.75	0.64	0.37	1.01	9.57
Townhome ²	DU	0.10	0.48	0.58	0.47	0.26	0.73	8.00
Apartment ³	DU	0.10	0.41	0.51	0.40	0.22	0.62	6.72
Middle School ⁴	STU	0.29	0.24	0.53	0.08	0.07	0.15	1.62
YMCA ⁵	TSF	0.99	0.63	1.62	0.48	1.16	1.64	22.88
Notes:								
Trip rates correspond to the peak hour of adjacent street traffic.								
<u>Trip Rate Sources</u>								
¹ ITE Category 210 (Single-Family Residential)								
² Los Angeles County Department of Public Works special rate for Residential Condominium/Townhouse								
³ ITE Category 220 (Apartment)								
⁴ ITE Category 522 (Middle School/Junior High School)								
⁵ ITE Category 495 (Recreational Community Center)								
<u>Abbreviations</u>								
DU = Dwelling Units, STU = Student, TSF = Thousand Square Feet								
Source: Austin-Foust Associates, Inc., February 2004.								

Without the relief of the Cross Valley Connector Road and bridge, even small amount of additional traffic added to deficient intersections would result in significant and unavoidable impacts. Though this alternative would generate fewer peak hour and fewer overall daily traffic trip volumes than the Proposed Project, impacts would remain significant and unavoidable until the Cross Valley Connector Road and bridge are constructed.

Impacts of Alternative D

Construction worker traffic under Alternative D would be similar to that of the Proposed Project and not significant.

Traffic generation for Alternative D was estimated based on the trip generation rates utilized for the Proposed Project. A summary of the trip generation forecast for Alternative D is presented in Table

VII-33. As shown, Alternative D is expected to generate 1,355 vehicle trips (588 inbound trips and 766 outbound trips) during the AM peak hour and 854 vehicle trips (505 inbound trips and 349 outbound trips) during the PM peak hour. Over a 24-hour period, Alternative D is forecast to generate 9,273 daily trip ends during a typical weekday, compared to the 11,005 daily trips generated by the Proposed Project. Thus, as fewer peak hour and fewer overall daily traffic trip volumes would be generated under this alternative, traffic impacts would be less than those associated with the Proposed Project.

**Table VII-33
Alternative D Trip Generation**

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Total Project Trip Generation								
Single-Family Residential	96 DU	18	54	72	61	36	97	919
Multi Family Apartment	752 DU	75	308	384	301	165	466	5,053
<i>Subtotal Residential</i>	<i>848 DU</i>	<i>93</i>	<i>362</i>	<i>456</i>	<i>362</i>	<i>201</i>	<i>563</i>	<i>5,972</i>
Middle School	1,600 STU	464	384	848	128	112	240	2,592
YMCA	31 TSF	31	20	51	15	36	51	709
TOTAL		588	766	1,355	505	349	854	9,273
Trip Rates								
Single-Family Residential ¹	DU	0.19	0.56	0.75	0.64	0.37	1.01	9.57
Townhome ²	DU	0.10	0.48	0.58	0.47	0.26	0.73	8.00
Apartment ³	DU	0.10	0.41	0.51	0.40	0.22	0.62	6.72
Middle School ⁴	STU	0.29	0.24	0.53	0.08	0.07	0.15	1.62
YMCA ⁵	TSF	0.99	0.63	1.62	0.48	1.16	1.64	22.88
Notes:								
<i>Trip rates correspond to the peak hour of adjacent street traffic.</i>								
<i>Trip Rate Sources</i>								
¹ <i>ITE Category 210 (Single-Family Residential)</i>								
² <i>Los Angeles County Department of Public Works special rate for Residential Condominium/Townhouse</i>								
³ <i>ITE Category 220 (Apartment)</i>								
⁴ <i>ITE Category 522 (Middle School/Junior High School)</i>								
⁵ <i>ITE Category 495 (Recreational Community Center)</i>								
<i>Abbreviations</i>								
<i>DU = Dwelling Units, STU = Student, TSF = Thousand Square Feet</i>								
<i>Source: Austin-Foust Associates, Inc., February 2004.</i>								

Without the relief of the Cross Valley Connector Road and bridge, even small amount of additional traffic added to deficient intersections would result in significant and unavoidable impacts. Though this alternative would generate fewer peak hour and fewer overall daily traffic trip volumes than the

Proposed Project, impacts would remain significant and unavoidable until the Cross Valley Connector Road and bridge are constructed.

Impacts of Alternative E

Construction worker traffic under Alternative E would be similar to that of the Proposed Project and not significant.

Traffic generation for Alternative E was estimated based on the trip generation rates utilized for the Proposed Project. A summary of the trip generation forecast for Alternative E is presented in Table VII-34. As shown, Alternative E is expected to generate 1,261 vehicle trips (563 inbound trips and 698 outbound trips) during the AM peak hour and 753 vehicle trips (439 inbound trips and 314 outbound trips) during the PM peak hour. Over a 24-hour period, Alternative E is forecast to generate 8,220 daily trip ends during a typical weekday, compared to the 11,005 daily trips generated by the Proposed Project. Thus, as fewer peak hour and fewer overall daily traffic trip volumes would be generated under this alternative, traffic impacts would be less than those associated with the Proposed Project.

**Table VII-34
Alternative E Trip Generation**

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Total Project Trip Generation								
Single-Family Residential	96 DU	18	54	72	61	36	97	919
Townhome	500 DU	50	240	290	235	130	365	4,000
<i>Subtotal Residential</i>	<i>596 DU</i>	<i>68</i>	<i>294</i>	<i>362</i>	<i>296</i>	<i>166</i>	<i>462</i>	<i>4,919</i>
Middle School	1,600 STU	464	384	848	128	112	240	2,592
YMCA	31 TSF	31	20	51	15	36	51	709
TOTAL		563	698	1,261	439	314	753	8,220
Trip Rates								
Single-Family Residential ¹	DU	0.19	0.56	0.75	0.64	0.37	1.01	9.57
Townhome ²	DU	0.10	0.48	0.58	0.47	0.26	0.73	8.00
Apartment ³	DU	0.10	0.41	0.51	0.40	0.22	0.62	6.72
Middle School ⁴	STU	0.29	0.24	0.53	0.08	0.07	0.15	1.62
YMCA ⁵	TSF	0.99	0.63	1.62	0.48	1.16	1.64	22.88
Notes: Trip rates correspond to the peak hour of adjacent street traffic. Trip Rate Sources ¹ ITE Category 210 (Single-Family Residential) ² Los Angeles County Department of Public Works special rate for Residential Condominium/Townhouse ³ ITE Category 220 (Apartment) ⁴ ITE Category 522 (Middle School/Junior High School) ⁵ ITE Category 495 (Recreational Community Center) Abbreviations DU = Dwelling Units, STU = Student, TSF = Thousand Square Feet Source: Austin-Foust Associates, Inc., February 2004.								

Without the relief of the Cross Valley Connector Road and bridge, even small amount of additional traffic added to deficient intersections would result in significant and unavoidable impacts. Though this alternative would generate fewer peak hour and fewer overall daily traffic trip volumes than the Proposed Project, impacts would remain significant and unavoidable until the Cross Valley Connector Road and bridge are constructed.

Impacts of Alternative F

Construction worker traffic under Alternative F would be similar to that of the Proposed Project and not significant.

Traffic generation for Alternative F was estimated based on the trip generation rates utilized for the Proposed Project. A summary of the trip generation forecast for Alternative F is presented in Table VII-35. As shown, Alternative F is expected to generate 1,186 vehicle trips (567 inbound trips and 619 outbound trips) during the AM peak hour and 678 vehicle trips (386 inbound trips and 292 outbound trips) during the PM peak hour. Over a 24-hour period, Alternative F is forecast to generate 6,967 daily trip ends during a typical weekday, compared to the 11,005 daily trips generated by the Proposed Project. Thus, as fewer peak hour and fewer overall daily traffic trip volumes would be generated under this alternative, traffic impacts would be less than those associated with the Proposed Project.

**Table VII-35
Alternative F Trip Generation**

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Total Project Trip Generation								
Single-Family Residential	383 DU	72	215	287	243	144	387	3,666
Middle School	1,600 STU	464	384	848	128	112	240	2,592
YMCA	31 TSF	31	20	51	15	36	51	709
TOTAL		567	619	1,186	386	292	678	6,967
Trip Rates								
Single-Family Residential ¹	DU	0.76	2.23	2.99	2.55	1.48	4.03	38.18
Middle School ²	STU	0.29	0.24	0.53	0.08	0.07	0.15	1.62
YMCA ³	TSF	0.99	0.63	1.62	0.48	1.16	1.64	22.88
Notes:								
Trip rates correspond to the peak hour of adjacent street traffic.								
Trip Rate Sources								
¹ ITE Category 210 (Single-Family Residential)								
² ITE Category 522 (Middle School/Junior High School)								
³ ITE Category 495 (Recreational Community Center)								
Abbreviations								
DU = Dwelling Units, STU = Student, TSF = Thousand Square Feet								
Source: Austin-Foust Associates, Inc., February 2004.								

Without the relief of the Cross Valley Connector Road and bridge, even small amount of additional traffic added to deficient intersections would result in significant and unavoidable impacts. Though this alternative would generate fewer peak hour and fewer overall daily traffic trip volumes than the Proposed Project, impacts would remain significant and unavoidable until the Cross Valley Connector Road and bridge are constructed.

Impacts of Alternative G

Construction worker traffic under Alternative G would be similar to that of the Proposed Project and not significant.

Traffic generation for Alternative G was estimated based on the trip generation rates utilized for the Proposed Project. A summary of the trip generation forecast for Alternative G is presented in Table VII-36. As shown, Alternative G is expected to generate 1,468 vehicle trips (602 inbound trips and 866 outbound trips) during the AM peak hour and 1,009 vehicle trips (604 inbound trips and 405 outbound trips) during the PM peak hour. Over a 24-hour period, Alternative G is forecast to generate 11,005 daily trip ends during a typical weekday, same as the Proposed Project. Thus, as the same peak hour and overall daily traffic trip volumes would be generated under this alternative, traffic impacts would be same to those associated with the Proposed Project.

**Table VII-36
Alternative G Trip Generation**

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Total Project Trip Generation								
Single-Family Residential	96 DU	18	54	72	61	36	97	919
Townhome	665 DU	67	319	386	313	173	486	5,320
Apartment	218 DU	22	89	111	87	48	135	1,465
<i>Subtotal Residential</i>	<i>979 DU</i>	<i>107</i>	<i>462</i>	<i>569</i>	<i>461</i>	<i>257</i>	<i>718</i>	<i>7,704</i>
Middle School	1,600 STU	464	384	848	128	112	240	2,592
YMCA	31 TSF	31	20	51	15	36	51	709
TOTAL		602	866	1,468	604	405	1,009	11,005
On-Site Trip Generation								
Residential (Out) to School/YMCA (In) ⁶		60	60	120	3	3	6	378
School/YMCA (Out) to Residential (In)		10	10	20	15	15	30	150
TOTAL		70	70	140	18	18	36	528
Off-Site Trip Generation								
TOTAL PROJECT MINUS ON-SITE		532	796	1,328	586	387	973	10,477
Trip Rates								
Single-Family Residential ¹	DU	0.19	0.56	0.75	0.64	0.37	1.01	9.57

**Table VII-36
Alternative G Trip Generation**

Land Use	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Townhome ²	DU	0.10	0.48	0.58	0.47	0.26	0.73	8.00
Apartment ³	DU	0.10	0.41	0.51	0.40	0.22	0.62	6.72
Middle School ⁴	STU	0.29	0.24	0.53	0.08	0.07	0.15	1.62
YMCA ⁵	TSF	0.99	0.63	1.62	0.48	1.16	1.64	22.88

Notes:

Trip rates correspond to the peak hour of adjacent street traffic.

Trip Rate Sources
¹ITE Category 210 (Single-Family Residential)
²Los Angeles County Department of Public Works special rate for Residential Condominium/Townhouse
³ITE Category 220 (Apartment)
⁴ITE Category 522 (Middle School/Junior High School)
⁵ITE Category 495 (Recreational Community Center)
⁶Based on 1.3 children per household (ages 1-18), with 212 being of middle school age (13% of total middle school population)

Abbreviations
DU = Dwelling Units, STU = Student, TSF = Thousand Square Feet

Source: Austin-Foust Associates, Inc., March 2005.

Like the Proposed Project, without the relief of the Cross Valley Connector Road and bridge, even small amount of additional traffic added to deficient intersections would result in significant and unavoidable impacts. The impacts under implementation of this alternative would remain significant and unavoidable until the Cross Valley Connector Road and bridge are constructed.

Energy Conservation

Impacts of the Proposed Project

Development of the proposed 96 single-family homes and 883 multi-family homes, a Junior High School, and a YMCA facility would result in a new demand for electricity at the project site. Upon full buildout, the Proposed Project is anticipated to consume approximately 17,379 kilowatt hours (kWh) per day. In order to serve the Proposed Project's electricity needs, existing electrical lines in the project area would need to be extended. The SCE has determined the electrical loads of the Proposed Project are within the parameters of the projected load growth, which SCE is planning to meet in the project area. Therefore, the Proposed Project impacts on electricity consumption would be considered less-than-significant.

Development of the Proposed Project would also result in a new demand for natural gas at the project site. Upon full buildout, the Proposed Project is anticipated to consume approximately 152,800 cubic

feet of natural gas per day. SCG has stated that it can accommodate the natural gas needs of the Proposed Project from existing medium pressure mains and current supply. Therefore, the Proposed Project impacts on natural gas consumption would be considered less-than-significant.

Impacts of Alternative A

Alternative A would not include any new development. As a result, Alternative A would not result in an increase in the demand for electricity or natural gas.

Impacts of Alternative B

Electricity and natural gas consumption needs generated by construction activities at the project site under Alternative B would be similar to that of the Proposed Project and not significant.

Electricity consumption for Alternative B is presented in Table VII-37. As shown, Alternative B is expected to generate approximately 3,695 kilowatt hours (kWh) per day of demand for electricity, a 79 percent decrease compared to the Proposed Project. As such, Alternative B would generate a less-than-significant impact on electricity consumption and a lesser impact than the Proposed Project.

**Table VII-37
Alternative B Electricity Demand**

Land Use	Size	Rate¹	Total Daily Electricity Consumption (kWh)
Single-Family Residences	78 units	5,626.50 kWh/du/yr	1,202
Junior High School	100,000 sq. ft.	5.90 kWh/sq. ft./yr	1,616
YMCA Facility	30,476 sq. ft.	10.50 kWh/sq. ft./yr	877
Total	--	--	3,695
<i>du = dwelling unit; sq.ft. = square feet; kWh = kilowatt hour; yr = year</i>			
<i>¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.</i>			

Natural gas consumption for Alternative B is presented in Table VII-38. As shown, Alternative B is expected to generate approximately 31,744 cubic feet (cf) per day of demand for natural gas, a 79 percent decrease compared to the Proposed Project. As such, Alternative B would have a less-than-significant impact on natural gas consumption and a lesser impact than the Proposed Project.

Table VII-38
Alternative B Natural Gas Demand

Land Use	Size	Rate¹	Total Daily Natural Gas Consumption (cf)
Single-Family Residences	78 units	6,665 cf/du/mo	17,329
Junior High School	100,000 sq. ft.	2.9 cf/sq. ft./mo	9,539
YMCA Facility	30,476 sq. ft.	4.8 cf/sq. ft./mo	4,876
Total	--	--	31,744
<i>du = dwelling unit; sq.ft. = square feet; cf = cubic feet; mo = month</i>			
<i>¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.</i>			

Impacts of Alternative C

Electricity and natural gas consumption needs generated by construction activities at the project site under Alternative C would be similar to that of the Proposed Project and not significant.

Electricity consumption for Alternative C is presented in Table VII-39. As shown, Alternative C is expected to generate approximately 15,334 kilowatt hours (kWh) per day of demand for electricity, a 12 percent decrease compared to the Proposed Project. As such, Alternative C would generate a less-than-significant impact on electricity consumption and a lesser impact than the Proposed Project.

Table VII-39
Alternative C Electricity Demand

Land Use	Size	Rate¹	Total Daily Electricity Consumption (kWh)
Multi-Family Residences	833 units	5,626.50 kWh/du/yr	12,841
Junior High School	100,000 sq. ft.	5.90 kWh/sq. ft./yr	1,616
YMCA Facility	30,476 sq. ft.	10.50 kWh/sq. ft./yr	877
Total	--	--	15,334
<i>du = dwelling unit; sq.ft. = square feet; kWh = kilowatt hour; yr = year</i>			
<i>¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.</i>			

Natural gas consumption for Alternative C is presented in Table VII-40. As shown, Alternative C is expected to generate approximately 125,801 cubic feet (cf) per day of demand for natural gas, an 18 percent decrease compared to the Proposed Project. As such, Alternative C would have a less-than-significant impact on natural gas consumption and a lesser impact than the Proposed Project.

**Table VII-40
Alternative C Natural Gas Demand**

Land Use	Size	Rate¹	Total Daily Natural Gas Consumption (cf)
Multi-Family Residences	833 units	4,011.5 cf/du/mo	111,386
Junior High School	100,000 sq. ft.	2.9 cf/sq. ft./mo	9,539
YMCA Facility	30,476 sq. ft.	4.8 cf/sq. ft./mo	4,876
Total	--	--	125,801
<i>du = dwelling unit; sq.ft. = square feet; cf = cubic feet; mo = month</i>			
<i>¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.</i>			

Impacts of Alternative D

Electricity and natural gas consumption needs generated by construction activities at the project site under Alternative D would be similar to that of the Proposed Project and not significant.

Electricity consumption for Alternative D is presented in Table VII-41. As shown, Alternative D is expected to generate approximately 15,565 kilowatt hours (kWh) per day of demand for electricity, a 10 percent decrease compared to the Proposed Project. As such, Alternative D would generate a less-than-significant impact on electricity consumption and a lesser impact than the Proposed Project.

**Table VII-41
Alternative D Electricity Demand**

Land Use	Size	Rate¹	Total Daily Electricity Consumption (kWh)
Single-Family Residences	96 units	5,626.50 kWh/du/yr	1,480
Multi-Family Residences	752 units	5,626.50 kWh/du/yr	11,592
Junior High School	100,000 sq. ft.	5.90 kWh/sq. ft./yr	1,616
YMCA Facility	30,476 sq. ft.	10.50 kWh/sq. ft./yr	877
Total	--	--	15,565
<i>du = dwelling unit; sq.ft. = square feet; kWh = kilowatt hour; yr = year</i>			
<i>¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.</i>			

Natural gas consumption for Alternative D is presented in Table VII-42. As shown, Alternative D is expected to generate approximately 136,298 cubic feet (cf) per day of demand for natural gas, an 11 percent decrease compared to the Proposed Project. As such, Alternative D would have a less-than-significant impact on natural gas consumption and a lesser impact than the Proposed Project.

**Table VII-42
Alternative D Natural Gas Demand**

Land Use	Size	Rate¹	Total Daily Natural Gas Consumption (cf)
Single-Family Residences	96 units	6,665 cf/du/mo	21,328
Multi-Family Residences	752 units	4,011.5 cf/du/mo	100,555
Junior High School	100,000 sq. ft.	2.9 cf/sq. ft./mo	9,539
YMCA Facility	30,476 sq. ft.	4.8 cf/sq. ft./mo	4,876
Total	--	--	136,298

du = dwelling unit; sq.ft. = square feet; cf = cubic feet; mo = month
¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.

Impacts of Alternative E

Electricity and natural gas consumption needs generated by construction activities at the project site under Alternative E would be similar to that of the Proposed Project and not significant.

Electricity consumption for Alternative E is presented in Table VII-43. As shown, Alternative E is expected to generate approximately 11,681 kilowatt hours (kWh) per day of demand for electricity, a 33 percent decrease compared to the Proposed Project. As such, Alternative E would generate a less-than-significant impact on electricity consumption and a lesser impact than the Proposed Project.

**Table VII-43
Alternative E Electricity Demand**

Land Use	Size	Rate¹	Total Daily Electricity Consumption (kWh)
Single-Family Residences	96 units	5,626.50 kWh/du/yr	1,480
Multi-Family Residences	500 units	5,626.50 kWh/du/yr	7,708
Junior High School	100,000 sq. ft.	5.90 kWh/sq. ft./yr	1,616
YMCA Facility	30,476 sq. ft.	10.50 kWh/sq. ft./yr	877
Total	--	--	11,681

du = dwelling unit; sq.ft. = square feet; kWh = kilowatt hour; yr = year
¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.

Natural gas consumption for Alternative E is presented in Table VII-44. As shown, Alternative E is expected to generate approximately 102,601 cubic feet (cf) per day of demand for natural gas, a 33 percent decrease compared to the Proposed Project. As such, Alternative E would have a less-than-significant impact on natural gas consumption and a lesser impact than the Proposed Project.

Table VII-44
Alternative E Natural Gas Demand

Land Use	Size	Rate¹	Total Daily Natural Gas Consumption (cf)
Single-Family Residences	96 units	6,665 cf/du/mo	21,328
Multi-Family Residences	500 units	4,011.5 cf/du/mo	66,858
Junior High School	100,000	2.9 cf/sq. ft./mo	9,539
YMCA Facility	30,476 sq. ft.	4.8 cf/sq. ft./mo	4,876
Total	--	--	102,601

du = dwelling unit; sq.ft. = square feet; cf = cubic feet; mo = month
¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.

Impacts of Alternative F

Electricity and natural gas consumption needs generated by construction activities at the project site under Alternative F would be similar to that of the Proposed Project and not significant.

Electricity consumption for Alternative F is presented in Table VII-45. As shown, Alternative F is expected to generate approximately 8,397 kilowatt hours (kWh) per day of demand for electricity, a 52 percent decrease compared to the Proposed Project. As such, Alternative F would generate a less-than-significant impact on electricity consumption and a lesser impact than the Proposed Project.

Table VII-45
Alternative F Electricity Demand

Land Use	Size	Rate¹	Total Daily Electricity Consumption (kWh)
Single-Family Residences	383 units	5,626.50 kWh/du/yr	5,904
Junior High School	100,000 sq. ft.	5.90 kWh/sq. ft./yr	1,616
YMCA Facility	30,476 sq. ft.	10.50 kWh/sq. ft./yr	877
Total	--	--	8,397

du = dwelling unit; sq.ft. = square feet; kWh = kilowatt hour; yr = year
¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.

Natural gas consumption for Alternative F is presented in Table VII-46. As shown, Alternative F is expected to generate approximately 99,505 cubic feet (cf) per day of demand for natural gas, a 35 percent decrease compared to the Proposed Project. As such, Alternative F would have a less-than-significant impact on natural gas consumption and a lesser impact than the Proposed Project.

Table VII-46
Alternative F Natural Gas Demand

Land Use	Size	Rate¹	Total Daily Natural Gas Consumption (cf)
Single-Family Residences	383 units	6,665 cf/du/mo	85,090
Junior High School	100,000	2.9 cf/sq. ft./mo	9,539
YMCA Facility	30,476 sq. ft.	4.8 cf/sq. ft./mo	4,876
Total	--	--	99,505
<i>du = dwelling unit; sq.ft. = square feet; cf = cubic feet; mo = month</i>			
<i>¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.</i>			

Impacts of Alternative G

Electricity and natural gas consumption needs generated by construction activities at the project site under Alternative G would be similar to that of the Proposed Project and not significant.

Electricity consumption for Alternative G is presented in Table VII-47. As shown, Alternative G is expected to generate approximately 17,585 kilowatt hours (kWh) per day of demand for electricity, same as the Proposed Project. As such, Alternative G would generate a less-than-significant impact on electricity consumption and a similar impact as the Proposed Project.

Table VII-47
Alternative G Electricity Demand

Land Use	Size	Rate¹	Total Daily Electricity Consumption (kWh)
Single-Family Residences	96 units	5,626.50 kWh/du/yr	1,480
Multi-Family Residences	883 units	5,626.50 kWh/du/yr	13,612
Junior High School	100,000 sq. ft.	5.90 kWh/sq. ft./yr	1,616
YMCA Facility	30,476 sq. ft.	10.50 kWh/sq. ft./yr	877
Total	--	--	17,585
<i>du = dwelling unit; sq.ft. = square feet; kWh = kilowatt hour; yr = year</i>			
<i>¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.</i>			

Natural gas consumption for Alternative G is presented in Table VII-48. As shown, Alternative E is expected to generate approximately 153,943 cubic feet (cf) per day of demand for natural gas, same as the Proposed Project. As such, Alternative G would have a less-than-significant impact on natural gas consumption and a similar impact as the Proposed Project.

**Table VII-48
Alternative G Natural Gas Demand**

Land Use	Size	Rate¹	Total Daily Natural Gas Consumption (cf)
Single-Family Residences	96 units	6,665 cf/du/mo	21,328
Multi-Family Residences	883 units	4,011.5 cf/du/mo	118,072
Junior High School	100,000	2.9 cf/sq. ft./mo	9,667
YMCA Facility	30,476 sq. ft.	4.8 cf/sq. ft./mo	4,876
Total	--	--	153,943
<i>du = dwelling unit; sq.ft. = square feet; cf = cubic feet; mo = month</i>			
<i>¹ = Source: SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.</i>			

Relationship to Project Objectives

Objectives of the Proposed Project

The Proposed Project is part of a private development plan proposed by Synergy-Brookfield LLC. The purpose of the development is to provide a predominately residential community with accessory School and YMCA opportunities. The project applicant's objectives for the project include the following:

Land Use Planning

1. Create a new community that allows for residential, educational and health fitness development, while preserving significant natural resources and open areas.
2. Provide a substantial number of new housing units to assist the City in meeting its share of the housing need pursuant to SCAG's Regional Housing Needs Assessment to accommodate projected regional growth in a location which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors, and major employment areas.
3. Cluster development within the site to preserve regionally significant natural resource areas and sensitive habitat.
4. Provide development that is compatible with surrounding communities and land uses.
5. Construct all required on-site and off-site infrastructure improvements in a timely manner in order to provide concurrence of infrastructure availability and to meet the service needs of the project. Provide a coordinated "pay as you go" development that is consistent with surrounding uses.

6. Provide for adequate flood protection for the safety of the public and property.
7. Provide for the long-term maintenance of landscaping, storm drains, etc., that serve the project site.
8. Ensure compatibility with the City's Standard Urban Stormwater Mitigation Plan Implementation Ordinance and FEMA requirements.
9. To create small, safe, human scale, residential development enclaves, by incorporating cul-de-sacs and traffic calming measures and avoiding the use of long through streets, to foster closer-knit resident interaction, and to reduce and downplay the dominance of the automobile.
10. Provide for a junior high school site.

Economic

1. Develop the site to include housing of varying types, accommodating a range of incomes, and educational and health fitness opportunities for the residents of the project as well as the local area.
2. Create an economically feasible project.

Mobility

1. Provide a safe, efficient, and aesthetically attractive street system, which includes pedestrian walkways (sidewalks) with connections to adjoining transportation routes.
2. Provide an efficient street circulation system that minimizes impacts on residential neighborhoods and environmentally sensitive areas.
3. Provide Class I bike facilities and landscaping on new roadways providing access to residential areas.
4. Provide connections to and construct portions of the Santa Clara River Trail, which provides equestrian, pedestrian, and bicycle access to the Valencia Town Center, Valencia Industrial Center, Central Park and commercial core of the Santa Clarita Valley.

Parks and Recreation

1. Provide for the recreational use of open space areas that are compatible with protection of significant natural resources.
2. Provide recreation areas and improvements within the Multi-Family communities and contribute park fees which satisfy park dedication requirements and meet the recreational needs of local residents.
3. Provide for a Junior High School with recreation opportunities and YMCA Fitness facility.
4. Provide an extensive system of pedestrian, equestrian and bicycle trails consistent with the City's Santa Clara River Trail plans and the City's Circulation Element.

Resource Conservation Objectives

1. Retain some open areas and their natural vegetation as a wildlife or ecological preserve.
2. Provide a site specific evaluation of the biotic resources of the site in compliance with the provisions of the City's Unified Development Code and General Plan with regard to significant ecological areas and encourage development that protects or enhances those resources, while allowing a reasonable use of the land.
3. Maintain and protect the major areas that possess biotic resources that are uncommon, rare, unique, or critical to the maintenance of wildlife.
4. Establish an adequate buffer and mitigation measures to maintain and enhance the habitat value of the area and preserve the river resources.

Alternative A Objectives Satisfaction

Although Alternative A would avoid all of the significant environmental impacts associated with the Proposed Project, it would not satisfy most of the project objectives because no development would occur on the project site. Alternative A would only satisfy the following project objective:

- Maintain and protect the major areas that possess biotic resources that are uncommon, rare, unique, or critical to the maintenance of wildlife.

Alternative B Objectives Satisfaction

Alternative B would decrease the overall development density on the project site by 91 percent. As such, Alternative B would satisfy the following project objectives, although to a lesser extent than the Proposed Project:

- Create a new community that allows for residential, educational and fitness facility development, while preserving significant natural resources and open areas.
- Provide a substantial number of new housing units to assist the City in meeting its share of the housing need pursuant to SCAG's Regional Housing Needs Assessment to accommodate projected regional growth in a location which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors, and major employment areas.

Alternative B would not satisfy the following project objectives:

- Provide a graded lot to be sold to the William S. Hart HUSD for construction of a new junior high school.
- Provide a graded lot for a junior high school with recreation opportunities.
- Provide a graded lot for a YMCA fitness facility to be constructed by the YMCA.
- Develop the site to include housing of varying types, accommodating a range of incomes, and educational and health facility opportunities for the residents of the project as well as the local area.
- Provide recreation areas and improvements within the Multi-Family communities and contribute park fees which satisfy park dedication requirements and meet the recreational needs of local residents.
- Not economically feasible.

Alternative B would satisfy the following project objectives to a greater extent than the Proposed Project:

- Cluster development within the site to preserve regionally significant natural resource areas and sensitive habitat.
- Retain some open areas and their natural vegetation as a wildlife or ecological preserve.

Alternative B would satisfy all of the other project objectives.

Alternative C Objectives Satisfaction

Alternative C would decrease the overall development density on the project site by 15 percent. As such, Alternative C would satisfy the following project objectives, although to a lesser extent than the Proposed Project:

- Create a new community that allows for residential, educational and fitness facility development, while preserving significant natural resources and open areas.
- Provide a substantial number of new housing units to assist the City in meeting its share of the housing need pursuant to SCAG's Regional Housing Assessment Needs to accommodate projected regional growth in a location which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors, and major employment areas.
- Provide a graded lot to be sold to the William S. Hart HUSD for construction of a new junior high school.
- Provide a graded lot for a junior high school with recreation opportunities.
- Provide a graded lot for a YMCA fitness facility to be constructed by the YMCA.

Alternative C would not satisfy the following project objectives:

- Develop the site to include housing of varying types, accommodating a range of incomes, and educational and health facility opportunities for the residents of the project as well as the local area.
- To create small, safe, human scale, residential development enclaves, by incorporating cul-de-sacs and traffic calming measures and avoiding the use of long through streets, to foster closer-knit resident interaction, and to reduce and downplay the dominance of the automobile.

Alternative C would satisfy the following project objective to a greater extent than the Proposed Project:

- Retain some open areas and their natural vegetation as a wildlife or ecological preserve.

Alternative C would satisfy all of the other project objectives.

Alternatives D Objectives Satisfaction

Alternative D would decrease the overall development density on the project site by 13 percent. As such, Alternative D would satisfy the following project objectives, although to a lesser extent than the Proposed Project:

- Create a new community that allows for residential, educational and fitness facility development, while preserving significant natural resources and open areas.

- Provide a substantial number of new housing units to assist the City in meeting its share of the housing need pursuant to SCAG's Regional Housing Assessment Needs to accommodate projected regional growth in a location which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors, and major employment areas.
- Provide a graded lot to be sold to the William S. Hart HUSD for construction of a new junior high school.
- Provide a graded lot for a junior high school with recreation opportunities.
- Provide a graded lot for a YMCA fitness facility to be constructed by the YMCA.

Alternative D would satisfy all of the other project objectives.

Alternative E Objectives Satisfaction

Alternative E would decrease the overall development density on the project site by 39 percent. As such, Alternative E would satisfy the following project objectives, although to a lesser extent than the Proposed Project:

- Create a new community that allows for residential, educational and fitness facility development, while preserving significant natural resources and open areas.
- Provide a substantial number of new housing units to assist the City in meeting its share of the housing need pursuant to SCAG's Regional Housing Assessment Needs to accommodate projected regional growth in a location which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors, and major employment areas.
- Provide recreation areas and improvements within the Multi-Family communities and contribute park fees that satisfy park dedication requirements and meet the recreational needs of local residents.
- Provide a graded lot to be sold to the William S. Hart HUSD for construction of a new junior high school.
- Provide a graded lot for a junior high school with recreation opportunities.
- Provide a graded lot for a YMCA fitness facility to be constructed by the YMCA.

Alternative E would satisfy all of the other project objectives.

Alternative F Objectives Satisfaction

Alternative F would decrease the overall development density on the project site by 39 percent. As such, Alternative F would satisfy the following project objectives, although to a lesser extent than the Proposed Project:

- Create a new community that allows for residential, educational, and fitness facility development, while preserving significant natural resources and open areas.
- Provide a substantial number of new housing units to assist the City in meeting its share of the housing need pursuant to SCAG's Regional Housing Assessment Needs to accommodate projected regional growth in a location which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors, and major employment areas.
- Contribute park fees that satisfy park dedication requirements and meet the recreational needs of local residents.
- Provide a graded lot to be sold to the William S. Hart HUSD for construction of a new junior high school.
- Provide a graded lot for a junior high school with recreation opportunities.
- Provide a graded lot for a YMCA fitness facility to be constructed by the YMCA.

Alternative F would not satisfy the following project objective:

- Develop the site to include housing of varying types, accommodating a range of incomes, and educational and health facility opportunities for the residents of the project as well as the local area.

Alternative F would satisfy the following project objective to a greater extent than the Proposed Project:

- Retain some open areas and their natural vegetation as a wildlife or ecological preserve.

Alternative G Objectives Satisfaction

Alternative G would result in the same overall development density as the Proposed Project. As such, Alternative G would satisfy the following project objectives:

- Create a new community that allows for residential, educational, and fitness facility development, while preserving significant natural resources and open areas.
- Provide a substantial number of new housing units to assist the City in meeting its share of the housing need pursuant to SCAG's Regional Housing Assessment Needs to accommodate projected regional growth in a location which is adjacent to existing and planned infrastructure, urban services, public transit, transportation corridors, and major employment areas.
- Provide recreation areas and improvements within the Multi-Family communities and contribute park fees that satisfy park dedication requirements and meet the recreational needs of local residents.

- Provide a graded lot to be sold to the William S. Hart HUSD for construction of a new junior high school.
- Provide a graded lot for a junior high school with recreation opportunities.
- Provide a graded lot for a YMCA fitness facility to be constructed by the YMCA.

Alternative G would satisfy the following project objective to a lesser extent than the Proposed Project:

- To create small, safe, human scale, residential development enclaves, by incorporating cul-de-sacs and traffic calming measures and avoiding the use of long through streets, to foster closer-knit resident interaction, and to reduce and downplay the dominance of the automobile.

Alternative G would satisfy all of the other project objectives.

D. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

In general, the environmentally superior alternative as defined by CEQA should minimize adverse impacts to the project site and its surrounding environment. Of the alternatives considered, the "No Project Alternative" does not create any new impacts; therefore, it is environmentally superior to a project which proposes to change existing conditions. However, CEQA requires the identification of another "environmentally superior" alternative when the No Project Alternative is chosen. As part of the environmental review process, the Proposed Project has undergone several iterative revisions to address specific issues of project density, impacts to sensitive resources, and engineering considerations. With each succeeding design, the Proposed Project has been refined, frequently by incorporating the environmentally superior design concepts from other alternatives under consideration. A comparison of the alternatives reveals that Alternative C (Compliance with Noise Setbacks and Preservation of Northern Secondary Ridgeline) involves less environmental disruption (less grading, loss of habitat, interference with wildlife movement, and less intrusive visual quality impacts). Consequently, as shown in Table VII-33, of the alternatives discussed in this EIR, Alternative C (Compliance with Noise Setbacks and Preservation of Northern Secondary Ridgeline) is the environmentally superior alternative.

**Table VII-49
Alternatives Comparison**

Impact Area	Proposed Project	Alternative A No Project Alternative	Alternative B Current General Plan Land Use and Zoning	Alternative C Compliance with Noise Setbacks and Preservation of Northern Secondary Ridgeline	Alternative D Reduced Density Alternative: RM Zone	Alternative E Density Alternative: RM Zone with Detached Condos	Alternative F Single-Family Alternative	Alternative G Realigned Golden Valley Road Alternative
Aesthetics Scenic Vistas and Views Scenic Resources Visual Character Surrounding Community Light and Glare	Not Significant Not Significant Significant Not Significant Mitigated	No Impact No Impact No Impact No Impact No Impact	Not Significant/Less Not Significant/Less Significant/Less Not Significant/Less Mitigated/Less	Not Significant/Less Not Significant/Less Significant/Less Not Significant/Less Mitigated/Less	Not Significant/Similar Not Significant/Similar Significant/Similar Not Significant/Similar Mitigated/Similar	Not Significant/Less Not Significant/Less Significant/Less Not Significant/Less Mitigated/Less	Not Significant/Less Not Significant/Less Significant/Less Not Significant/Less Mitigated/Less	Not Significant/Similar Not Significant/Similar Significant/Similar Not Significant/Similar Mitigated/Similar
Air Quality AQMP Consistency Construction Emissions Daily Operational Emissions Localized CO Concs. Toxic Air Contaminants Airborne Odors	Not Significant Significant Significant Not Significant Not Significant Not Significant	No Impact No Impact No Impact No Impact No Impact No Impact	Not Significant/Similar Significant/Less Significant/Less Not Significant/Less Not Significant/Less	Not Significant/Similar Significant/Less Significant/Less Not Significant/Less Not Significant/Less	Not Significant/Similar Significant/Similar Significant/Less Not Significant/Less Not Significant/Similar	Not Significant/Similar Significant/Similar Significant/Less Not Significant/Less Not Significant/Similar	Not Significant/Similar Significant/Less Significant/Less Not Significant/Less Not Significant/Less	Not Significant/Similar Significant/Similar Significant/Similar Not Significant/Similar Not Significant/Similar
Biological Resources Native Plant Communities Sensitive Species Native Trees Wildlife and Habitat Loss of Wildlife Habitat Wildlife Movement Ephemeral Drainages	Mitigated Not Significant Significant Mitigated Significant Not Significant Mitigated	No Impact No Impact No Impact No Impact No Impact No Impact No Impact	Mitigated/Less Not Significant/Less Mitigated/Similar Mitigated/Less Mitigated/Less Not Significant/Less Mitigated/Less	Mitigated/Less Not Significant/Less Mitigated/Similar Mitigated/Less Mitigated/Less Not Significant/Less Mitigated/Less	Mitigated/Similar Not Significant/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar Not Significant/Similar Mitigated/Similar	Mitigated/Similar Not Significant/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar Not Significant/Similar Mitigated/Similar	Mitigated/Similar Not Significant/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar Not Significant/Similar Mitigated/Similar	Mitigated/Similar Not Significant/Similar Significant/Similar Mitigated/Similar Mitigated/Similar Not Significant/Similar Mitigated/Similar
Cultural Resources Resources On Site Off Site Resources	Mitigated Mitigated	No Impact No Impact	Mitigated/Less Mitigated/Similar	Mitigated/Less Mitigated/Similar	Mitigated/Similar Mitigated/Similar	Mitigated/Similar Mitigated/Similar	Mitigated/Similar Mitigated/Similar	Mitigated/Similar Mitigated/Similar
Geology and Soils Earthquake Fault Rupture Seismic Ground Shaking Ground Failure Seismic Landslides Soil Erosion Landslide Expansive Soil Soils for Septic Systems	Not Significant Not Significant Mitigated Not Significant Mitigated Mitigated Mitigated No Impact	No Impact No Impact No Impact No Impact No Impact No Impact No Impact No Impact	Not Significant/Similar Not Significant/Similar Mitigated/Similar Not Significant/Less Mitigated/Less Mitigated/Similar Mitigated/Similar No Impact	Not Significant/Similar Not Significant/Similar Mitigated/Similar Not Significant/Less Mitigated/Less Mitigated/Similar Mitigated/Similar No Impact	Not Significant/Similar Not Significant/Similar Mitigated/Similar Not Significant/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar No Impact	Not Significant/Similar Not Significant/Similar Mitigated/Similar Not Significant/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar No Impact	Not Significant/Similar Not Significant/Similar Mitigated/Similar Not Significant/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar No Impact	Not Significant/Similar Not Significant/Similar Mitigated/Similar Not Significant/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar No Impact

**Table VII-49
Alternatives Comparison**

Impact Area	Proposed Project	Alternative A No Project Alternative	Alternative B Current General Plan Land Use and Zoning	Alternative C Compliance with Noise Setbacks and Preservation of Northern Secondary Ridgeline	Alternative D Reduced Density Alternative: RM Zone	Alternative E Density Alternative: RM Zone with Detached Condos	Alternative F Single-Family Alternative	Alternative G Realigned Golden Valley Road Alternative
Hazards Construction Operation Oil Wells Transmission Lines Pesticides	Mitigated Not Significant Mitigated Not Significant Not Significant	No Impact No Impact No Impact No Impact No Impact	Mitigated/Similar Not Significant/Similar Mitigated/Similar Not Significant/Similar Not Significant/Similar	Mitigated/Similar Not Significant/Similar Mitigated/Similar Not Significant/Similar Not Significant/Similar	Mitigated/Similar Not Significant/Similar Mitigated/Similar Not Significant/Similar Not Significant/Similar	Mitigated/Similar Not Significant/Similar Mitigated/Similar Not Significant/Similar Not Significant/Similar	Mitigated/Similar Not Significant/Similar Mitigated/Similar Not Significant/Similar Not Significant/Similar	Mitigated/Similar Not Significant/Similar Mitigated/Similar Not Significant/Similar Not Significant/Similar
Hydrology & Water Quality Water Quality Standards Groundwater Supplies Erosion and Siltation Flooding from Runoff Stormwater Drainage Systems Water Quality 100-Year Flood Hazard Flooding Dam Failure	Mitigated Not Significant Mitigated Mitigated Mitigated Mitigated Not Significant Not Significant No Impact	No Impact No Impact No Impact No Impact No Impact No Impact No Impact No Impact No Impact	Mitigated/Less Not Significant/Less Mitigated/Less Mitigated/Less Mitigated/Less Mitigated/Less Not Significant/Similar Not Significant/Similar No Impact	Mitigated/Less Not Significant/Less Mitigated/Less Mitigated/Less Mitigated/Less Mitigated/Less Not Significant/Similar Not Significant/Similar No Impact	Mitigated/Similar Not Significant/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar Mitigated/Less Not Significant/Similar Not Significant/Similar No Impact	Mitigated/Similar Not Significant/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar Mitigated/Less Not Significant/Similar Not Significant/Similar No Impact	Mitigated/Similar Not Significant/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar Mitigated/Less Not Significant/Similar Not Significant/Similar No Impact	Mitigated/Similar Not Significant/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar Mitigated/Similar Not Significant/Similar Not Significant/Similar No Impact
Land Use Community Division General Plan Consistency Development Code Consistency Habitat Conservation Plan	Not Significant Not Significant Not Significant No Impact	No Impact No Impact No Impact No Impact	Not Significant/Similar No Impact No Impact No Impact	Not Significant/Similar Not Significant/Similar Not Significant/Less No Impact	Not Significant/Similar Not Significant/Less Not Significant/Less No Impact	Not Significant/Similar Not Significant/Less Not Significant/Less No Impact	Not Significant/Similar Not Significant/Less Not Significant/Less No Impact	Not Significant/Similar Not Significant/Similar Not Significant/Similar No Impact
Mineral Resources Known Resources Locally Important Resources Non-renewable Resource Extraction	Not Significant No Impact No Impact	No Impact No Impact No Impact	Not Significant/Similar No Impact No Impact	Not Significant/Similar No Impact No Impact	Not Significant/Similar No Impact No Impact	Not Significant/Similar No Impact No Impact	Not Significant/Similar No Impact No Impact	Not Significant/Similar No Impact No Impact
Noise								

**Table VII-49
Alternatives Comparison**

Impact Area	Proposed Project	Alternative A No Project Alternative	Alternative B Current General Plan Land Use and Zoning	Alternative C Compliance with Noise Setbacks and Preservation of Northern Secondary Ridgeline	Alternative D Reduced Density Alternative: RM Zone	Alternative E Density Alternative: RM Zone with Detached Condos	Alternative F Single-Family Alternative	Alternative G Realigned Golden Valley Road Alternative
Construction Noise Levels Construction Vibration Levels	Significant Mitigated	No Impact No Impact	Significant/Less Mitigated/Less	Significant/Less Mitigated/Less	Significant/Less Mitigated/Less	Significant/Less Mitigated/Less	Significant/Less Mitigated/Less	Significant/Similar Mitigated/Similar
Operational Noise Levels Operational Vibration Levels	Not Significant Not Significant	No Impact No Impact	Not Significant/Less Not Significant/Less	Not Significant/Less Not Significant/Less	Not Significant/Less Not Significant/Less	Not Significant/Less Not Significant/Less	Not Significant/Less Not Significant/Less	Not Significant/Similar Not Significant/Similar
Population and Housing	Not Significant	No Impact	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Similar
Public Services								
Fire Protection	Mitigated	No Impact	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Similar
Police Protection	Not Significant	No Impact	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Similar
Schools	Mitigated	No Impact	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Similar
Libraries	Mitigated	No Impact	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Similar
Parks/Recreation	Mitigated	No Impact	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Similar
Utilities								
Water	Not Significant	No Impact	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Similar
Sewer	Not Significant	No Impact	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Similar
Solid Waste	Significant	No Impact	Significant/Less	Significant/Less	Significant/Less	Significant/Less	Significant/Less	Significant/Similar
Transportation								
Construction Traffic	Not Significant	No Impact	Not Significant/Less	Not Significant/Less	Not Significant/Similar	Not Significant/Similar	Not Significant/Similar	Not Significant/Similar
Operational Traffic	Mitigated	No Impact	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Similar
With Cumulative Projects								
CMP intersections	Mitigated	No Impact	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Similar
CMP Freeway Segments	Not Significant	No Impact	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Similar
CMP Transit Impacts								
Traffic Signal Warrants	Not Significant	No Impact	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Similar
CVC/CVC Bridge	Not Significant	No Impact	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Similar
	Mitigated	Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Less	Mitigated/Similar
	Significant	No Impact	Significant/Similar	Significant/Similar	Significant/Similar	Significant/Similar	Significant/Similar	Significant/Similar
Energy Conservation								
Electricity	Not Significant	No Impact	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Similar
Natural Gas	Not Significant	No Impact	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Less	Not Significant/Similar
Project Objectives	Satisfies all 10	Satisfies only 1	Satisfies 2 to Lesser Degree; Does not satisfy 3; Satisfies 2 to Greater	Satisfies 2 to Lesser Degree; Does not satisfy 2; Satisfies 1 to Greater	Satisfies 2 to Lesser Degree	Satisfies 3 to Lesser Degree	Satisfies 6 to Lesser Degree; Does Not Satisfy 1; Satisfies 1 to	Satisfies 1 to Lesser Degree

**Table VII-49
Alternatives Comparison**

Impact Area	Proposed Project	Alternative A No Project Alternative	Alternative B Current General Plan Land Use and Zoning	Alternative C Compliance with Noise Setbacks and Preservation of Northern Secondary Ridgeline	Alternative D Reduced Density Alternative: RM Zone	Alternative E Density Alternative: RM Zone with Detached Condos	Alternative F Single-Family Alternative	Alternative G Realigned Golden Valley Road Alternative
			Degree	Degree			Greater Degree	
<p><i>Not Significant:</i> Impacts of the Proposed Project or alternative are less than significant. <i>Mitigated:</i> Impacts of the Proposed Project or alternative are mitigated to less-than-significant levels. <i>Significant:</i> Impacts of the Proposed Project and alternative are significant and unavoidable. <i>Less:</i> Impacts of the alternative are less as compared to the Proposed Project. <i>Similar:</i> Impacts of the alternative are similar as compared to the Proposed Project. <i>Greater:</i> Impacts of the alternative are greater as compared to the Proposed Project. Source: Christopher A. Joseph & Associates, March 2005.</p>								

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USDA Forest Service, Angeles National Forest, website: <http://www.fs.fed.us/r5/angeles/>, December 22, 2004.

Valencia Water Company, Impact and Response to Perchlorate Contamination Valencia Water Company Well Q2, prepared by Ludhorff & Scalmanini Consulting Engineers, April 2005.

Vandermost Consulting Services

Water Quality Technical Report, GeoSyntec Consultants, Inc., April 29,2005

W.J. Manetta, Jr., Retail Manager, Santa Clarita Water District, November 2, 2004.

X. LIST OF ACRONYMS AND ABBREVIATIONS

AC	Alternating current
ACO	U.S Army Corps of Engineers
ADT	average daily traffic
Af	Artificial Fill
ANSI	American National Standard Institute
AQMP	Air Quality Management Plan
ASTM	American Society of Testing and Materials
B & T	Bouquet Canyon Bridge & Thoroughfare
bgs	below ground surface
BMP	best management practices
BOD	Biological Oxygen Demand
BOD	Biochemical Oxygen Demand
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CC&Rs	Covenants, Conditions and Restrictions
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CDS	Continuous Deflective Separator
CEQA	California Environmental Quality Act
Cf	Cubic Feet
cfs	cubic feet per second
CGS	California Geologic Survey
CHL	California Historical Landmarks
CIWMB	California Integrated Waste Management Board
CLWA	Castaic Lake Water Agency
CMP	Congestion Management Program
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
Corps	U.S. Army Corps of Engineers

CPUC	California Public Utilities Commission (also see PUC)
CSDLAC	County Sanitation Districts of Los Angeles County
CSS	coastal sage scrub
CTR	California Toxics Rule
CUP	Conditional Use Permit
CVC	Cross Valley Connection
CWA	Clean Water Act
CY	Cubic yards
D/C	Demand to Capacity ratio
dB	decibel
dBA	A-weighted decibel
DBA	Draft Biological Assessment
dfh	Debris flow hazards
DHS	Department of Health Services
DMG	Division of Mines and Geology
DMS	Development Monitoring System
DO	Dissolved Oxygen
DOGGR	Division of Oil, Gas and Geothermal Resource
DTSC	Department of Toxic Substances Control
du	dwelling unit
DWP	Department of Water and Power
DWR	Department of Water Resources
EDR	Environmental Data Resources, Inc.
EIR	Environmental Impact Report
EMF	Electromagnetic fields
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
G	gauss
GPA	General Plan Amendment
gpd	gallons per day
gpm	gallons per minute
HCM	Highway Capacity Manual
HHWE	Household Hazardous Waste Element
HOA	Homeowners Association
HRI	Historic Resources Inventory

HUSD	Hart Unified School District
HVAC	Heating, ventilation, and air conditioning
IC	Industrial Commercial
ICU	Intersection Capacity Utilization
ITE	Institute of Transportation Engineers
JD	Jurisdictional Delinieation
kWh	kilowatt-hours
LACDPW	County of Los Angeles Department of Public Works
LACFD	Los Angeles County Fire Department
LACMPV	Los Angeles County Museum Vertebrate Paleontology Department
LADOT	Los Angeles Department of Transportation
LASD	Los Angeles County Sheriff
lbs/day	pounds per day
LOS	Level of Service
LUST	leaking underground storage tank
MBAS	Methylene blue activated substances
MCL	Maximum Contaminant Level
MEP	Maximum Extent Practicable
MFHSZ	Moderate Fire Hazard Severity Zone
MOCA	mineral and oil areas
MOE	measure of effectiveness
MORA	Modified Rational Program
MRF	Material Recovery factory
MRZ	Mineral resource zone
msl	mean sea level
MTA	Metropolitan Transportation Authority
MTYRE	Multi Track Year Round Education
NAHC	Native American Heritage Commission
NALMA	North American Land Mammal Age
NCWD	Newhall County Water District
NDFE	Non-Disposal Facility Element
NNG	Non-native grassland
NO ₂	nitrogen dioxide
NOP	Notice of Preparation
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OEHHA	Office of Environmental Health Hazard Assessment

pc/mi/ln	passenger cars per mile per lane
PCC	portland cement concrete
PCE	Primary Constituent Element
pcph	passenger cars per hour
PCT	Pacific Crest Trail
PDFs	Project Design Features
PGA	Peak Ground Acceleration
PHI	Points of Historical Interest
PM	particulate matter
PM ₁₀	respirable particulate matter
psi	pounds per square inch
PUC	Public Utilities Commission (also see CPUC)
Qal	Alluvium
Qls	Landslide debris
QT	Terrace Deposits
RCPG	Regional Comprehensive Plan and Guide
RHNA	Regional Housing Needs Assessment
RM	Residential Moderate
RME	Regional Mobility Element
RMH	Residential Medium High
ROG	Reactive organic gas
ROW	right-of-way
RS	Residential Suburban
RTFA	R. T. Frankian & Associates
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RVL	Residential Very Low
RWQCB	Regional Water Quality Control Board
SAR	Sodium Absorption Ratio
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCG	Southern California Gas Company
SCV	Santa Clarita Valley
SCVCTM	Santa Clarita Valley Consolidated Traffic Model
SCVJSS	Santa Clarita Valley Joint Sewerage System
SCWD	Santa Clarita Water Division

SEA	Significant Ecological Area
SEMS	Standardized Emergency Management System
sf	square feet
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act
SO ₂	sulfur dioxide
SONGS	San Onofre Nuclear Generating Station
SO _x	sulfur oxides
SQMP	Stormwater quality management plan
SR-14	State Route 14
SRA	Source Receptor Area
SRRE	Source Reduction and Recycling Element
STIP	State Transportation Improvement Program
SUSD	Saugus Unified School District
SUSMP	Standard Urban Stormwater Mitigation Plan
SVOC	Semi-volatile organic compounds
SW	Slopewash
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWRP	Saugus Water Reclamation Plan
TDS	Total Dissolved Solids
TIA	Traffic Impact Analysis
TKN	Total kjeldahl nitrogen
TLC	Thomas Leslie Corporation
TMDLs	Total Maximum Daily Loads
TN	Total Nitrogen
TPH	Total petroleum hydrocarbons
TQs	Saugus Formation Bedrock
TSS	Total Suspended Solids
UDC	Unified Development Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
V/C	Volume-to-Capacity
VCS	Vandermost Consulting Services
VdB	vibration decibels

VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
VTM	vesting tentative tract map
VWC	Valencia Water Company
VWRP	Valencia Water Reclamation Plant
WRP	Water Reclamation Plan
ZC	Zone change